



INTERNATIONAL ACTIVITIES

**MARKET VALUE BASED
REAL PROPERTY TAX
REFORM IN THE RUSSIAN
FEDERATION**

**MANUAL FOR NOVGOROD
OBLAST JURISDICTIONS**

**A MODEL DOCUMENT
(*ENGLISH VERSION*)**

Prepared by

National Economic Research
Associates

under subcontract to

The Urban Institute

**The
Urban
Institute**

August 1998
UI Project 06612-004

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A MODEL DOCUMENT**

PREPARED BY:

REGIONAL INVESTMENT INITIATIVE, NOVGOROD OBLAST

USAID PARTNERSHIP FOR FREEDOM

URBAN INSTITUTE/NERA/CREA CONSORTIUM

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TABLE OF CONTENTS

I. INTRODUCTION

II. PREPARING FOR A PROPERTY TAX SYSTEM: PROJECT COMPONENTS

- 2.1. Federal Duma approved implementation of market - value based property tax in Novgorod and Tver
- 2.2. The Administration And Data Processing Components
 - 2.2.1. *Real Estate/Fiscal Cadastre*
 - 2.2.2. *Data Management*
 - 2.2.3. *The Valuation Module*
 - 2.2.4. *The Assessment Module*
 - 2.2.5. *The Tax Billing Module*
 - 2.2.6. *The Tax Collection Monitoring, Enforcement and Appeals Module*
- 2.3. Taxpayer Education and Public Relations

III. LEGAL AND ADMINISTRATIVE FRAMEWORK FOR PROPERTY TAX REFORM

- 3.1. The Tax Base
- 3.2. The Basis for Assessment
- 3.3. Tax Rates
- 3.4. Taxpayers (Assignment of Tax Liability)
- 3.5. Appeals System
- 3.6. Tax Collection
- 3.7. Assignment of Administrative Responsibility
- 3.8. The Administrative Framework

IV. PROPERTY TAX INFORMATION SYSTEM FOR SMALL TOWNS (PTIMS – ST)

V. FISCAL CADASTRE PLANNING AND BUDGETING

VI. TAX IMPACT ANALYSIS

- 6.1. Gross Estimates
 - 6.1.1. *Purpose*
 - 6.1.2. *Requirements*
 - 6.1.3. *Procedures*
- 6.2. Sample Based
 - 6.2.1. *Purpose*
 - 6.2.2. *Requirements*
 - 6.2.3. *Procedures*
- 6.3. Population Studies
 - 6.3.1. *Purpose*

- 6.3.2. *Requirements*
- 6.3.3. *Procedures*
- 6.4. Results/Experiences
 - 6.4.1. *Initial estimates*
 - 6.4.2. *Sample based analyses*
 - 6.4.3. *Population Analyses*
- 6.5. Methodological Lessons Learned
 - 6.5.1. *Collection of Data on Taxpayers*
 - 6.5.2. *Collection of Data on Properties*
- 6.6. Results to Date

VII. VALUATION MODELING METHODOLOGY AND ASSESSMENT FUNCTIONS

- 7.1. Valuation
 - 7.1.1 *Approaches To Value*
 - 7.1.2 *Land Valuation*
 - 7.1.3 *Developing The Mass Appraisal Model*
 - 7.1.4 *Types of Mass Appraisal Models*
 - 7.1.5 *Model Quality Control*
 - 7.1.6 *Mass Appraisal Model Application*
 - 7.1.7 *Stability In The Valuation Process*
 - 7.1.8 *Valuation Review*
 - 7.1.9 *Communicating the Results*
 - 7.1.10 *Valuation Modeling Plan*
 - 7.1.11 *Results of the Model Building Efforts in Novgorod and Tver - Valuation Formulas and Tables*
- 7.2. Assessment
 - 7.2.1. *A Valuation Adjustment Plan*
 - 7.2.2 *Taxpayer Notification*
 - 7.2.3 *The Tax Roll*

VIII. NON-FISCAL BENEFITS OF PROPERTY TAX REFORM

IX. TAXPAYER EDUCATION AND PUBLIC RELATIONS PROGRAM

CHAPTER I

INTRODUCTION

This manual provides guidance to jurisdictions interested in implementing the market-value-based property tax reform, taking advantage of the experiences gained from the pilot experiment in Novgorod and Tver. It is intended to address the needs of somewhat smaller jurisdictions than the pilot cities. It was specifically developed in conjunction with a project to extend the experiment to the raions of Novgorod Oblast. After a process of assessing the interests, needs, and capabilities of a number of candidate raions, the raions of Borovichi and Staraya Russa were chosen for intensive work, and this manual was shaped based on their needs and incorporating some of their experience. Other raions also participated in the project and helped determine the nature of the presentation.

An earlier set of manuals was developed during the pilot project in Tver and Novgorod. In contrast to the present manual, that material is somewhat dated and addressed to cities of the scale of oblast capitals. For the purpose of the Novgorod oblast project, the methodological lessons of the pilot project were better codified and the software required to support the implementation of the new property tax was scaled down.

The chapters that follow provide guidance for smaller successor jurisdictions in the following areas:

- Preparing for a property tax system: project components
- Legal and administrative framework for property tax reform
- Property tax information system for small towns (PTIMS-ST)
- Planning, Budgeting and Management issues in the development of the fiscal cadastre
- Tax impact analysis
- Valuation modeling methodology and assessment functions
- Non-fiscal benefits of Property Tax Reform

- Taxpayer education and public relations

A complete property tax system would encompass several more components. In particular, the appeals, billing, collection, and enforcement functions are omitted here, and the assessment function is given somewhat short shrift. This stems from the incomplete nature of the pilot experiment in Novgorod and Tver, where these issues have not been addressed yet, and the consequent delayed status of the transfer of their experience to other jurisdictions.

The project in the Novgorod Oblast raions involved a combination of means for the delivery of assistance to the interested jurisdictions. This manual compiles materials presented to the raion cities. Other mechanisms for the delivery of technical assistance to the raion cities were also employed however. Several seminars were presented, including an introductory seminar, a needs-assessment workshop, and a rollout seminar. All of these involved the production and distribution of a variety of explanatory materials. More importantly, each of the primary cities benefited from several on-site, face-to-face consultations with project personnel. Since the tax reform was not completely implemented due to the limited period of the project (and the limited progress of the predecessor pilot cities) and since the present project involved more efforts than can be represented in this manual, it remains to be seen how well it stands alone. The strategy envisioned for further property tax reform in the Russian Federation calls for the conduct of a series of phased focussed seminars. During the periods between each of the envisioned seminars, representatives from the jurisdictions would return home to begin implementing the lessons they'd learned and return for the next seminar when they had made sufficient progress to enter a new phase of operations. There would also be opportunity during each interim for jurisdictions to consult remotely with project experts using telecommunications and computer-based support mechanisms. The present manual would augment such a plan of action, but not supplant it.

CHAPTER II

PREPARING FOR A PROPERTY TAX SYSTEM: PROJECT COMPONENTS

2.1. FEDERAL DUMA APPROVED IMPLEMENTATION OF MARKET - VALUE BASED PROPERTY TAX IN NOVGOROD AND TVER

The central government has recognized that property taxes should be local taxes which allows the local governments elected in the fall of 1996 to deliver better local services to their citizens by having a stable source of revenue. In July of 1997, the Federal Duma passed new legislation "On the Execution of the Experiment on Real Property Taxation in the Cities of Novgorod and Tver." This allows these two cities to reform three existing taxes¹ by replacing them with one consolidated "real property tax" based on estimated market values of properties. Two municipalities in Novgorod Oblast, Borovichi and Staraya Russa, are also part of the property tax experiment. The reform is aiming to move the two cities toward a rational system of property taxation which is the financial base of most cities in countries with a market economy.

Two major goals of local governments are to provide a city that is affordable and livable. The revenues derived from the property tax give local government officials the opportunity to provide a city which is affordable and attractive, both to its citizens and to outside investors. In addition, the development and maintenance of an efficient, effective and safe environment makes the city a desirable place to live. Property tax serves as a tool to achieve an affordable and liveable urban environment. The following pages discuss the components of the real property tax system.

¹ These are: (1) the real property tax on objects of physical persons; (2) the tax on land of physical persons and legal entities; and, (3) the tax on assets of enterprises.

2.2. COMPONENTS OF THE PROPERTY TAX SYSTEM

2.2.1. THE ADMINISTRATION AND DATA PROCESSING COMPONENTS

A property tax system is comprised of policies, procedures, data, technology, and people. From another perspective, a property tax system is comprised of both administration management and data processing components. The administration management component is known as the Property Tax Administration Management System (PTAMS) while the data processing component is known as the Property Tax Information Management System (PTIMS).

The administration management component, PTAMS, regulates the effective and efficient use of scarce administrative and human resources in all areas of property tax administration, especially those related to the interaction between taxpayers and the administration. Functional elements of PTAMS such as data management, valuation, assessment, billing, collection, enforcement and appeals are provided in the context of the legal and institutional environment. PTAMS relies on the effective development of an extensive information management system, PTIMS.

The data processing component, PTIMS, receives and stores information to be used by the property tax administration personnel working at the executive and operational levels of the organization. It is intended to be a tool to facilitate accomplishment of the objectives of the Tax Administration by providing standard information outputs required by officials and technical staff to perform their tasks. It also provides a set of Standard Operating Procedures (SOP's) to allow for an efficient property tax administration providing adequate services to taxpayers. This is a key feature to ensure broader tax acceptance by the public and to promote high rates of voluntary compliance. The core of the PTIMS is the properties database, generally referred to as the real estate/fiscal cadastre. The Property Tax Information Management System (PTIMS-ST) has been developed for users in small towns.²

The tax administration and data processing components include the following modules: Data Management, Property Valuation, Tax Assessment, Bills and Tax Rolls Production, Tax Collection, Monitoring, Enforcement, Appeals, and Taxpayer Services Support. All modules share a common database, the fiscal cadastre, where basic information required for property tax

² The Property Tax Information Management System for Small Towns (PTIMS-ST) is described in Chapter IV of the Manual.

administration purposes is stored. Descriptive data for each individual property is structured in a relational database (fiscal cadastre) which can be permanently accessed by authorized PTIMS-ST users.

Figure 1 in Chapter II, Appendix 1, presents the major components of the property tax system. The upper tier contains the legal and institutional framework conditions requisite to its successful implementation and ongoing operation.³ The lower tier contains the foundation of the system and represents the major operational modules of the property tax system.

2.2.2.. REAL ESTATE/FISCAL CADASTRE

The real estate/fiscal cadastre incorporates the real estate and legal cadastre data required for real property taxation purposes. The cadastre includes:

Real Estate

- physical characteristics of the buildings and the associated land for valuation purposes (Land Committee, or LC, and the Bureau of Technical Inventory, or BTI)
- Location
- Use
- Land related characteristics (including all vacant land which has the potential of being an object of taxation)
- Building related characteristics
- valuation related information for valuation purposes
 - current estimated market value
 - historic record of transaction values (sales values)
 - calculation of the value

Legal

- ownership for tax assessment purposes

- owner identification
- type of ownership rights
- registration of ownership rights
- occupancy for tax assessment purposes
- user identification
- type of use/occupancy right
- registration of occupancy right

Fiscal (only)

- taxation related information for tax administration purposes
 - estimated market value
 - tax base
 - current and past tax liabilities/payments
 - current and past penalties/payments (fines, interest, other)

Once data have been collected and registered in the fiscal cadastre, they must be kept up-to-date. Therefore, data maintenance is very important issue. The fiscal cadastre maintenance responsibilities will belong to the Data Management Office or the newly established Property Tax Department. However, taking into account that most of the fiscal cadastre is a sub-set of the LC and BTI and is referred to as the “real estate cadastre”, an implicit decision to coordinate the maintenance of valuation information for all city departments is favored to avoid duplicating efforts and the associated operational costs. In short, real estate cadastre should be a base of information for the fiscal cadastre. In other words, the real estate cadastre should be linked to the fiscal cadastre, so that data can be shared.

One of the prerequisites for efficient operation of the fiscal cadastre is to define a stable identifier that links all property related information into one property record. Thus, a Property Identification Number (PIN) is designated as the main property identification to support property

³ The legal and administrative framework is described in Chapter III of the Manual

tax administration. It is common practice to assign a unique numeric identifier to properties , not excessively long to make it manageable, ideally providing a reference as to where the property is located and how it relates to other properties. The PIN should not change unless the legal size of the land changes.

The PIN is the major identifier that links all property related information into one property record. The PIN links information on land, buildings, building units (apartments/premises), and taxpayers/owners into one property record. The PIN structure is based on the cadastre number as assigned to land parcels by the Land Committee (LC) and a suitable extension has been designed to be used to identify all buildings associated to a land parcel.

Establishing, promoting and monitoring the mandatory use of the PIN and ensuring that it is correctly assigned by the participating agencies are the most important responsibilities of the fiscal cadastre management function.

2.2.3. DATA MANAGEMENT

During the first stage of property tax system implementation, the Data Management Module is intended to deal with the construction of the mentioned fiscal cadastre.

The Data Management Module include following activities: data collection, data entry and data maintenance.

Data Collection

Currently in the Russian Federation, several different institutions are in charge of collection and maintenance of real estate data. The Land Committee (LC) is in charge of collection and maintenance of all information related to land plots while the Bureau of Technical Inventory (BTI) is in charge of compilation and maintenance of all information concerning the physical characteristics of the buildings, its premises and state of construction. Other institutions include the Registration Chamber/Department which registers ownership data; the Housing and Utilities Committee which collects occupancy data; and, the State Tax Service which has taxpayer and privileges information.

Most of the residential property is inventoried in the BTI files and all information related to land is in the LC files. However, a large majority of the commercial and industrial property is not described in the BTI files. These uninventoried properties fall into two main categories: (1) commercial premises which occupy a defined space in municipal apartment buildings; and, (2) buildings of the industrial complex. Thus, these properties which are missing from the BTI files must be discovered. Field (market) data collection is necessary. It should be noted that data collection activities require a good set of current maps. Personnel working on this task should have a special aptitude for research and very good public relations skills to obtain the required information.

Data Entry

The entry of data into the cadastre depends, largely, on the city's existing computer configuration. In the city of Novgorod, an existing computer network was already in place. All institutions whose functions are related to the maintenance of property data are coordinated into a single "real estate" department. Some of the data is shared and maintained in a single database. However, for the purposes of the property taxation project, a unified real property tax cadastre (fiscal cadastre) was developed using the real Property Tax Information Management System (PTIMS) for each taxable property. PTIMS accepted existing data already collected in each institution's database. In Tver, a computerized city network did not exist in the city and all data for the real property tax cadastre was entered from several computers at a single site.

Data Maintenance

After the massive effort to enter data and create the database (fiscal/real estate cadastre) is complete, maintenance should be envisioned as a permanent activity. In order to accomplish a timely, effective updating of the database, the data management office should coordinate the activities of all the data entry units from different institutions dealing with real estate information.⁴

The table below illustrates all of the institutions and the data they collect with regards to real estate/fiscal cadastre maintenance activities.

⁴ LC, BTI, the Registration Chamber Department, the Housing and Utilities Committee and the Property Tax Department.

Real Estate/Fiscal Cadastre Maintenance

Land Committee (LC)	Land data
Bureau of Technical Inventory (BTI)	Building data
Housing Agency	Occupancy data
State Tax Service (STS)	Privileges
Property Tax Department	Valuation assessment data
City Registrar	Property rights
Property Tax Department and STS	Billing/collection

2.2.4. THE VALUATION MODULE

The Valuation Module performs required operations to calculate an estimated market value for all properties registered in the fiscal cadastre for taxation purposes. Based on current real estate market information and using statistical analysis and Computer Assisted Mass Appraisal (CAMA) techniques, a set of property valuation models (residential, apartment, commercial and industrial property valuation models) have been developed specifically for Tver and Novgorod. The valuation module includes all these models which will generate an estimated market value for every property registered in the fiscal cadastre. This estimated market value is to be used as the tax base for the application of the property tax.

Accurate property values are crucial to an effective tax assessment for each property and they are also necessary components of a fair and equitable property tax system. It is necessary to have equity in a property tax system in order to build taxpayer trust and garner public acceptance of the system.

The valuation module has been designed to allow for the modification and replacement of the valuation models without a need for extensive reprogramming.

2.2.5. THE TAX ASSESSMENT MODULE

The tax assessment module will produce a tax assessment for each property registered in the fiscal cadastre through use of the property's estimated market value and adjusting for

property tax related legislative and regulatory framework already in force. Adjustments to the estimated market values may include basic deduction, special privileges and exemptions, assessment ratios for each class of property and billing thresholds.

Authorized creation, deletion or modification in the real estate cadastre will automatically cause the recalculation the new estimated market value through the valuation model. The assessment module will generate a new corresponding tax assessment. Valuation and assessment statistics are also automatically updated based on the new values.

2.2.6. THE TAX BILLING MODULE

In most countries, taxes other than property tax are self-reported by the taxpayers. The property tax differs from other taxes in that it is estimated and billed by the tax administration. Therefore, tax notices, tax receipts, and tax rolls must be generated by the tax administration and delivered to taxpayers for payment. This task requires a specialized billing module due to the massive nature of the exercise. Depending on city policies, tax bills could total 150,000 in Tver and around 80,000 in Novgorod.

The tax bill production module is intended to generate tax bills, tax receipts and tax rolls necessary to notify taxpayers of their property tax liabilities. Tax receipts allow taxpayers to keep official records of tax liabilities and provide taxpayers the means with which to demonstrate actual payment of the tax. Tax bills and tax rolls allow the tax administration ways of monitoring tax collection. Tax rolls also allow taxpayers to determine the fairness and equality of the property tax system. Standard operational procedures are a crucial component of this module to regulate the different activities of all persons involved which include the tax administration, taxpayers and banks.

2.2.7. THE COLLECTION MONITORING, ENFORCEMENT AND APPEALS MODULE

Although the collecting banks and the State Tax Service will monitor collections for their own purposes, the city requires a similar function operating independently for purposes of cross-checking, revenue performance monitoring and forecasting. The collection monitoring module provides for these purposes, based on capturing payment information directly from payment points.

The collection monitoring module will process the information required to monitor all activities related to payments made by taxpayers and tax collection as performed by the designated collection agencies. Each property will have a property account where tax liabilities, tax payments and eventual differences will be registered, conciliated and accounted. Should enforcement be required for overdue property tax liabilities, all necessary communications as required by the legislation and regulations in force will be generated and printed by this module, which will also keep an updated record of all enforcement actions performed by the tax administration.

Whenever the billing module generates a property tax bill, the properties database registers a corresponding tax liability. The moment a paid receipt is entered and accepted by the system, the liability is eliminated for the corresponding bill and the paid amount is recorded for control and statistical purposes. In addition to individual liability-payment monitoring, this module routinely generates a set of specifically designed collection reports by consolidating billing and collection information by different aggregation criteria.

The collection monitoring and enforcement support module allows the city administration to collaborate with the STS in the selection of taxpayers for enforcement purposes.

The appeals module assists the Property Tax Department with the responsibility of administrative management and documentation of taxpayers appeals.

The introduction of a new ad valorem property tax system will generate a substantial number of both inquiries and appeals. It is common in such system to have an initial administrative appeal at the local level, with secondary level of review, by an administrative or judicial body with specialized expertise. Access to the courts for resolution of constitutional or important legal issues also should be considered.

The importance of the role of taxpayers as “auditor” (reviewer) of the real property tax system cannot be over emphasized. Therefore, education of taxpayers in ad valorem taxation and market valuation, openness in making information available for taxpayers to review and compare with their own records and assessment, and a well functioning appeals process are all critically important at the outset.

2.3. TAXPAYER SERVICES AND TAXPAYERS EDUCATION AND PUBLIC RELATIONS

The taxpayers' services and taxpayers' education and public relations module is intended to support all activities related to taxpayers' services, information and education. A fair, honest, effective and well respected property tax administration requires that the property tax law, its amendments, the current interpretation and related regulations should be known timely and entirely both by the tax officers and the public. An effective way to achieve these objectives is to conduct a taxpayer education and public relations program.

Unlike existing taxes, property tax is based on a value generated by the local government. It is not a self-reporting tax. Taxpayers must understand the basics of real estate market values and its implication to their tax assessment and tax bills. Thus, the active taxpayers' education and public relations program is very important for the implementation of the tax system and taxpayers' compliance.

The taxpayers' education and public relations program will have two geographical levels; national and local. At the national level taxpayers' education and public relations will be an overview, and big picture oriented. It will address the needs of the national lawmakers and high level government officials.

At the local level, an efficient taxpayers' education and public relation program has five goals: (1) listen to the public; (2) inform frequent users and elected officials; (3) inform the media; (4) inform the public; (5) place information in the public's hands. Getting to know the taxpayers better, plus educating and involving the taxpayers in decisions that affect them is the best approach for a successful taxpayers' education and public relation program.

An effective way to achieve these goals is to use following tools and materials:

- Periodic official publication, for example a property tax newspaper or newspaper supplements,
- Direct communication such as direct mail to taxpayers,
- Mass distribution of brochures on property tax,
- Radio/TV public service announcements,
- Press conferences and briefings,

- Press releases,
- Radio/TV talk shows (expert to expert, elected official to journalist),
- Dialogue with selected taxpayers' groups and elected officials,
- Video-film about property tax
- Poster for billboards and wallboards.

By keeping track of information requests or complaints, the tax administration will have the capacity to update information for taxpayers.

CHAPTER II APPENDIX

1. FIGURE 1: MAJOR COMPONENTS OF A PROPERTY TAX SYSTEM

CHAPTER III

THE LEGAL AND ADMINISTRATIVE FRAMEWORK FOR PROPERTY TAX REFORM

The introduction of a new property tax system that unifies land and buildings into a single tax base involves both legal and administrative reforms. A coordinated approach to developing both the legal and administrative basis for real property taxation offers important advantages in market development, privatization and local government autonomy, as well as benefiting taxpayers and investors with improved, more convenient and efficient service.

The legal framework comprises the Constitution, the applicable laws of the Russian Federation, its subjects, and the ordinances and regulations of local self-governments of the Russian Federation. The laws of the Russian Federation authorize the implementation of a unified tax on immovable property in the cities of Novgorod and Tver. Legislation "On the Execution of the Experiment on Real Property Taxation in the cities of Novgorod and Tver" has been enacted into law, - demonstrating the federal government's recognition of the importance of a unified real property tax for local governments that will replace the land tax, the assets tax on enterprises and the tax on the property of physical persons. Raions within the Novgorod Oblast, as well as other jurisdictions in Russia that elect to implement the tax, will be permitted to do so under an amended version of this law, which delegates specific legal and administrative authority to local self- governments.

A strong legal basis is essential for taxation, but within the legal framework for real property taxation, there are a number of policy choices that permit local self-governments to adapt tax policies to local circumstances. The legal framework includes:

3.1. THE TAX BASE

The law defines what is subject to taxation. The Novgorod/Tver legislation defines the tax base as land parcels, including forest land, buildings, structures and any other immovable property. It is desirable for the real property itself to be the basis of the tax, since this allows

more effective enforcement. All immovable property should be subject to taxation, unless specifically exempted by law.

Limited exemptions are specified to maintain a broad tax base. In the Novgorod/Tver legislation, real property owned by foreign states and international organizations pursuant to international agreements with the Russian Federation are tax exempt. Local self-governments are authorized to grant additional exemptions as well as provide subsidies to certain categories of taxpayers on residential property.

Limiting the number of exemptions is important to:

- expand revenue growth potential
- limit individual tax burdens
- encourage taxpayer support and compliance
- minimize unfair competition
- increase fiscal transparency
- reduce administrative costs

Nonetheless, tax exemption is commonly provided to properties owned by:

- qualified organizations providing benefits to society, such as religious, charitable, educational and other non-profit private organizations;
- government and used for governmental uses, to minimize moving money “from one pocket to another”;

Most property tax systems, for reasons of social equity and compassion, provide tax relief to persons whose personal circumstances make it a hardship for them to make tax payments on their housing. Full or partial exemptions on the basis of age, disability, military status and income are common.

3.2. THE BASIS FOR ASSESSMENT

Assessment is the means by which the tax is distributed within the tax base. In a value-based system, the tax is allocated according to the value of taxable property. A tax based on the

market value of a unit of property at its highest and best economic use promotes efficient use of land and more equitable taxation. Assessment policy may also include special methods for valuing property in agricultural and timber production.

Market value is the value specified in the Novgorod/Tver legislation as the basis for taxation. Appraisal of property for taxation is performed by a “mass appraisal” system to establish uniform methods and equitable treatment. Where real estate markets are still developing and not yet mature, a mass appraisal system is able to develop standardized values that are based on limited, rational prices from secondary market rent and sales prices. The methodology for valuing property for taxation will be established by local legislation. The cities are also directed to establish procedures for identification of property under construction, in order to tax these properties appropriately.

Also specified in law is:

- the annual assessment date of January first on which the property’s value is based;
- the allocation of the tax burden among properties. This may be at a uniform percentage of full value (100% of the value), at a uniform lesser percentage of value (50%, for example), or at varied percentages for different property categories, although uniform within each category. These choices are delegated to the local self-governments, except that legislation requires that residential property be assessed at no more than 50% of the market value of apartments and residential premises.

A policy of differential assessment percentages so that some categories carry a heavier tax burden than others creates economic distortions and inequities that need to be carefully evaluated and understood.

3.3. TAX RATES

Representative bodies of local governments in Novogord and Tver are responsible for determining real property tax rates. This enables the local government officials to establish and calculate the rates as a part of the process of budgeting the revenues and expenditures for the fiscal year. Initially, the tax rate will be set so that the proceeds from the real property tax will be

no less that the revenue from the taxes it replaces. Potentially, growth in the tax base and property value will increase revenues.

Rate-setting authority by the level of government that receives the tax revenues promotes greater accountability, and offers an opportunity for taxpayers to measure the services they desire and need against the cost of those services to them.

A single tax rate applicable to all properties is the simplest and most equitable choice. But if it is considered necessary to vary the tax burdens on certain categories of properties, property may be classified into a few different categories and a different rate applied uniformly to all property within each of these property classes. The same disadvantages of economic distortion and inequity apply to tax rate differentiation as to differential assessment policy. However, if such differentiation is decided upon, a classified tax system is considered preferable in order to clearly separate tax policy decisions from appraisal, which should rely on objective market indicators for valuation.

3.4. TAXPAYERS (ASSIGNMENT OF TAX LIABILITY)

The law assigns liability for payment of the taxes in the Novgorod/Tver legislation to the owners of real property in private ownership, and to physical persons and legal entities that possess chattel and/or vested rights to state- and/or municipally-owned real property. Local regulations further defining the process for fixing liability will be established with the objective of avoiding multiple taxpayers and divided liability for payment that add cost to administration and complicate enforcement.

The local government regulations should specify taxpayers' rights and obligations including the:

- obligation to provide information to assessment and tax officials
- obligation to allow property inspection by assessment officials
- obligation to pay the tax in full and on time
- right to adequate notice of property assessment and tax
- right to sufficient information to evaluate the accuracy of the assessment and tax

- right to confidentiality of private information
- right to appeal the decisions of the tax administration.

3.5. APPEALS SYSTEM

An effective appeals system improves the accuracy and fairness of assessments. Unlike other taxes that are self-assessed, the property tax base is determined by the government, and the taxpayer, through the appeal process, acts effectively as an auditor of the government's performance. Therefore, local regulations should provide for an informal administrative level of appeal within the local assessment administration to clarify legal status, correct property information, and provide the taxpayer with information on which the valuation is based. Most errors can be corrected at this stage.

Appeals of the decision of the local administration may be made to a local commission made up of qualified members with no economic interest in the outcome. A Property Tax Appeals Commission may be established by local regulation that specifies its make-up and the procedures it shall follow to hear and rule on matters of property assessment and property tax liability. The Commission is vested with authority to require from the local administration and from appellant taxpayer information necessary to arrive at a decision.

Decisions of the Commission may be appealed to a court of law.

3.6. TAX COLLECTION

The primary purpose of taxation is to provide revenue for government services. The objective of the legal provisions related to tax collection are to encourage payment, minimize delays and cost in collection of overdue taxes, discourage extra-legal collection methods, and protect taxpayers' rights. Local government under the Novgorod/Tver legislation will assess the real property taxes, and provide the tax lists and tax bills to the State Tax Service, which has responsibility for issuing the tax bills. Local law will establish regulations for:

- legal notice of tax liability, specifying the information that must appear on the notice, and the method of issuance . Liability should be established at issuance and not by

receipt of the taxpayer. It is desirable to require only one tax bill per taxable property unit for administrative efficiency and clarity.

- management of the information related to property tax payments, appeal decisions, and other records for maintaining accurate assessment lists and tax collections.

Enforcement procedures are governed by existing federal laws. Effective and timely enforcement is essential to tax equity and to encouraging voluntary compliance by taxpayers. Therefore, local government has a strong interest in an efficient and impartial enforcement process. It is suggested that specific additional legal provisions be sought for the enforcement of real property taxes that include the right to place a tax lien on the property to the extent of the unpaid taxes. The taking of property is generally a final remedy, available through the courts, and is considered more effective than criminal penalties that are established for other forms of taxes. Other sanctions, such as payment of interest on unpaid taxes and non-renewal of certain licenses or permits, can also be used to enforce payment.

3.7. ASSIGNMENT OF ADMINISTRATIVE RESPONSIBILITY

The Novogord/Tver legislation assigns to the local self-governments the administrative authority and responsibility for assessing and levying the real property tax. The legislation specifically requires local self-government to establish procedures for real property taxation, and to create and maintain a real property register with the information for assessment and taxation, and to cover all costs associated with carrying out these responsibilities.

Local law should provide basic principles, standards and requirements, and delegate to administrators the authority and responsibility for achieving them. Legal authority and responsibility for property tax administration should also include authority to request information from taxpayers and inspect property, to establish procedures for intergovernmental exchange of information and documents, and to obtain legal and other services from within the local administration provide for the efficient administration of the assessment and tax system.

Property tax systems generally are most effective when there is:

- an integrated administrative structure to identify, value and assess property, conduct informal administrative appeals, and provide public information and service concerning appraisal and assessment.
- a tax administration which coordinates tax billing, collection and enforcement.
- quality control and oversight of assessment and tax administration by an independent agency or higher level of government.

Local self-governments, in accordance with their charters and legal authority, have the ability to establish the structure of the property tax administration in their cities or regions.

3.8 THE ADMINISTRATIVE FRAMEWORK

A strong institutional as well as legal structure is important to a real property tax system. The local self-government is responsible for establishing a fair, honest and demanding tax administration. Local self-governments have authority under law to determine their organization structure, establish municipal services, select administrative officials and contract for services. A recommended course of action is to create a Property Tax Assessment Department within the administration, appoint its Director, and establish appropriate lines of authority and responsibility.

The Director of the Property Assessment Department will be responsible for establishing an effective organization to manage the operational tasks:

- create and maintain the property tax register
- coordinate the collection of legal and physical property information for the register from the Land Committee, Bureau of Technical Inventory, Property Management Committee, State Tax Service, Registration Center, etc.
- research and analyze market price data
- estimate property values with computer-assisted mass appraisal methodology
- process applications for exemption
- establish the assessment list

- prepare tax bills for delivery to the State Tax Service
- develop a public education and public relations program
- create and maintain a service and public information center for taxpayers
- organize an informal administrative appeal process
- monitor tax billing and collections
- provide reports on property tax values, revenue, tax impact, and other information needed by government officials for financing planning
- defend valuation and other administrative review decisions before administrative review bodies
- contract with outside experts for the performance of necessary professional services, except that it shall be the duty of the city attorney, with assistance from the property tax department, to defend the administration's decisions in cases of judicial suit

The Director should be selected on the basis of merit, and ideally have the administrative and technical background to manage all phases of the Department's operations. The Director should have the authority to establish written procedures and administrative regulations binding on both the Department and taxpayers. The Director's management responsibilities include:

- developing an efficient and functional organizational structure
- hiring employees on the basis of professional and technical qualifications
- training employees to increase their knowledge and effectiveness
- contracting for professional services or equipment in accordance with local government regulations
- planning departmental budgets and making efficient use of resources
- establishing standard operating procedures
- establishing internal controls and quality assurance procedures
- maintaining good relations within local government and with elected officials and providing information which is needed by them to perform their official duties.

- building public confidence in the integrity, fairness and competence of the Department.

In addition to the Property Tax Assessment Department, the local self-government should establish an independent Property Tax Appeals Commission to hear appeals of decisions of the Property Tax Department. Regulations that govern the Commission's membership and operating procedures will also be established by local government.

It is generally recognized that independent quality control and oversight to monitor local property tax administration is desirable to ensure uniformity and equity. If a number of regions adopt real property tax systems, it would be useful to explore what role the Oblast could play in performing this function.

CHAPTER IV

PROPERTY TAX INFORMATION SYSTEM FOR SMALL TOWNS (PTIMS – ST)

4.1. DATA ENTRY SCREENS

The data entry module for the Property Tax Information Management System for Small Towns (PTIMSST) is based on forms completed by users of the property tax system. Although it would be possible to program the system in a different way, for example to allow entry and revision of data directly from source documents, such as printouts generated by this or another system, the PTIMS-ST was designed specifically to guarantee an audit trail for the PTIMSST data and to maximize the evident “authenticity” of the data being managed. It is possible to provide a facility for an Oracle database administrator (DBA) to import data from external files into the PTIMS tables, obviating the need to re-key the data, if the director of the property tax administration so wishes. But this will be done at the expense of an audit trail and will not be possible for a typical user to do.

The data entry module described here is thus necessarily based on a pre-defined set of data entry forms. Samples of such forms are included in Chapter 4, Appendix 1. Small towns that are considering adopting PTIMSST must either satisfy themselves that the predefined forms capture all the information they expect to be necessary to determine market values and to administer the tax, or they must modify both the forms and the system. Estimating the costs of redesigning the system, both in terms of money and time, is outside the scope of this report. Please note that the screen shots included here were taken from a functioning demonstration system, running Personal Oracle 7.2 on a personal computer.

The system documented here was used in testing mode, not in production, so certain borders at the top and bottom of the screens can be expected to differ slightly from the production version. The system has been tested in an environment characterized by two separate computers accessing the same database resident on (only) one of the machines, but statistics are not yet available concerning performance under expected workloads. Note that this is not a configuration recommended by/supported by Oracle Corporation; their expectation is that multi-

user environments should be running the client/server version of Oracle on a LAN. This will substantially increase the costs associated with installing and operating PTIMSST, although it will run well (probably substantially better) in such an environment.

4.1.1. COMMON DATA

The first screen of the data entry module, reproduced in Figure 1.1, provides for the entry of data common to the various physical objects that are potentially taxable. The first line provides a drop-down box for the operator to indicate the source of the data: the land committee, BTI, or other. It is followed by the year data entry box with the current year already filled in. Provision for multiple years enables the system to manage and retrieve data as of any given point in time. Next come entry spaces for binder number and document number. The presumption is that the data entry documents will be filled out in various places having data necessary to administer the property tax, particularly the land committee and the bureau of technical inventory (BTI) but also potentially including the housing maintenance organizations, property management committees, and others. Such agencies will number their documents, for example with a numbering machine, and quality assurance measures will establish that none of the documents has become lost in transit from the agency to PTIMSST. When a convenient number of documents has been obtained (such as 100) they will be stapled into a numbered binder for subsequent storage and management as a group, and the PTIMSST will permit their retrieval for authentication purposes, if necessary. The final box on the first line is used to indicate the operation type: data entry, data update, or deletion. It should be noted that the data entered through this module goes first to a table where it is edited for validity. Only after it has passed the validity checks is the information then copied from the data entry table to the operational tables in the database. The second line of the screen provides check boxes in which the operator indicates the type of documents that will be entered for the given object. The choices are: taxpayer, land parcel, building, building unit, rights, and source of value information. This completes the area of the screen form that is common to all seven of the tabbed "screens" that will be further described below.

ACU HH (C) USAID.1997 - [Модуль ввода данных] [?] [X]

Action Edit Block Field Record Query Window Help [?] [X]

Модуль ввода данных АСУ HH

Организация: Земхоз Год: 98 Папка: Лист: Тип операции: 1. Добавить

В форме описания
 Плательщик
 Участок
 Строение
 Помещение
 Право
 Стоимость

Общая | Плательщик | Участок | Строение | Помещение | Стоимость | Подпись

Кадастровые номера:

участка: ТВ 40 [] []

Строения: [] Помещения: []

Местоположение собственности

Название населенного пункта: []

Название улицы: []
 Номер дома: []
 Корпус: []
 Номер квартиры: []

Номер комнаты: []
 Наименование строения или другая пространственная информация: []

Ошибки: []

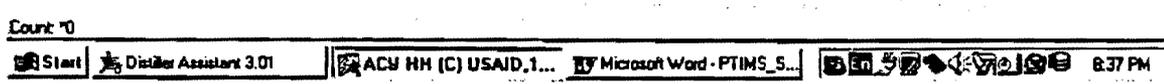


Figure 4.1.1

The first tabbed screen, which is illustrated in Figure 4.1.1, is used for the entry of common data. It is shown by default when the program is started, and may be accessed at any later time by clicking the mouse on the area of the screen that looks like the label tab of file folder. The data entered here are:

- Cadastral number: the constant part of this number for the relevant jurisdiction will appear as a constant so the user need not type it: the illustration happens to apply to Tver, but this will be changed as the system is installed in the relevant jurisdiction. Thereafter four boxes appear into which data on the cadastral zone, land parcel, building cadastral number (if relevant) and building unit cadastral number (if relevant) are to be entered.
- Settlement: this is chosen from a drop-down box to speed data entry and prevent miskeying.

- Street name: this is chosen from a drop-down box for the same reasons as above; legal street names will be externally defined for each settlement.
- House number
- Corpus or building number
- Apartment number, if any
- Premise or room number, if any
- Description of the building, premise, or property, if any

The next panel is where error messages, if any, will appear.

The four buttons at the bottom of the screen permit the user to take the following actions: commit the entered data to the database for processing/validation, inquire for matching records, clear the form, and exit from the program.

Figure 4.1.2

The second tabbed screen, illustrated in Figure 4.1.2, is devoted to taxpayers and permits the user to enter the following data:

- Type of tax payer: physical or juridical (chosen from a drop-down box)
- Date of birth or date of organization's creation for the taxpayer
- The enterprise identification number, if any
- The name of the corporate taxpayer or family name of a personal taxpayer
- The taxpayer's given name
- The taxpayer's patronymic
- The address of the taxpayer
- The telephone of the taxpayer
- The fax number of the taxpayer
- The document type that establishes the taxpayer's identity, chosen from a drop-down list
- The series of the identity-establishing document
- The serial number of the identity-establishing document
- The property type, chosen from a drop down box with the following possibilities: federal, subject of federation, municipal, private, and other
- The form of the property right, chosen from a drop down box with the following possibilities: unitary, shared, joint, and combined
- The type of property right, chosen from a drop down box with the following possibilities: private property, life-inherited possession, constant use, economic management, operational control, and lease.
- The fractional share of a whole, if any, that is relevant to this taxpayer.

The screen then ends with provision for error messages and the usual four action buttons, as described above.

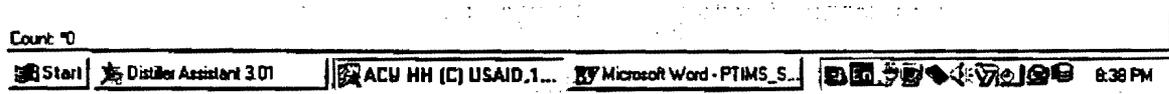
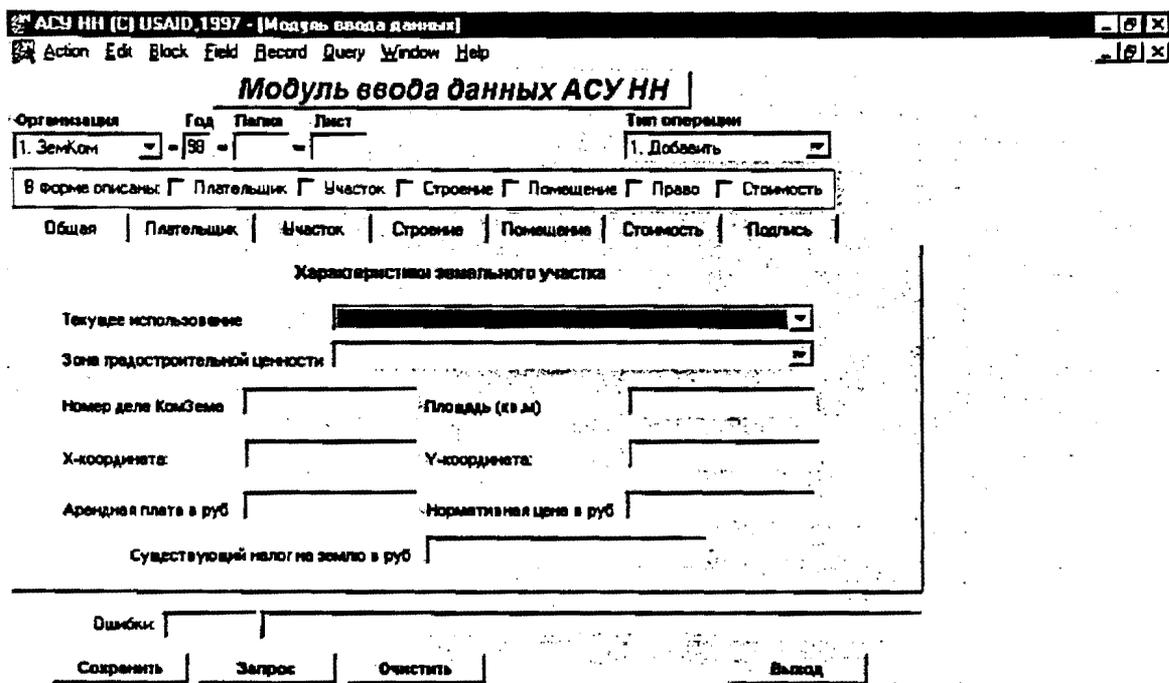


Figure 4.1.3

Land parcel information is entered in the third tabbed screen, illustrated in Figure 4.1.3.

The following data elements are to be entered:

- The overall use of the property, chosen from a drop-down box that currently provides for 17 alternatives. The alternatives are pre-defined so as to maximize their ability to reflect differences in market values per square meter observed among sales transactions. These alternatives also provide a basis for the possible application of differential tax policies to the individual categories by means of assessment ratios or effective tax rates; if this is done, tax rates will be uniform within classes but may vary among classes. (Whenever the user has predefined choices, the set of choices can easily be expanded by a system administrator, although not by an average user.)
- The land value zone in which the object is located. These zones will initially coincide with the zones established by the Land Committee for the administration of

differential land tax and rent rates, but may later be modified to reflect different patterns of value per square meter of land observed in the market transactions.

- The file number of the records in the Land Committee's paper-based archive
- The square meters of the land parcel
- The X and Y coordinates of the parcel. These must be entered for all parcels that will comprise the database for developing the market value equations. It is not absolutely necessary for the X-Y coordinates to be linked to a real world coordinate system, although they must not distort relative distances and the fiscal cadastre will be much more useful if the data are not entirely arbitrary.
- The current rent rates, normative value, and tax amount of the parcel. These are used only for the projection of probable tax burden shifts resulting from the new basis of taxation as compared with the distribution of burdens under the old systems of taxation and land rental/usage payments

- The year of renovation of the building
- The percentage depreciation “amortization” of the building, coded such that lower percentages indicate greater remaining value.
- The quality adjustment for this building, if any – This data item will come from a field review of the tentative appraisal for the building, rather than from transcription of extant paper records.
- The adjustment for the apparent condition or appearance of this building, if any – This data item will come from a field review of the tentative appraisal for the building, rather than from transcription of extant paper records.
- The (primary) wall material from which the building is constructed. This is entered from a drop-down list of approximately six possibilities chosen so as to correlate highly with the value (or construction cost) of the building. (Here, too, the system administrator can augment the choices.)

The usual provision for error messages and action buttons, described above, complete the form.

ACU HH (C) USAID, 1997 - [Модуль ввода данных] [F1] [F2] [X]

Action Edit Block Field Record Query Window Help [F1] [F2] [X]

Модуль ввода данных АСУ НН

Организация: 1. ЗемКом Год: 98 Книга: Лист: Тип операции: 1. Добавить

В форме описания
 Плательщик
 Участок
 Строение
 Помещение
 Право
 Стоимость

Общая | Плательщик | Участок | Строение | Помещение | Стоимость | Подпись

Характеристики квартиры, помещения

Текущее использование: []

Общая площадь Жилая площадь Размер кухни К-во комнат Балконы/лоджии

Номер этажа Качество Внешний вид

Забронировано/завершено Процент пригодности

Нормативная стоимость БТИ (руб) Арендная плата (руб) Размер налога (руб)

Ошибки Сохранить Запрос Очистить Выход



Figure 4.1.5

Figure 4.1.5 illustrates the tabbed screen into which data on building units are entered, including the following:

- Type of use; again the possibilities are standardized, and have been discussed above
- The floor number in the building of this building unit
- The quality and apparent condition or appearance of the building unit, as described above
- The completeness (or lack thereof) of the building unit
- A percentage code indicating the suitability of the unit for the purpose to which it is being used. This code provides a means by which functional obsolescence may be recorded.
- The normative value of the building unit, according to current BTI records (used only for tax impact projections).

- The rent rate of the building unit
- The current tax amount of the building unit (used only for tax impact projections).

The usual provision for error messages and four action buttons completes the form.

Figure 4.1.6

Figure 4.1.6 illustrates the tabbed screen on which information relevant to the estimation of market values is entered. In particular, the following fields are provided:

- A radio-button group into which the operator must enter one, and only one, choice from the following list of potential sources of information: appraiser, notary, broker, realtor, and other.

- The amount of the value indicated (typically the sale price at which a transaction took place on the open market)
- The date of the value indication (for example the sale transaction date).

(Note that these data are the minimum necessary elements and may be augmented by additional facts about the transaction at the time the system is installed. Codes indicating the utility of the sale as an indicator of market value (not all sales meet the conditions stipulated in the definition of market value) and the person responsible for the confirmation or adjustment of the data may need to be added at installation time.)

Provision for error messages and the usual four action buttons complete the form.

ACU HH (C) USAID.1997 - (Модуль ввода данных)

Action Edit Block Field Record Query Window Help

Модуль ввода данных АСУ НН

Организация: 1. ЗемКом Год: 98 Лист: Тип операции: 1. Добавить

В форме описаны: Плательщик Участок Строение Помещение Право Стоимость

Общая | Плательщик | Участок | Строение | Помещение | Стоимость | Подпись

Подтверждение изменений/служащий

Идентификатор служащего: Дата: 21.03.98

Ошибки

Сохранить Запрос Очистить Выход

Count: 0

Start Distiller Assistant 3.01 ACU HH (C) USAID.1... Microsoft Word - PTIMS_S... 8:41 PM

Figure 4.1.7

Figure 4.1.7 illustrates the tabbed screen on which is recorded:

- The identity of the person responsible for the accuracy of the data written on the paper form that the data entry operator has just completed entering.
- The date as of which the person named above “authenticated” the data.

Note that the system will record the identity of the data entry operator and the date of the data entry at the time the operator logs onto the Oracle PTIMS-ST system. Therefore it is not necessary for the operator to enter such data repetitively for each parcel entered, since the system will take care of that.

Provision for error messages and the usual four action buttons complete the screen.

4.2. THE INFORMATION RETRIEVAL MODULE OF PTIMS-ST

The Information Retrieval Module provides PTIMS-ST users the means to access and retrieve information needed to support different activities in the operational, planning, monitoring and report generation areas. The information generated by this module is presented, organized in different screen displays that can be selected according to the users needs. The same information displayed in any screen can be printed if required.

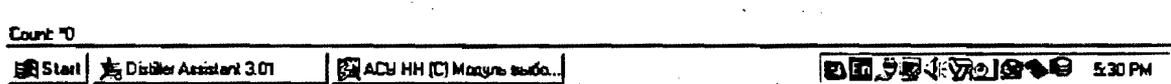


Figure 4.2.1.

The module starts with Figure 4.2.1, a virtually blank screen (onto which a “splash screen” might be added) and (importantly) a menu on which the following alternatives are displayed:

- Land
- Building
- Apartment
- Non-residential premise
- Taxpayer
- Complex Query
- Exit, and
- Window

The last two provide a means to exit the module and to configure in a non-significant way the display screens; they will not be discussed further.

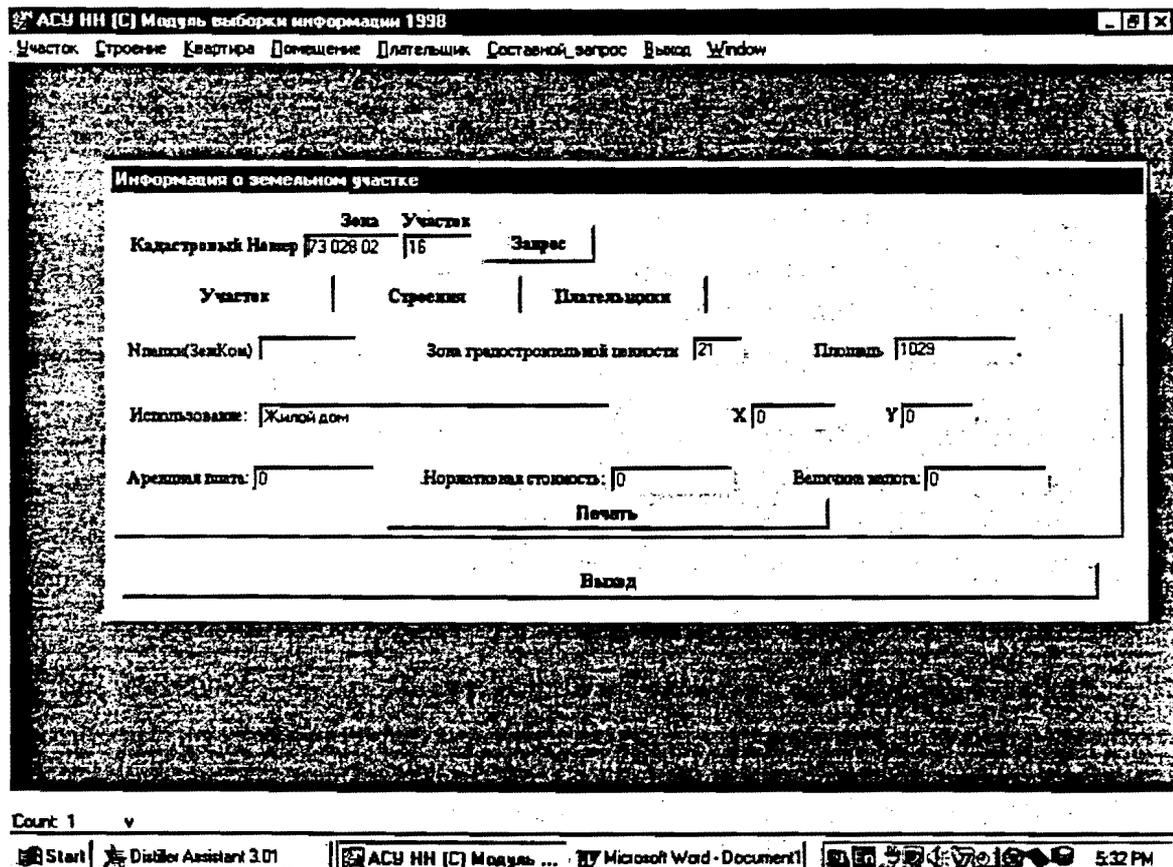


Figure 4.2.2.

The default land query screen is illustrated in Figure 4.2.2. It provides data on the first of 3 possible tabbed screens related to land. In particular, the data provided relate to land parcels. Before describing the particulars of the land parcel, however, the upper row of edit boxes and buttons, common to all tabbed screens in this section will be discussed. The cadastral number, comprising its zone and parcel number, is entered (without the data constant to the jurisdiction in question and following the punctuation rules established for the jurisdiction. The recommended segment separator is a space, rather than a period, hyphen, or other character more difficult to key. The button following the edit boxes toggles between “inquiry” and “execute,” with the first used to display the desired criteria and the latter to cause the relevant record(s) to be retrieved. For land parcels, by definition, only one record should be retrieved for any cadastral number,

since the number must uniquely identify a parcel. Later we will see that in other situations multiple records can be retrieved. The data reported in Figure 4.2.2 include:

- The Land Committee folder number
- The land value zone
- The square meters of the land parcel
- The (overall) purpose for which the parcel is used
- The X-Y coordinates of the parcel
- The land rent rate
- The normative value of the land parcel, and
- The current tax (or payment for land) associated with the land parcel

Two buttons are available, which permit the user to print a report summarizing the information displayed on the screen and to exit the program.

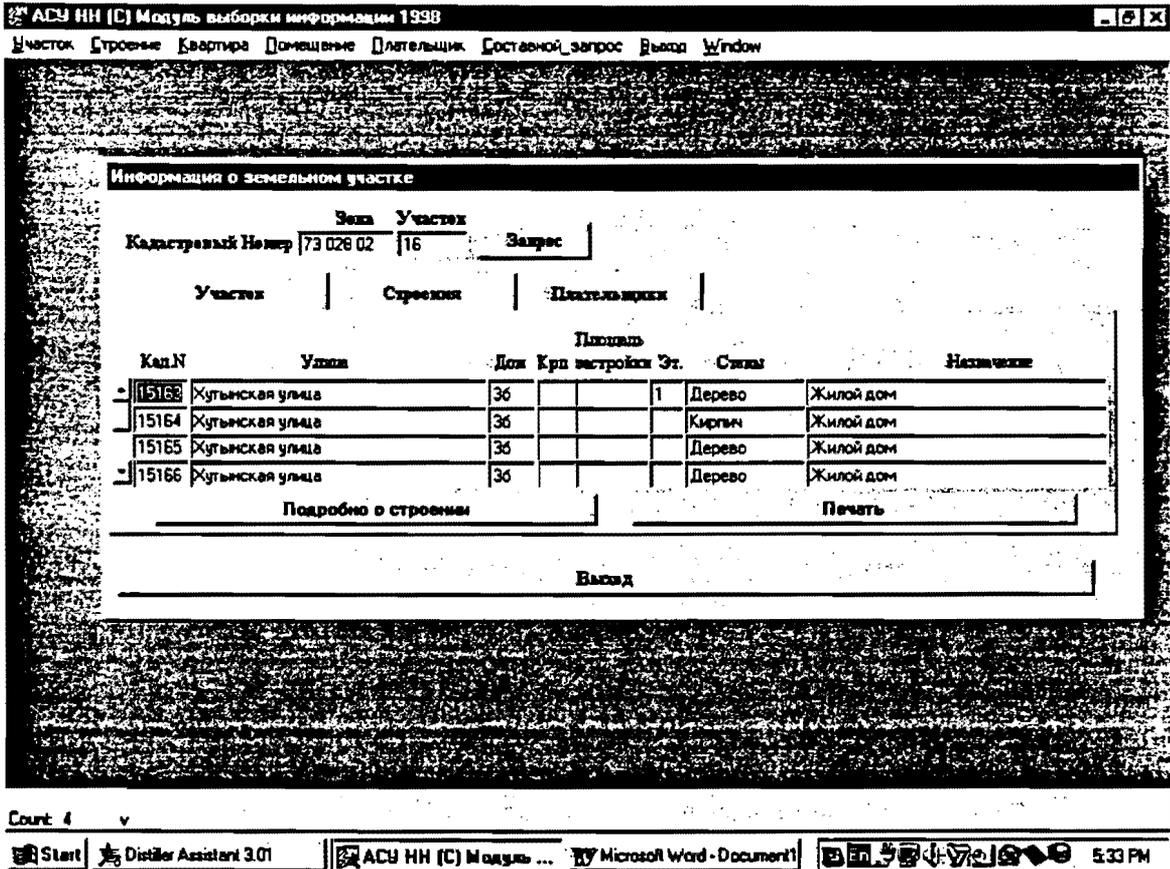


Figure 4.2.3.

Figure 4.2.3. displays information on the building or buildings located on the land parcel whose cadastral number is given above. The presentation is initially columnar, with the following facts presented:

- Cadastral number of the building
- Street name
- Street number
- Building corpus number
- Footprint of the building
- Number of floors of the building
- Wall material
- Use of the building

A detail button appears, in addition to the usual print and exit buttons. Clicking the mouse on the detail button while the cursor is in a non-blank row of the table described above results in further detail being displayed, as illustrated in Figure 4.2.4.

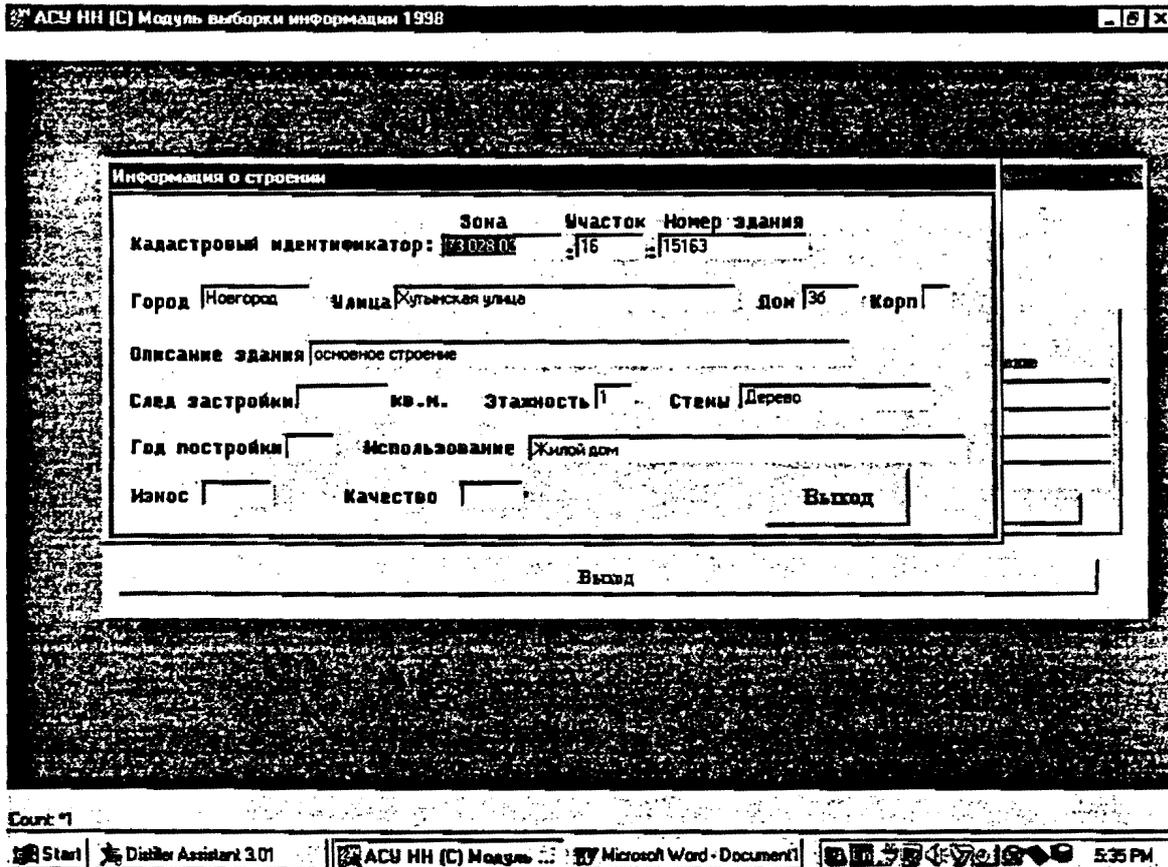


Figure 4.2.4.

Further detail resulting from clicking on the “building detail” button of the screen illustrated in Figure 4.2.4. is provided as illustrated in Figure 4.2.5. The fields shown include:

- Cadastral number, including zone, parcel and building components
- The address of the building, including its city, street, street number, and corpus number
- The building description
- The square meters of the building footprint
- The number of floors in the building

- The (predominant) wall type of the building
- The year of construction of the building
- The (predominant) use of the building
- The depreciation of the building (as described in the data entry module documentation), and
- A code for the quality of the building

From the detail screen the only option available to the user is to press the exit button

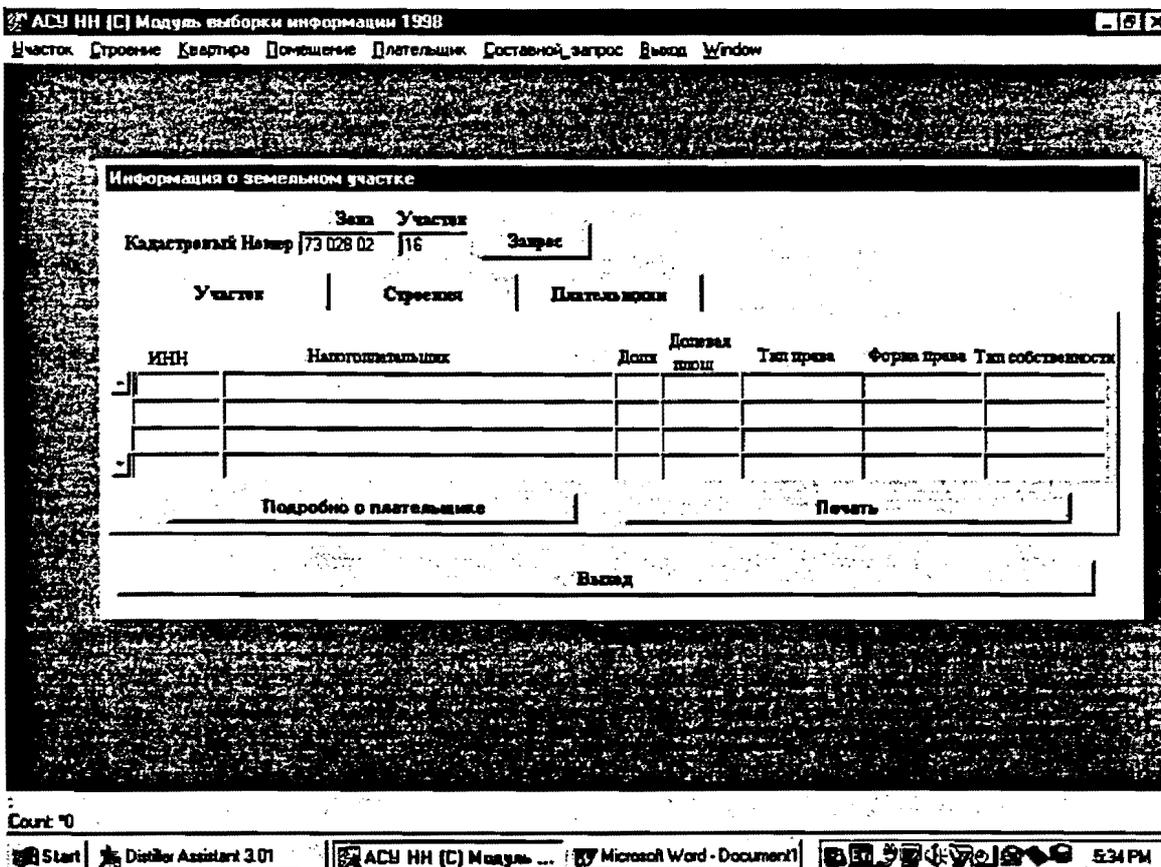


Figure 4.2.5.

Figure 4.2.5. illustrates data about the taxpayer or taxpayers associated with the land parcel whose cadastral number was entered above. The columnar format includes the following data:

- Enterprise identification number

- Taxpayer name
- Portion (fraction) of the total land area of this parcel for which the taxpayer is responsible
- Area equivalent (the product of multiplying the total area by the fraction)
- The right type, (see the data entry module documentation for more on the final three fields)
- The right form,
- The property type

A detail button appears, which results in a presentation of greater detail on whichever record the cursor is on at the time this button was clicked with the mouse.

АСУ НН (С) Модуль выборки информации 1998 - [WINDOW]

Участок Строение Квартира Помещение Длительность Составной_запрос Выход Window

Кadaстровый номер: 80 007 03 78 6247

Адрес: Новгород Личейная улица 10

Запрос

Здание | Земля | Животные | Нежилые помещения | Плавильники

Этажность 1 Стены Дерево Пл.застройки

Год постр. Износ Качество

Назначение Жилой дом

Описание основное строение

Выход

Count: 1 v

Start Distiller Assistant 3.01 АСУ НН (С) Модуль ... Microsoft Word - Document1 5:37 PM

Figure 4.2.6.

The first (default) screen of the five available tabbed screens under the “building” menu item is illustrated in Figure 4.2.6. As indicated by the radio buttons in the top row of the screen, this module supports retrieval either by cadastral number or street address, as the user may chose by clicking on the appropriate radio button. As with the button similarly positioned on the screens described previously, the button centered on the next line toggles between inquiry (inquiry definition) and execute (retrieve the records matching the entered cadastral number or street address). On either side of that button are edit boxes into which the user can enter either the cadastral number (zone, parcel, and cadastral building number) or the street address. The street address is entered by means of drop down boxes for settlement name and standard street name (to minimize the possibility of mistyping and thereby failing to retrieve extant records) followed by edit boxes for street number and corpus. By default the screen operates in retrieval by cadastral number mode. If nothing is entered and the center button is clicked twice, the record for the first cadastral number on file will be retrieved. These features are common to all five tabbed screens of the module.

The first tabbed screen, illustrated here, reports information on buildings. The data items shown include:

- The number of floors
- The wall material
- The area of the footprint
- The construction year
- The depreciation
- The quality of the building
- The (predominant) use of the building
- The description of the building

The buttons available to the user at the bottom of the screen permit the displayed data to be printed and the user to exit the module.

АСУ НН (С) Модуль выборки информации 1998 - [WINDOW] [X]

Участок Строение Квартира Помещение Дачельщик Составной_запрос Выход Window

Кадастровый номер Адрес
 Запрос

80 007 03 78 6247 Новгород Линейная улица 10

Здание | Земля | Квартиры | Нежилые помещения | Плавильщики |

Характеристики земельного участка

Кадастровый Номер Участка: Зона 8000703 N Участка 78

N пашки (ЗемКом) _____

Зона градостроительной ценности 10 Площадь 1000

Использование Жилой дом

Печать

Выход

Figure 4.2.7.

The land detail data associated with the building record retrieved by cadastral number or building address entered above is shown on the screen illustrated in Figure 4.2.7. The fields included are:

- Land Committee folder number
- Land value zone
- Cadastral area
- Use

The buttons at the bottom of the screen allow the user to print the retrieved data or exit from the module.

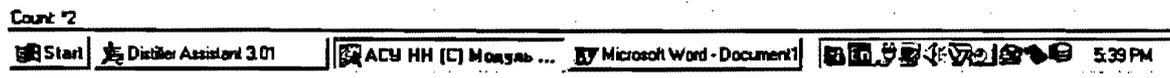
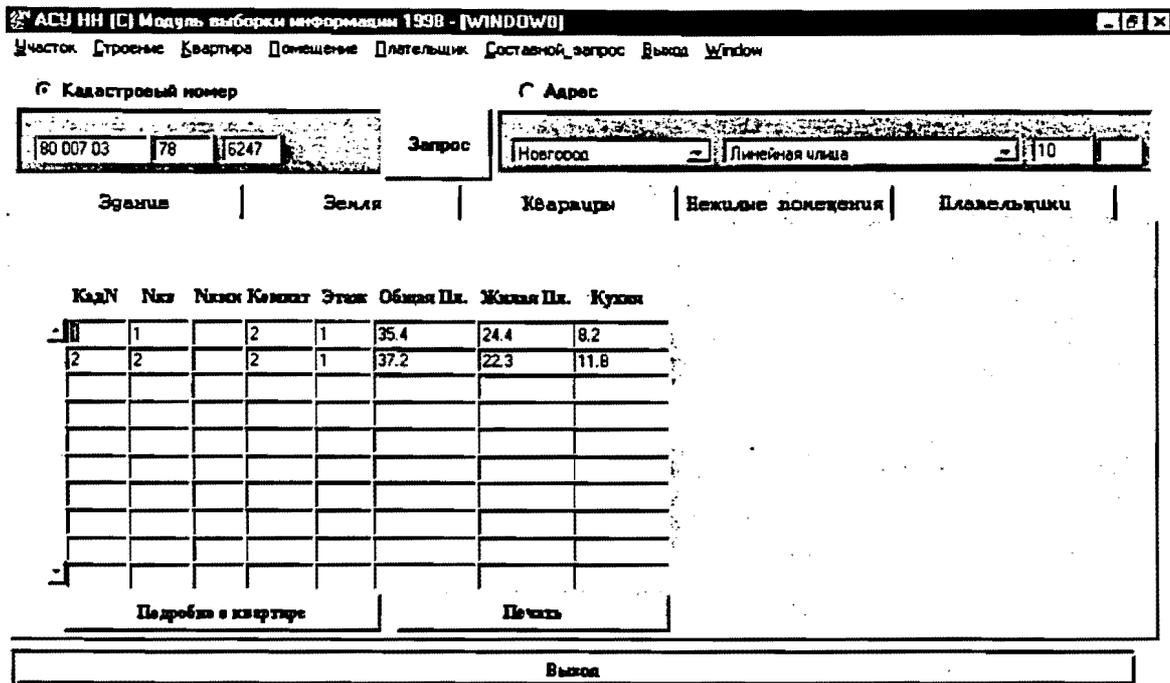


Figure 4.2.8.

The information retrieved on apartments from the search by building cadastral number or building address is illustrated in Figure 4.2.8. The presentation is in columnar format and includes the following:

- Cadastral number of the apartment
- Flat number of the apartment
- Room number of the property, if any
- Number of rooms in this property
- The floor on which this apartment is located
- The total area of the apartment
- The living area of the apartment
- The kitchen size of the apartment

The buttons at the bottom of the screen allow the user to display additional detail on the whichever apartment has the cursor on it at the time the “detail” button is clicked, to print the detail shown on the screen, or to exit the module.

Figure 4.2.9.

The apartment detail obtained for the given apartment on which the cursor rested when the detail button was clicked is given on the screen illustrated in Figure 4.2.9. Included there are the following facts:

- Apartment number
- Room number
- Number of rooms
- Total area
- Living area

- Enterprise identification number of the taxpayer
- Taxpayer name
- Fraction of the property in which the taxpayer has an interest
- The fractional (or allocated) area resulting from multiplying the fraction above by the total area
- The right type for this taxpayer
- The right form for this taxpayer, and
- The property type for this taxpayers property

The buttons at the bottom of the screen allow the user to display additional detail on the whichever taxpayer has the cursor on it at the time the “detail” button is clicked, to print the detail shown on the screen, or to exit the module.

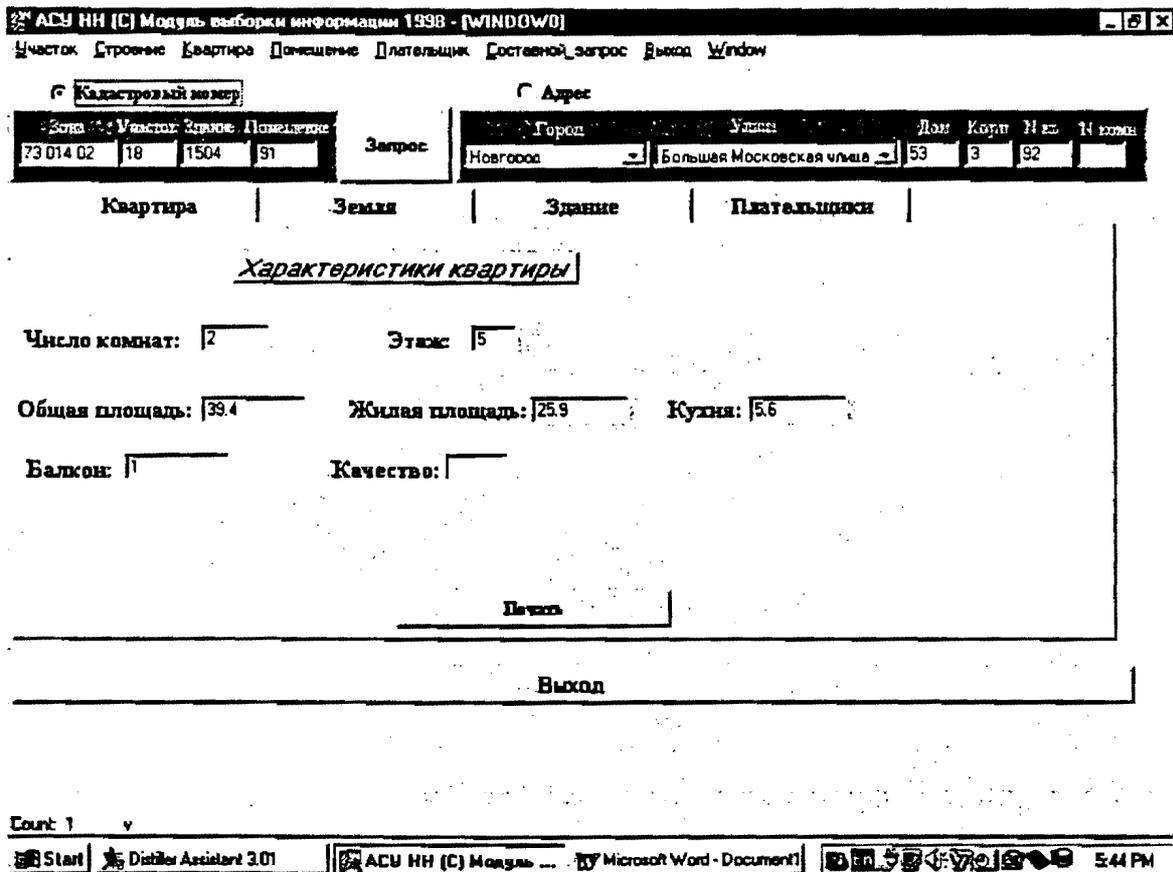


Figure 4.2.12.

The default screen shown in response to the “search by flat or apartment” menu selection item is illustrated in Figure 4.2.12. It is very similar in appearance and operation to the screen described in section 4.2.6., with the exception that data entry boxes on either side of the “inquiry/execute” button provide for the entry of the apartment number in either the cadastral number or the address. As with the previously described screens, this information will be common for all four tabbed screens.

On this particular tabbed screen the following data are shown:

- The number of rooms
- The floor of the apartment
- The total area of the apartment
- The living area

- The kitchen area
- The balcony/loggia
- The quality of the apartment

The buttons at the bottom of the screen provide the user the options to print the detail presented on the screen and to exit the module.

Figure 4.2.13.

Land parcel detail for the apartment cadastral number or street address given at the top of the screen is provided in the tabbed display illustrated in figure 4.2.13. The information reported includes:

- The cadastral number, including zone and parcel
- The land committee file number
- The land value zone

- The area of the parcel, and
- The use to which the parcel is being put

The buttons at the bottom of the screen allow the user the choice of printing the given information and exiting the module.

Figure 4.2.14.

Figure 4.2.14. illustrates the information displayed concerning the building associated with the apartment whose cadastral number or address was the subject of the search. The particular data includes:

- The cadastral number of the building, including zone, parcel and building components
- The area of the building footprint
- The number of floors of the building

- The (predominant) wall material of the building
- The year of construction of the building
- The use of the building
- The building description
- The quality of the building
- The appearance or apparent condition of the building

The buttons at the bottom of the screen allow the user to either print the information displayed on the screen or to exit the search.

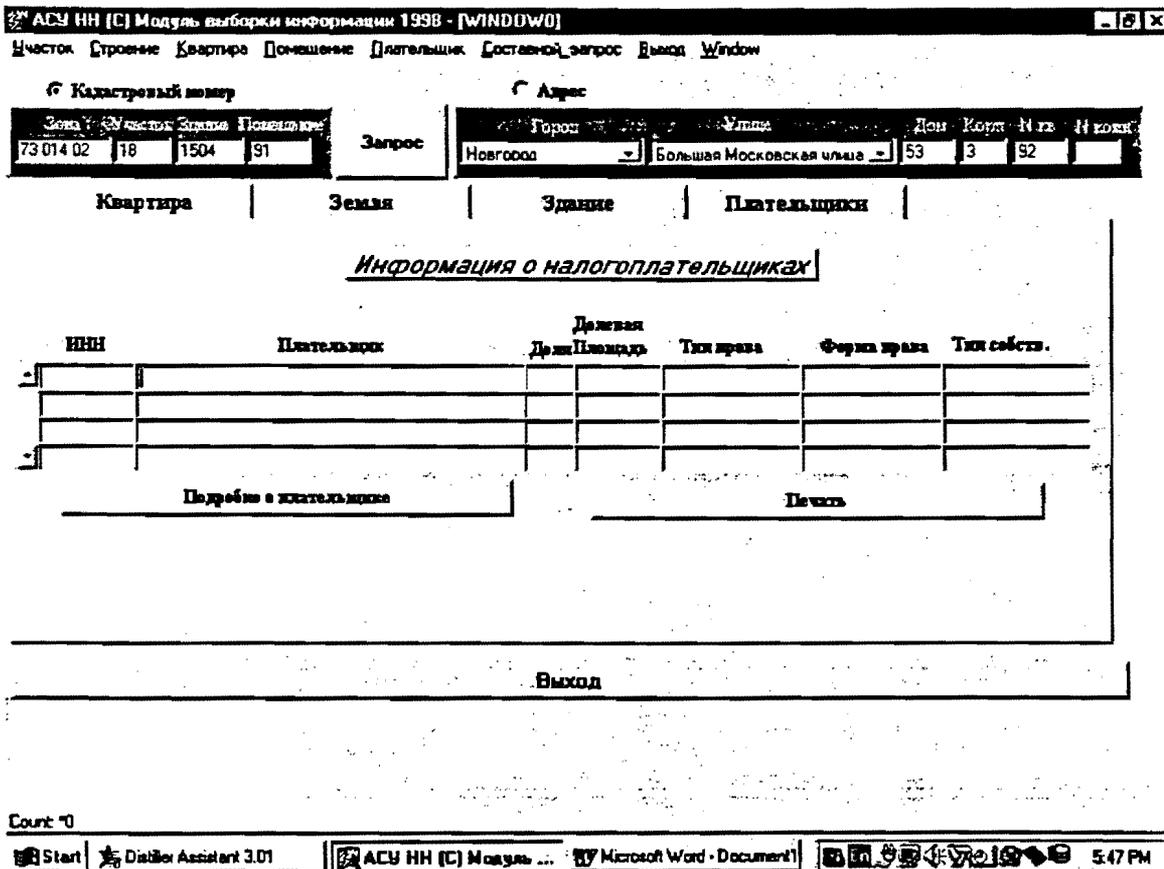


Figure 4.2.15.

Figure 4.2.15. illustrates the detail on taxpayers retrieved as being associated with the search-by-cadastral-number or search-by-address for apartments. The provided detail, presented in columnar format includes:

- The enterprise identification number of the taxpayer
- The name of the taxpayer
- The fraction of the whole for which the taxpayer is responsible
- The allocated square meters for which the taxpayer is responsible (obtained by multiplying the fraction by the total square meters)
- The right type the taxpayer has to the property
- The right form, and
- The property type

The buttons at the bottom of the screen provides the user with the option to display further detail on whichever record the cursor was on when the button was clicked, to print the detail shown on the screen, or to exit from this query.

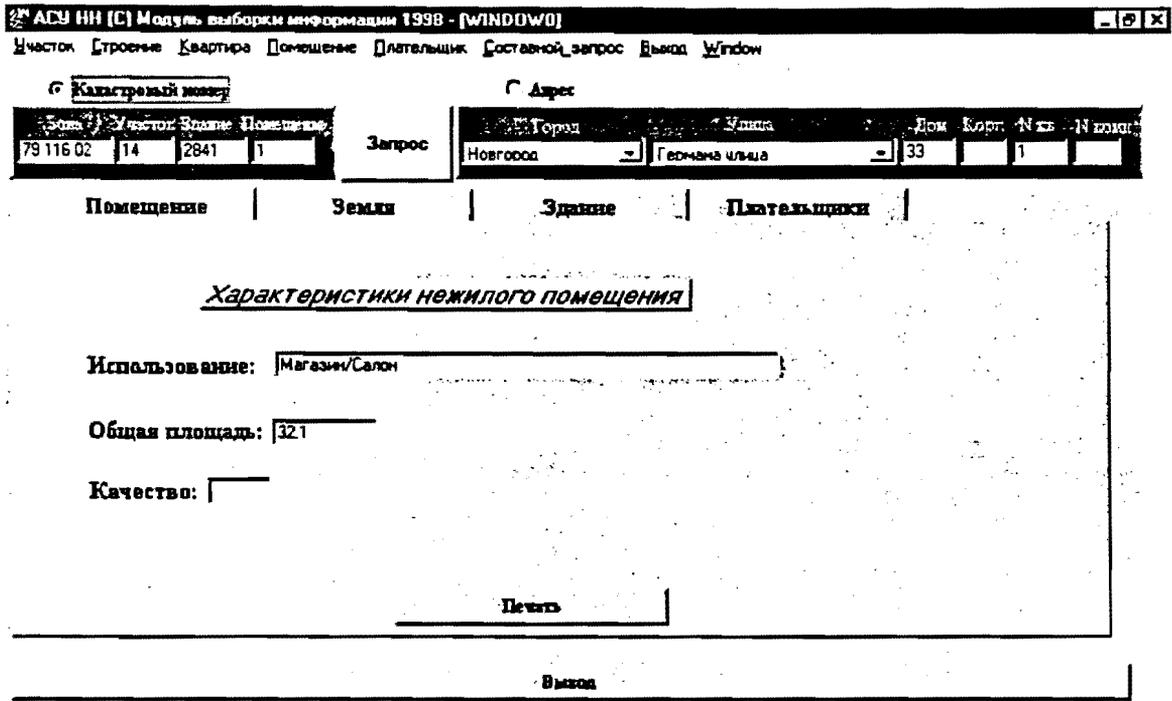


Figure 4.2.16.

Figure 4.2.16. illustrates the first (default) screen shown in response to the menu selection to for non-residential premises by cadastral number or address. This figure is virtually the same as figures 4.2.13. and 4.2.14., except that the non residential properties will not show living area, kitchen area, or balcony/loggia coding, while they will show the use of the premises. The four tabbed screens illustrated below provide information on the premise, the land associated with it, the building in which it is located, and the taxpayer.

Участок Строение Квартира Помещение Плательщик Составной запрос Выход Window

Кадатральный номер

Адрес

Зона	Место	Этаж	Помещение	Запрос	Город	Улица	Дом	Корп	№ кв	№ этаж
7911602	14	2841	1		Новгород	Германова улица	33		1	

Помещение

Земля

Здание

Плательщик

Характеристики земельного участка

Кадатровский Номер Участка: Зона N Участка

N пашки (ЗемКом)

Зона градостроительной ценности Площадь

Использование

Печать

Выход

Count: 1

Figure 4.2.17.

Участок Строение Квартира Помещение Плательщик Достояний_запрос Выход Window

Б Кадастровый номер

Г Адрес

Зона	Участок	Здание	Помещение	Запрос	Город	Улица	Дом	Корп	Н кв	Н этаж
79 116 02	14	2841	1		Новгород	Германя улица	33		1	

Помещение | Земля | Здание | Плательщики

Информация о налогоплательщиках

ИНН	Плательщик	Должна		Тип права	Форма права	Тип собственности
		Долг	Платежд			

Подробнее о налогоплательщике

Печать

Выход

Count 0

Figure 4.2.19.

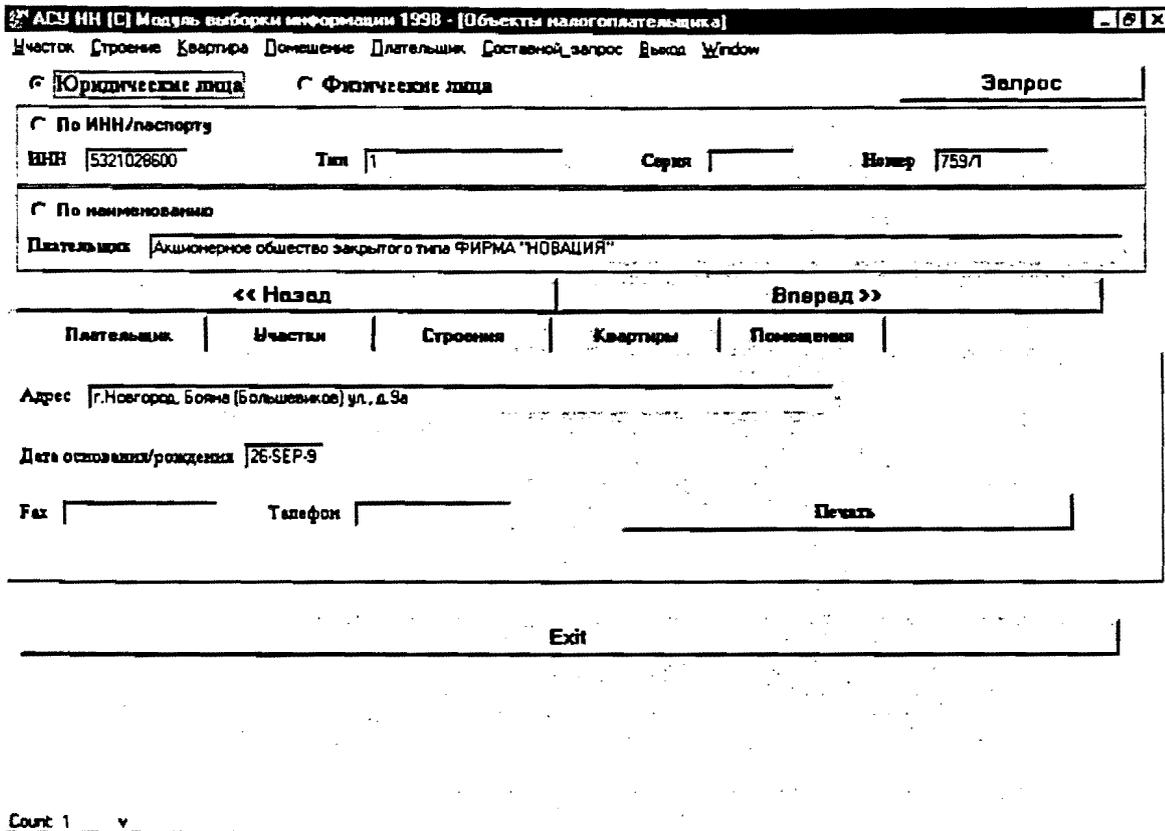


Figure 4.2.20.

Figure 4.2.20. illustrates the first (default) screen displayed in response to the menu selection “search for taxpayers.” The upper panel of the display provides the user the option to decide whether juridical or physical persons are to be the subject of the search and the usual button that toggles from “inquiry” to “execute.” The following stacked radio buttons provide the user with the choice of searching for taxpayers either by identification number or by name. If identification number searching is chosen, the data entry boxes to be completed are: identification number, type of document (see the documentation for the data entry module), the series of the document, and the number of the document. If on the contrary, the search is to be by name, there is a provision for the name to be entered. Beneath the data entry box for “name” are two buttons for the user to click on if the previous or next record should be displayed instead of the current one. This will be useful in the case that similar names are included in the database or the desired name was entered imprecisely.

The first tabbed section, shown in the illustration, pertains to taxpayer and includes:

- The legal address of the taxpayer

- The date of organization or birth of the taxpayer
- The taxpayer's fax number, and
- Taxpayer's telephone number

The buttons at the bottom of the screen permit the user to print the screen detail and to exit the inquiry

АСУ НН (С) Модуль выбора информации 1998 - [Объекты налогоплательщика]

Участок Строения Квартира Помещение Длительщик Основной_запрос Выход Window

Юридические лица Физические лица Запрос

По ИНН/паспорту

ИНН 5321003267 Тип 2 Серия _____ Номер 1282ра

По наименованию

Плательщик ТВОРЧЕСКО-ПРОИЗВОДСТВЕННАЯ КОММЕРЧЕСКАЯ ФИРМА "ОСВАЛЬД"

<< Назад Вперед >>

Кад.Зона	Кад.Н	Доля	Зона	Тип права	Форма права	Тип собственности	Использование
78142 01	17	901	4	Аренда	Унитарная	Муниципальн	Магазин/Салон

Exit

Count 10

Start Distiller Assistant 3.01 АСУ НН (С) Модуль ... Microsoft Word - Document1 5:54 PM

Figure 4.2.21.

Figure 4.2.21. illustrates the information presented on the "land" tab of the search-by-taxpayer module. The data presented in tabular form include the following:

- The cadastral number, including zone and parcel number
- The fraction of the whole for which the taxpayer is responsible
- The allocated area resulting from multiplying the fraction by the total area
- The land value zone

- The right type
- The right form
- The property type, and
- The use of the property

Buttons at the bottom of the screen allow the user to display detail on the record where the cursor was at the time the “detail” button was clicked, to print the data shown on the screen, or to end the inquiry. The scroll bar on the side of the table permits the user to see more records pertaining to the taxpayer selected above in case there are more such records than can be fit onto the predefined space on the screen.

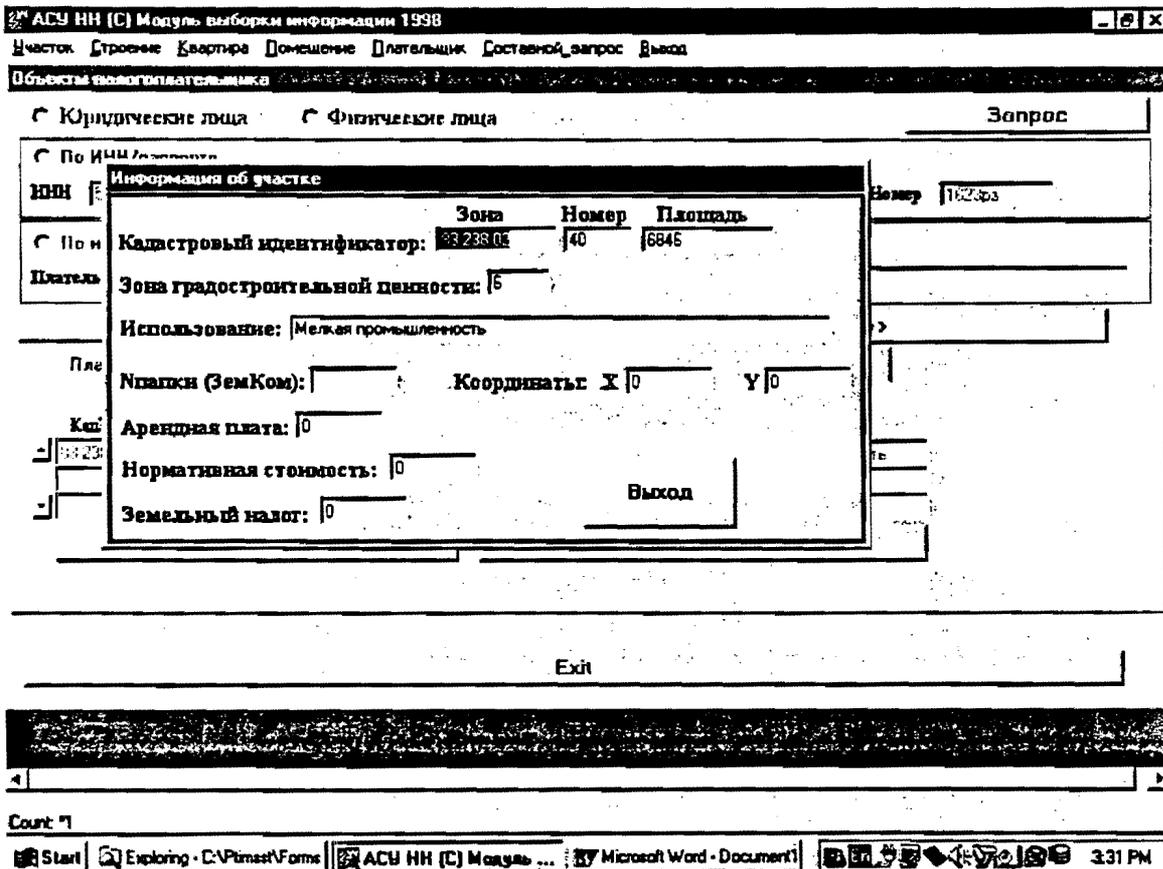


Figure 4.2.22.

Figure 4.2.22. illustrates the detail of a given land parcel associated with the selected taxpayer.

ACU NH (C) Модуль выборки информации 1998 - [Объекты налогоплательщика]

Участок Строение Квартира Помещение Плательщик Составной_запрос Выход Window

Юридические лица Физические лица **Запрос**

По ИНН/паспорту
 ИНН 5321041826 Тип 2 Серия Номер 3830р

По наименованию
 Плательщик Акционерное общество открытого типа ТЕХНОТОРГОВЫЙ ЦЕНТР "САДКО"

<< Назад Вперед >>

Плательщик | Участки | Строения | Квартиры | Помещения

Катастралик	Номер	Город	Улица	Дом	Корп	Домк	Долевая доля	Использование	Тип права	Форма права	Тип собств.
73 023 10	3	2431					1	Гараж или автост	Собственнос	Унитарная	Частная
73 023 10	3	2432					1	Гараж или автост	Собственнос	Унитарная	Частная
73 023 10	3	2433					1	Гараж или автост	Собственнос	Унитарная	Частная

Подробнее о строении Печать

Exit

Figure 4.2.23.

Figure 4.2.23. illustrates the building information associated with the taxpayer whose identity was specified above, including:

- Cadastral number, including the components for zone, parcel and building
- The settlement
- The street name
- The street number
- The corpus number
- The fractional area of the total for which this taxpayer is responsible
- The right type
- The right form, and

- The property type

The buttons at the bottom of the screen allow the user to display additional detail on the building record where the cursor was at the time the button was clicked, to print the detail shown currently on the screen, or to exit from the inquiry.

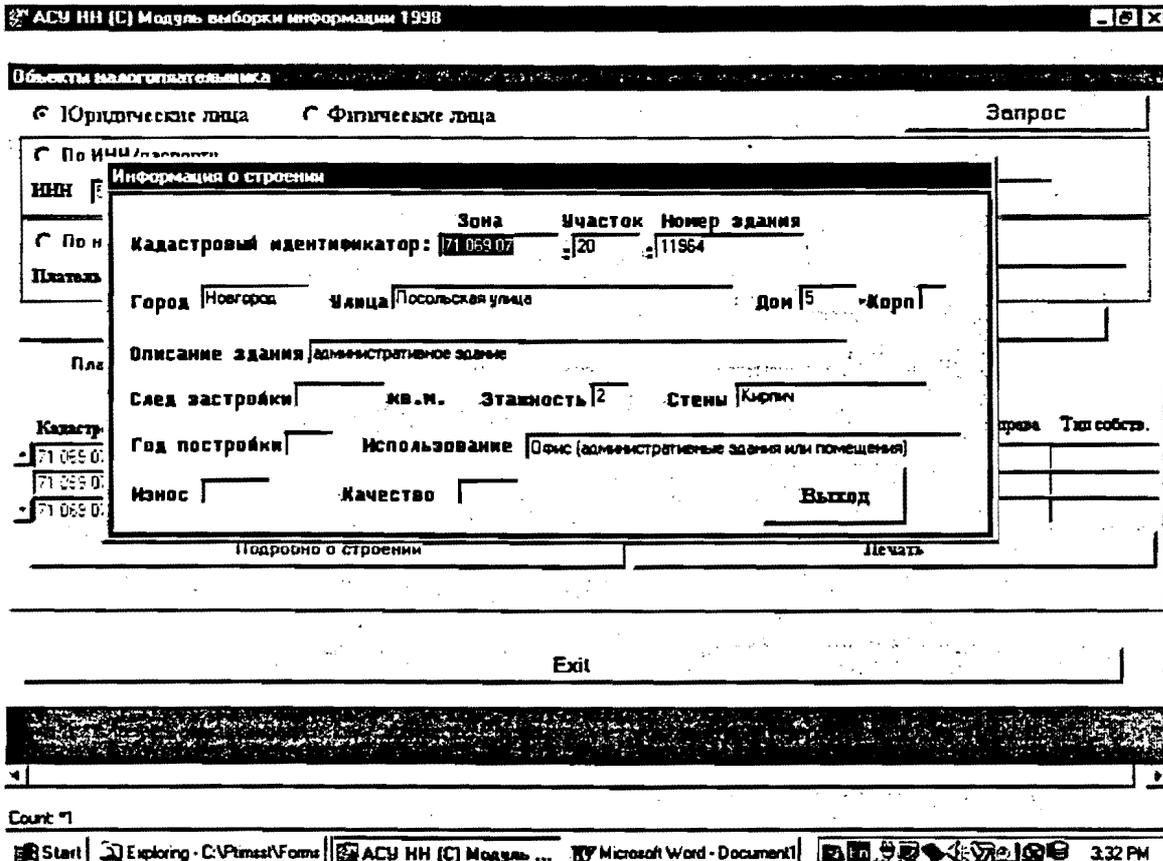


Figure 4.2.24.

Figure 4.2.24. illustrates the detail retrieved from the prior screen.

ACU NH (C) Модель выборки информации 1998 - (Объекты налогоплательщика)

Участок Строение Квартира Помещение Плательщик Главная_запрос Выход Window

Юридические лица Физические лица **Запрос**

По ИНН/паспорту
 ИНН 5321005592 Тип 2 Серии Номер 138рз

По наименованию
 Плательщик Товарищество с ограниченной ответственностью "ПРОМЫШЛЕННО-КОММЕРЧЕСКАЯ ФИРМА "НОВТЕХЛЕС"

« Назад Вперед »

Плательщик Участок Строения Квартиры Помещения

-- Кадастровый Номер --		Домовая книга					Тип права	Форма права	Тип собств.	
Зона	Уч-к	Знаком	Помещ	Кварт	Ячейк	Доля				
81	232 10	9	2982	176	75		1	Собственность	Унитарная	Частная
81	012 02	11	5752	76	197		1	Собственность	Унитарная	Частная
81	008 00	18	7821	32	37		1	Собственность	Унитарная	Частная

Подробнее о квартире Печать

Exit

Figure 4.2.25.

Figure 4.2.25. illustrates the apartment information associated with the taxpayer whose identity was specified above, including:

- Cadastral number, including the components for zone, parcel, building, and unit number
- The apartment number
- The room number, if any
- The fraction of the whole property for which the taxpayer is responsible
- The fractional or allocated area
- The right type
- The right form, and
- The property type

The buttons at the bottom of the screen allow the user to display additional detail on the apartment record where the cursor was at the time the button was clicked, to print the detail shown currently on the screen, or to exit from the inquiry.

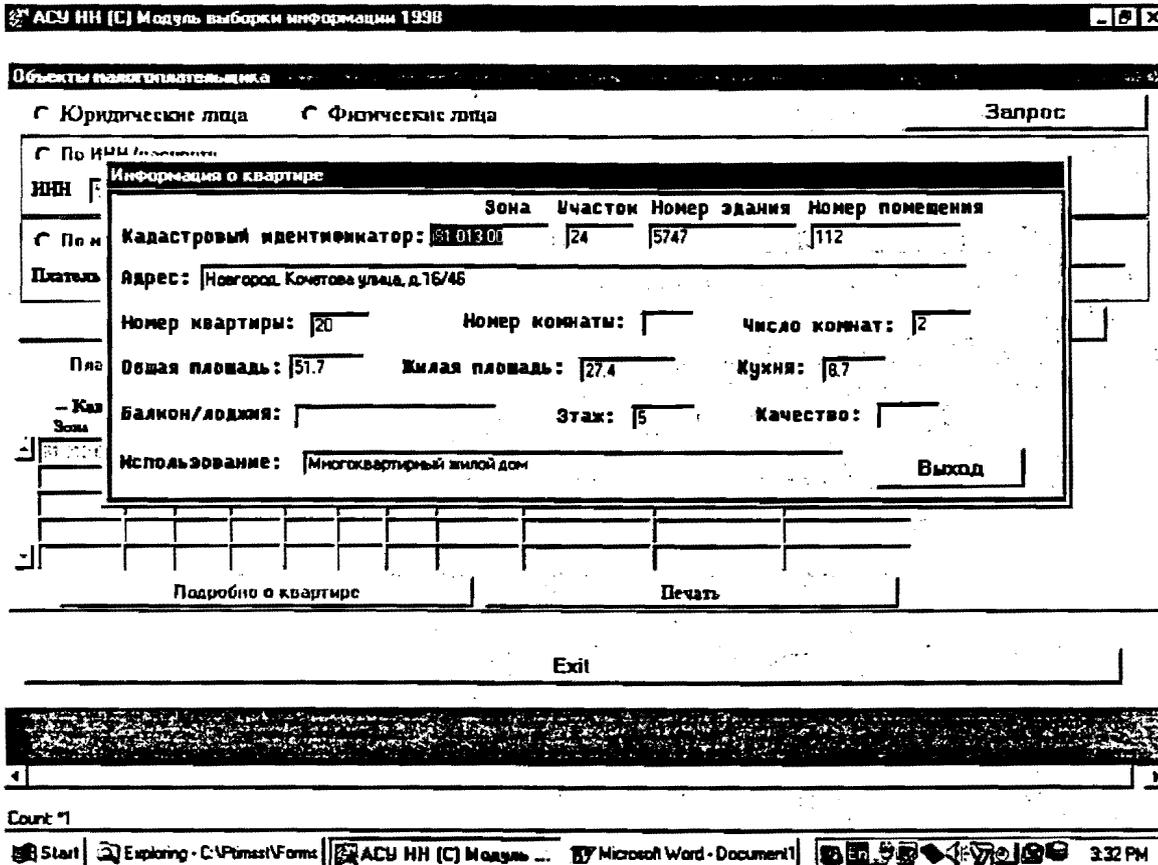


Figure 4.2.26.

Figure 4.2.26. illustrates the detail on apartments retrieved from in connection with the taxpayer inquiry.

ACU HH (C) Модуль выборки информации 1998 - (Объекты налогоплательщика)

Участок Строения Квартира Помещение Плательщик Составной_запрос Выход Window

Юридические лица Физические лица **Запрос**

По ИНН/паспорту

ИНН 5321033663 Тип 1 Серия Номер 104

По наименованию

Плательщик: Товарищество с ограниченной ответственностью ФИРМА "РЫБОЛОВ"

<< Назад Вперед >>

Плательщик Участки Строения Квартиры Помещения

--- Кадастровый Номер --- Домовладение

Зона	Уч-к	Земельный	Полный	Нижний	Дом	Использование	Тип права	Форма права	Тип собств.
71 027 01	5	1400	22		1	Магазин/Салон	Аренда	Унитарная	Муниципальн

Подробно о помещении Печать

Exit

FRM-41000: This function is not currently available.
Count: 1

Start Dostler Assistant 3.01 ACU HH (C) Модуль ... Microsoft Word - Document1 5:59 PM

Figure 4.2.27.

Figure 4.2.27. illustrates the non-residential premise information associated with the taxpayer whose identity was specified above, including:

- Cadastral number, including the components for zone, parcel, building, and unit number
- The apartment number
- The room number, if any
- The fraction of the whole property for which the taxpayer is responsible
- The fractional or allocated area
- The type of use of the property
- The right type
- The right form, and

- The property type

The buttons at the bottom of the screen allow the user to display additional detail on the premise record where the cursor was at the time the button was clicked, to print detail shown currently on the screen, or to exit from the inquiry.

The screenshot shows a software window titled "Объекты налогоплательщика" (Taxpayer Objects) with a sub-header "АСУ НН (С) Модуль выборки информации 1998". The interface is in Russian and displays a detailed view of a property record. At the top, there are radio buttons for "Юридические лица" (Legal entities) and "Физические лица" (Physical entities), and a "Запрос" (Request) button. Below this, there are search criteria fields, including "ИНН" (Tax ID) and "По и" (By). The main data area is titled "Информация о помещении" (Room information) and contains the following fields:

Зона	Участок	Номер здания	Номер помещения
71 027 01	5	1400	22

Additional fields include "Кадастровый идентификатор" (Cadastral identifier), "Адрес" (Address: "Новгород, Большая Московская улица, д.11/11"), "Общая площадь" (Total area: 230.8), and "Использование" (Usage: "Магазин/Салон" (Store/Shop)). There are also buttons for "Выход" (Exit), "Подробно о помещении" (Details about the room), and "Печать" (Print). The bottom of the window shows a taskbar with the Start button, open applications like "Exploring - C:\Pinsst\Foms", "АСУ НН (С) Модуль...", and "Microsoft Word - Document1", along with the system clock showing 3:34 PM.

Figure 4.2.28.

Figure 4.2.28. illustrates the detail obtained from the prior screen.

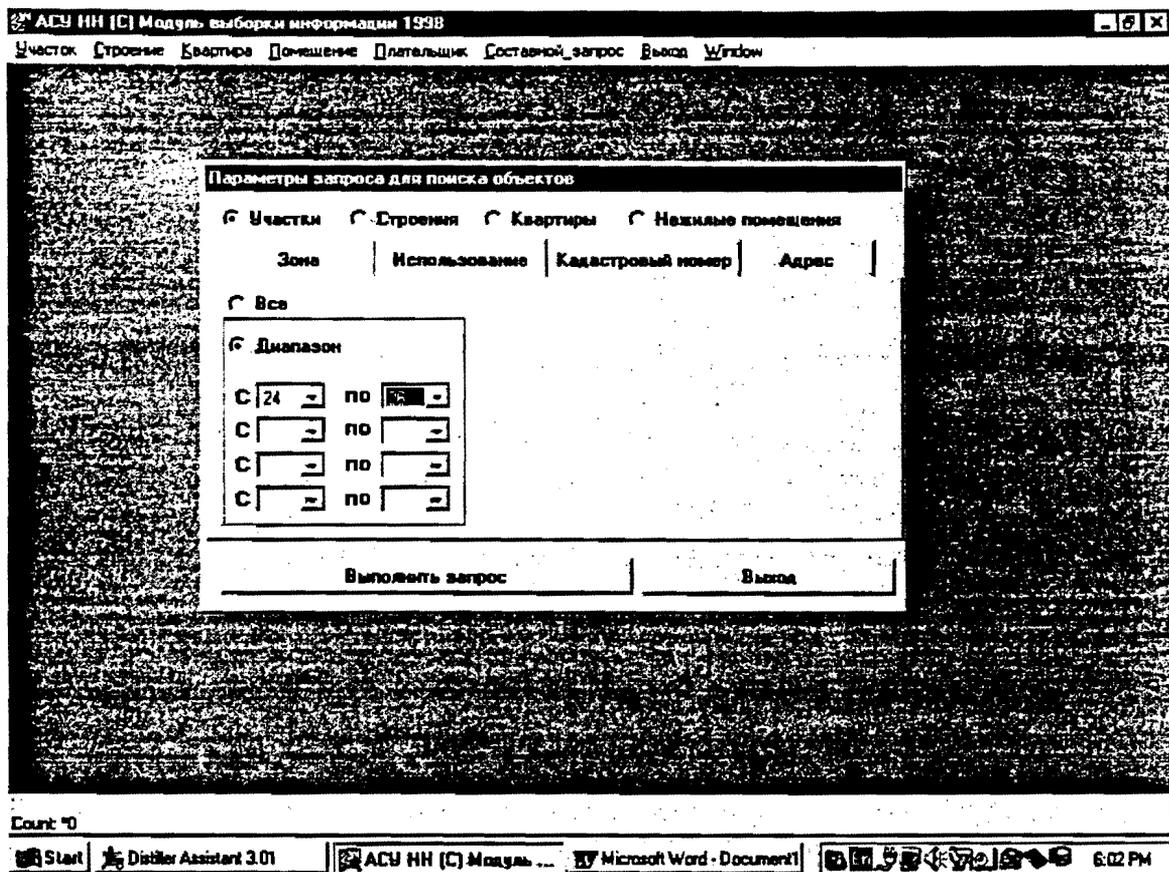


Figure 4.2.29.

Figure 4.2.29. illustrates the first (default) screen displayed in response to the menu selection for a “complex query.” The radio buttons at the top of the screen permit the user to specify what kind of records are the subject of the search from among the following possibilities: land, buildings, apartments, and non-residential premises. The next four tabs allow further refinement of the query. The first tab is illustrated in the figure and permits selection based on cadastral zones. The two radio buttons permit either all zones to be selected or only the zones specified below. The drop-down list boxes permit the entry of up to four ranges of cadastral zones, including the possibility of selecting only single zones. The buttons at the bottom permit the user either to execute the search or exit from the inquiry. If data are supplied on an additional tabbed screen, the criteria are combined such that both conditions must be true (and logic, not or logic).

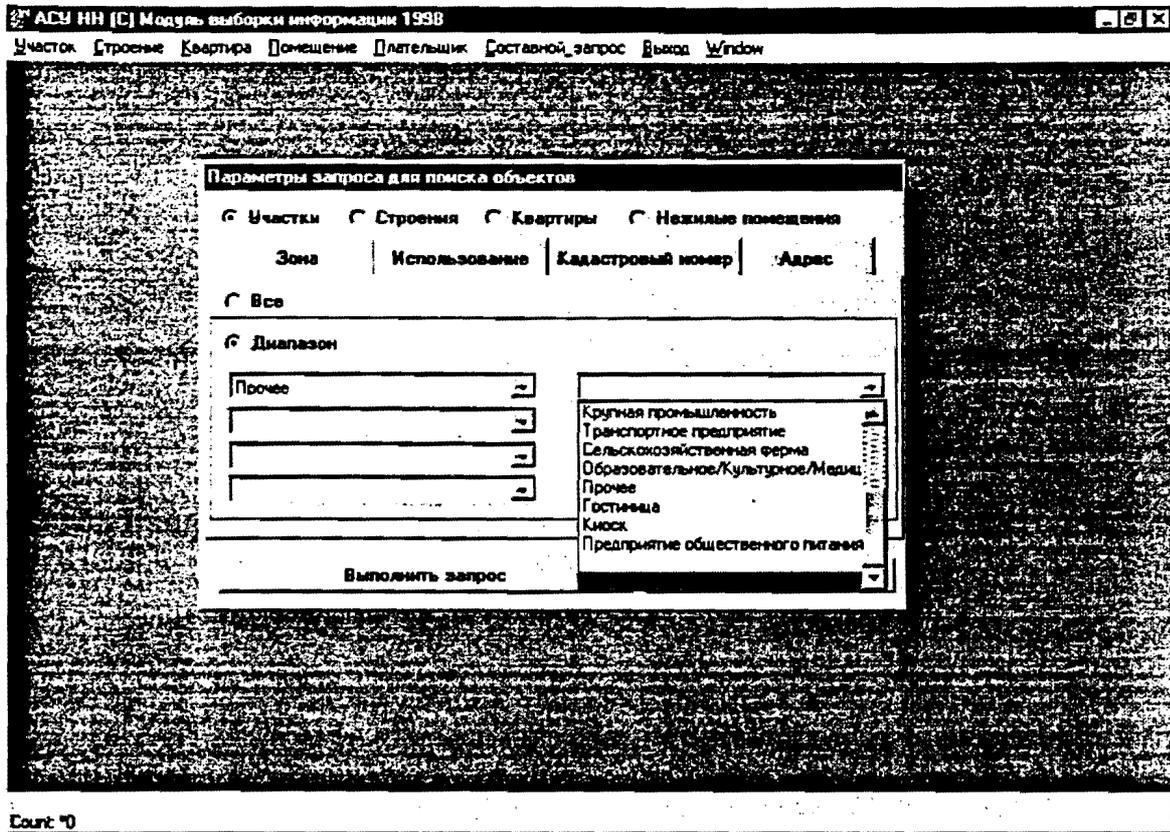


Figure 4.2.30.

Figure 4.2.30. illustrates the ability of the user to specify the search on the basis of property use types. Either the radio button for all uses can be pressed (the default) or drop down boxes can be activated to limit the search to the use types specified. Up to eight types can be selected.

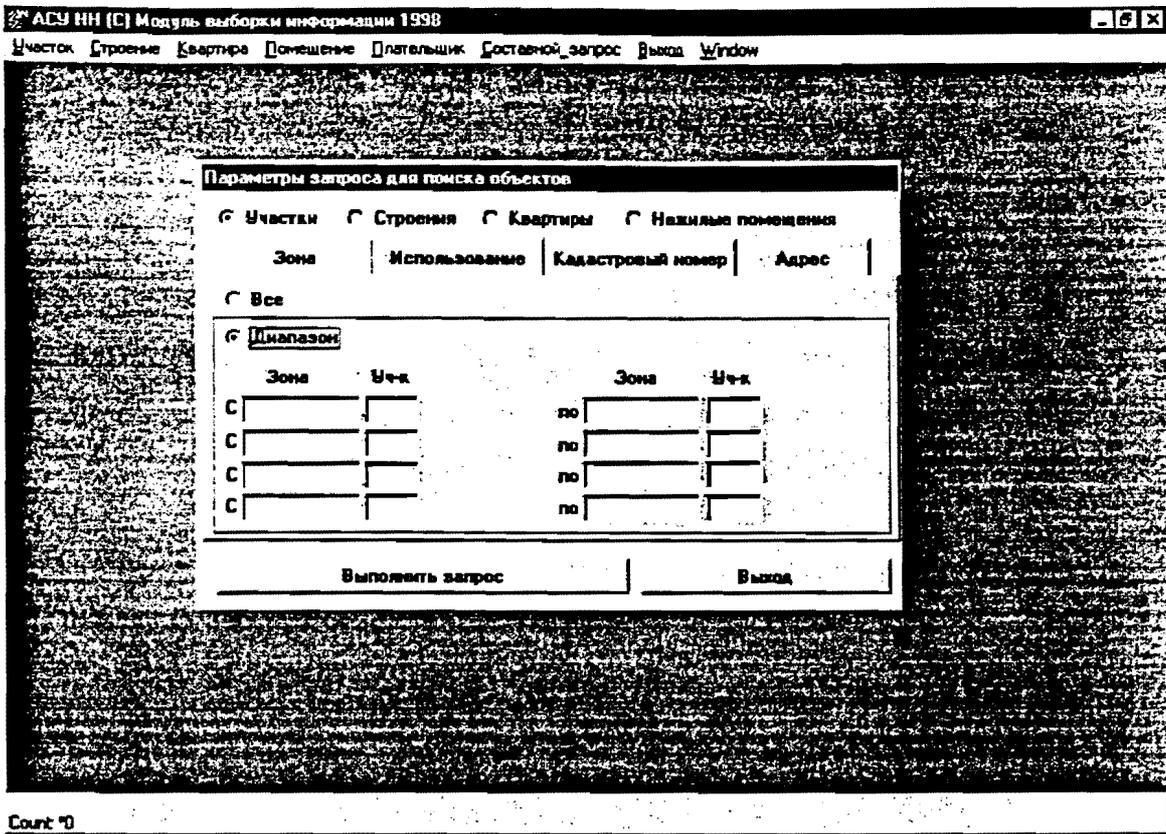


Figure 4.2.31.

Figure 4.2.31. illustrates the user's ability to specify the search by ranges of cadastral numbers in a manner similar to the use of the ranges specified in illustration 4.2.29. The difference is that in addition to the cadastral zone, the cadastral parcel numbers participate in the criteria.

The user also has the ability to specify search criteria based on the property address. The user specifies, by means of drop-down boxes, the settlement name and the street name, and also supplies in standard edit boxes the street number, the corpus number, the number of the apartment, and the number of the room, if any.

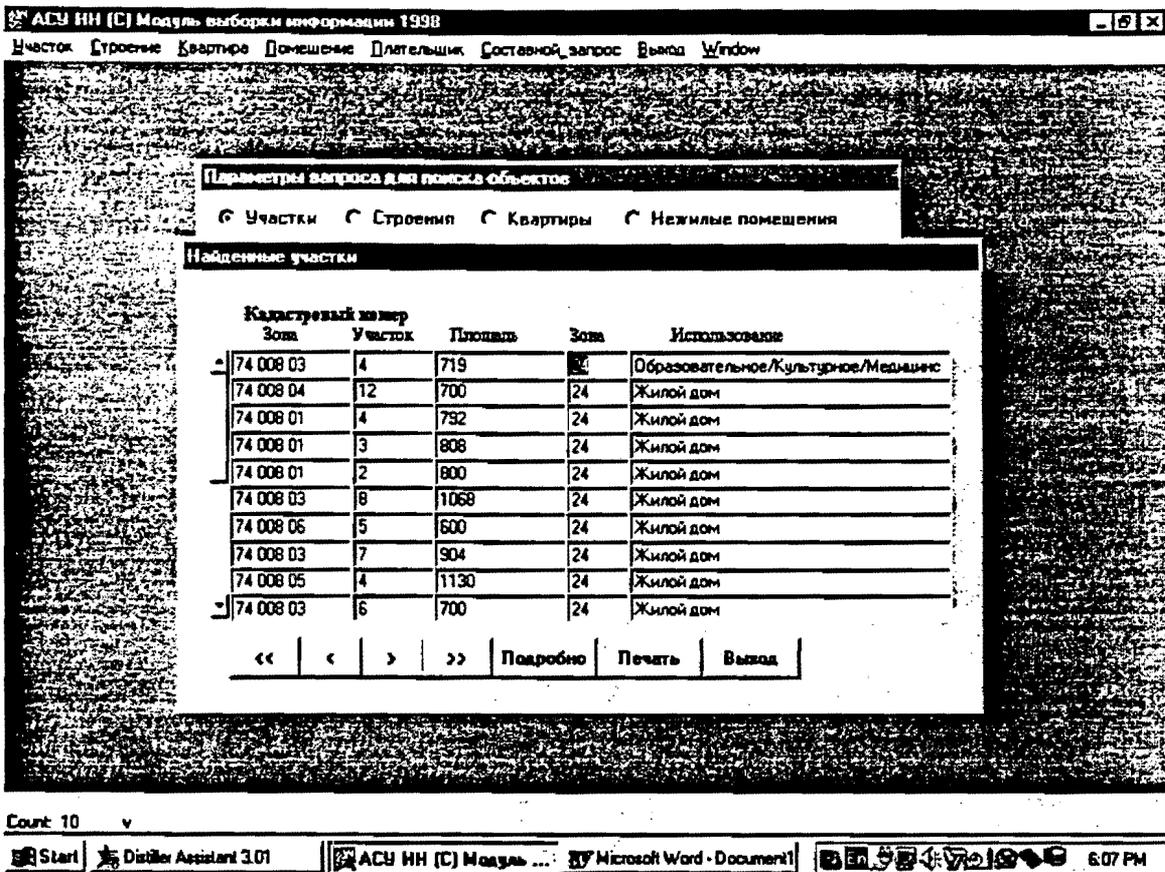


Figure 4.2.32.

Figure 4.2.32. illustrates the results of a complex inquiry for a parcel of land. The data displayed in columnar format include:

- Cadastral number, including zone and parcel
- The area of the parcel
- The land value zone
- The use of the land parcel

A scroll bar at the side of the screen permits the display of additional records if more exist than can be accommodated on area defined on the screen. The buttons at the bottom of the screen permit the user to scroll backward or forward one “screen-full” or one record at a time. The next button permits the user to display additional detail on whichever record the cursor is on at the time the button is clicked, the following button generates a printout of the records currently being displayed, and the remaining button permits the user to exit from the query.

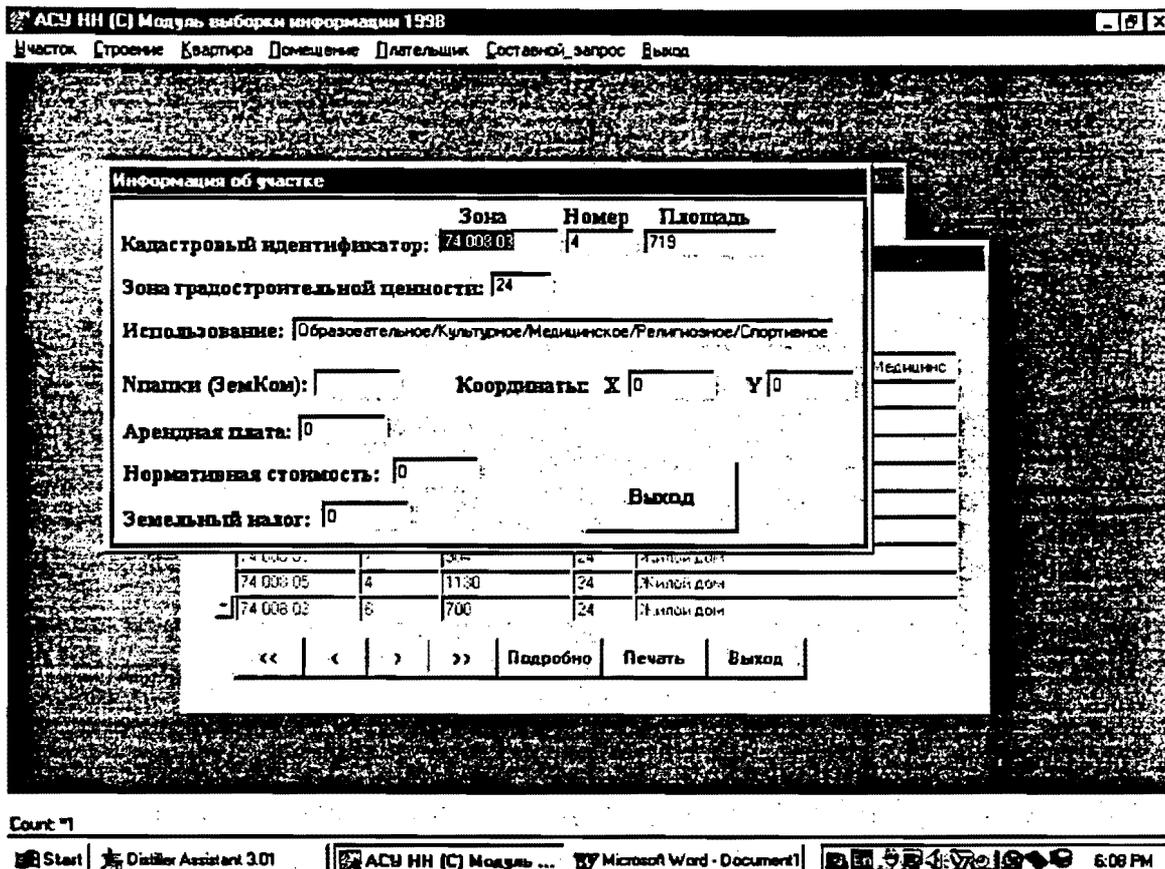


Figure 4.2.33.

Figure 4.2.33. illustrates the detail supplied for a land parcel when the detail button is pressed after a user has selected a land parcel by means of the complex query module. The data presented include:

- Cadastral number, including zone and parcel number
- Area of the parcel
- Land value zone in which the parcel is located
- The type of use of the parcel
- The file number of the land committee in which further detail on this parcel may be found
- The X-Y coordinates of the land parcel (see the data entry module documentation for a discussion of these coordinates)
- The current rent rate for the land parcel (this and the next two fields are principally for tax-burden shift analyses)

- The normative value of the land parcel, and
- The current tax amount for the parcel

The only option provided to the user from this screen is to press a button to close the inquiry.

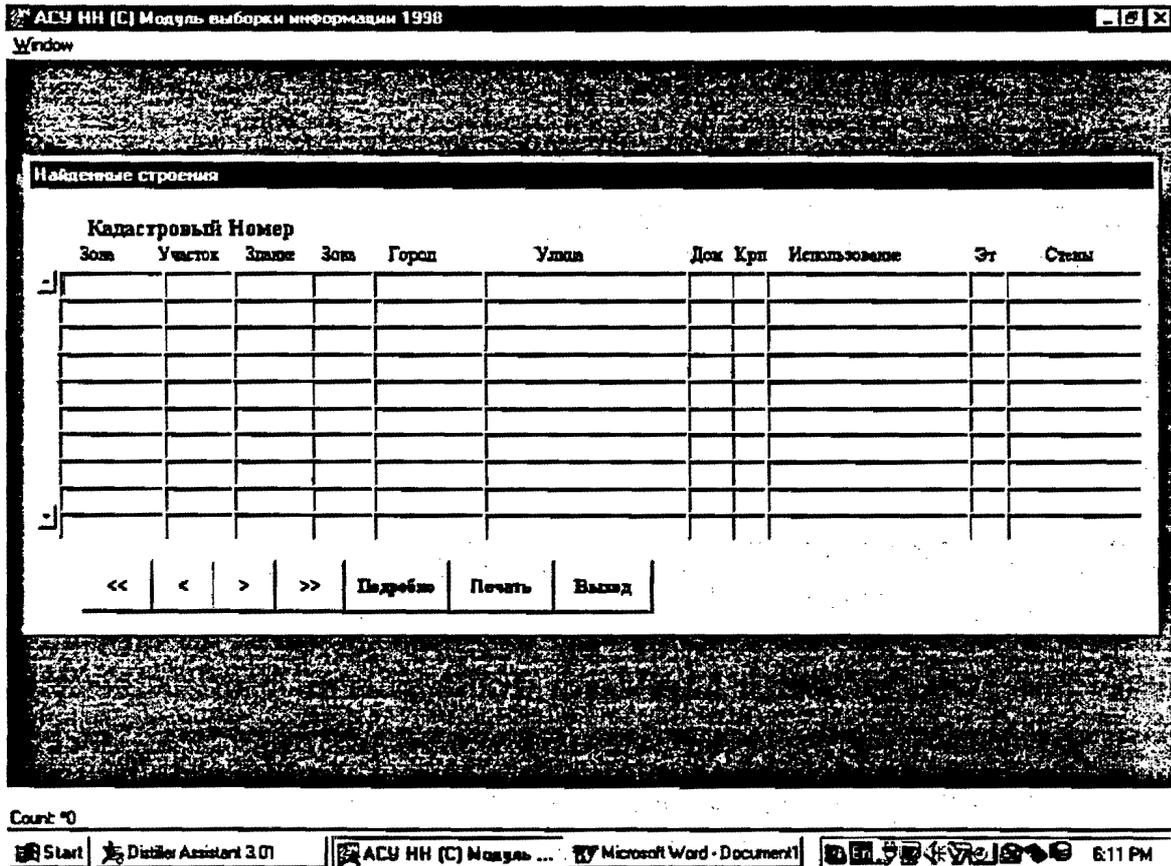


Figure 4.2.34.

Figure 4.2.34. illustrates the data retrieved in tabular format from a “building” complex-query search. The data presented include:

- cadastral number, including zone, parcel and building components
- The settlement name
- The street address of the parcel, including name of the street
- The street number of the parcel

- The Corpus number
- The type of use of the building
- The Number of floors in the building, and
- The wall material of the building

A scroll bar at the side of the screen permits the display of additional records if more exist than can be accommodated in the area defined on the screen. The buttons at the bottom of the screen permit the user to scroll backward or forward one "screen-full" or one record at a time. The next button permits the user to display additional detail on whichever record the cursor is on at the time the button is clicked, the following button generates a printout of the records currently being displayed, and the remaining button permits the user to exit from the query.

Информация о строении		Стены
К	Зона	
Зон	Участок	
	Кадастровый идентификатор: 74 008 04	12
		2600
	Город [Новгород] Улица [Восточная улица]	Дом [14] Корп []
	Описание здания [основное строение]	
	След застройки [] кв.м. [] Этажность [1]	Стены [Дерево]
	Год постройки [] Использование [Жилой дом]	
	Износ [] Качество []	
		Выход

<<	<	>	>>	Подробнее	Печать	Выход
----	---	---	----	-----------	--------	-------

Count *1

Figure 4.2.35.

Figure 4.2.35. illustrates the detail that is shown.

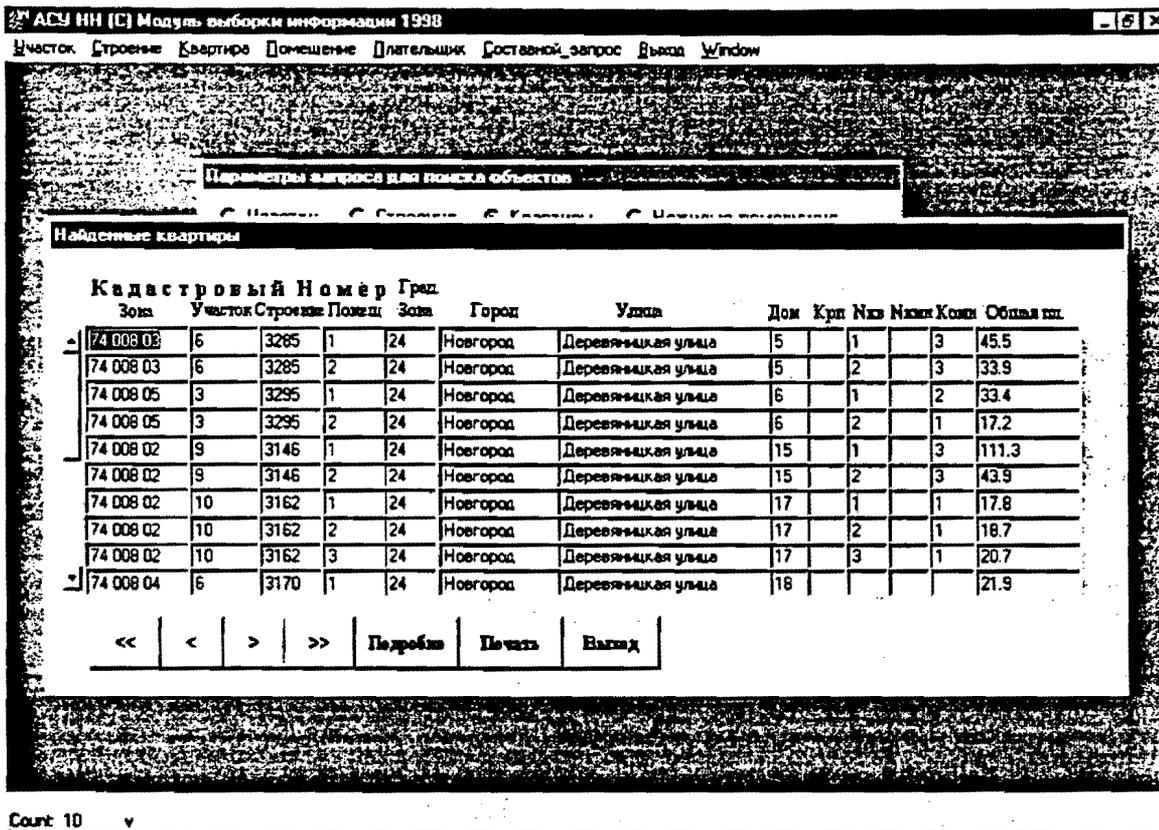


Figure 4.2.36.

Figure 4.2.36. illustrates the results of the records presented as a result of a “complex query” for apartment records. The data, presented in tabular format, include:

- Cadastral number, including components for zone, parcel, building, and apartment number
- The land value zone in which the apartment is located
- The settlement name in which the apartment is located
- The street name on which the apartment is located
- The street number
- The corpus number
- The apartment number, and
- The total square meters of the apartment

A scroll bar at the side of the screen permits the display of additional records if more exist than can be accommodated in the area defined on the screen. The buttons at the bottom of the screen permit the user to scroll backward or forward one “screen-full” or one record at a time. The next button permits the user to display additional detail on whichever record the cursor is on at the time the button is clicked, the following button generates a printout of the records currently being displayed, and the remaining button permits the user to exit from the query.

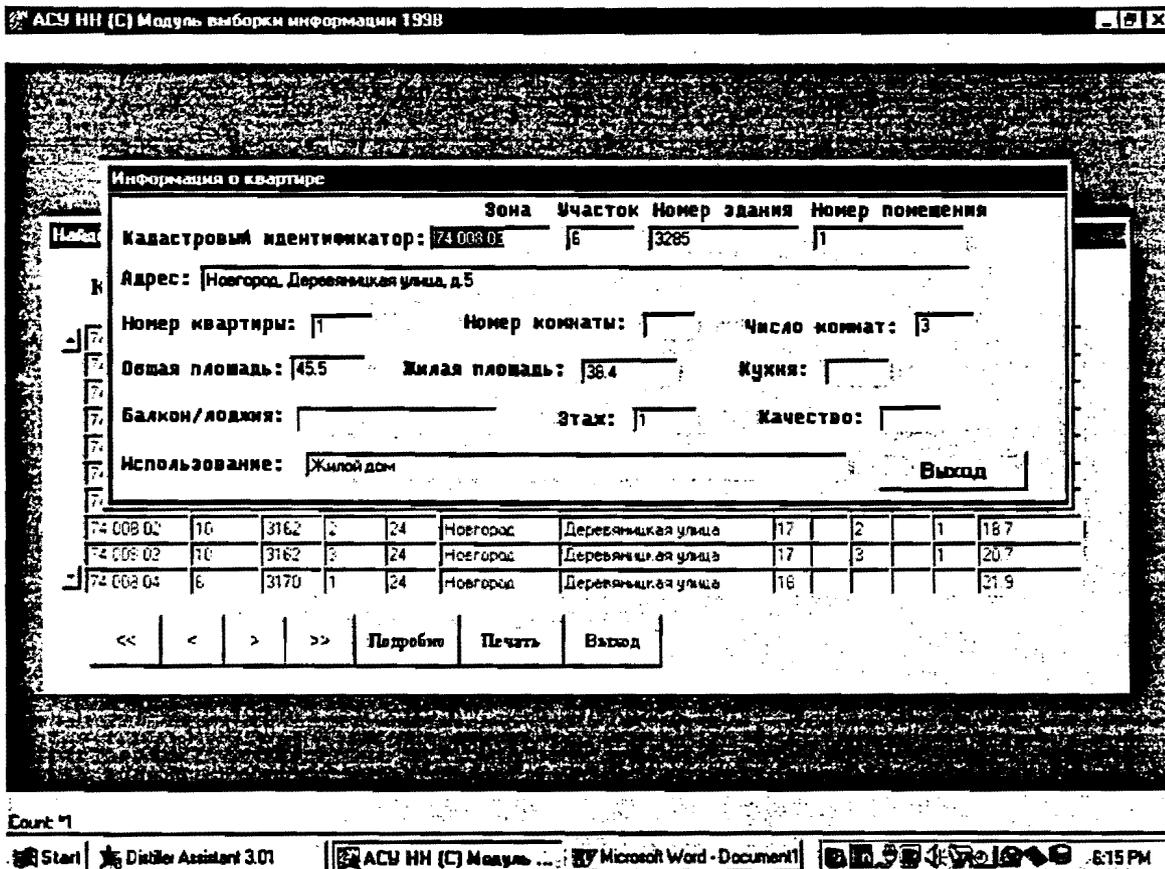


Figure 4.2.37.

Figure 4.2.37. illustrates the results of pressing the “detail” button while the cursor is located on some record in the screen illustrated in Figure 4.2.36, showing records presented as a result of a “complex query” for a selected apartment. The data include:

- Cadastral number, including components for zone, parcel, building, and apartment number

- The address of the parcel, including settlement name, street name, and street number
- The corpus number
- The apartment number
- The total square meters of the apartment
- The living area of the apartment
- The kitchen area of the apartment
- A description of any balconies or loggias the apartment may have
- The floor on which the apartment is located
- The quality of the apartment, and
- The use of the apartment

A button at the bottom of the screen gives the user the option only of closing the screen display.

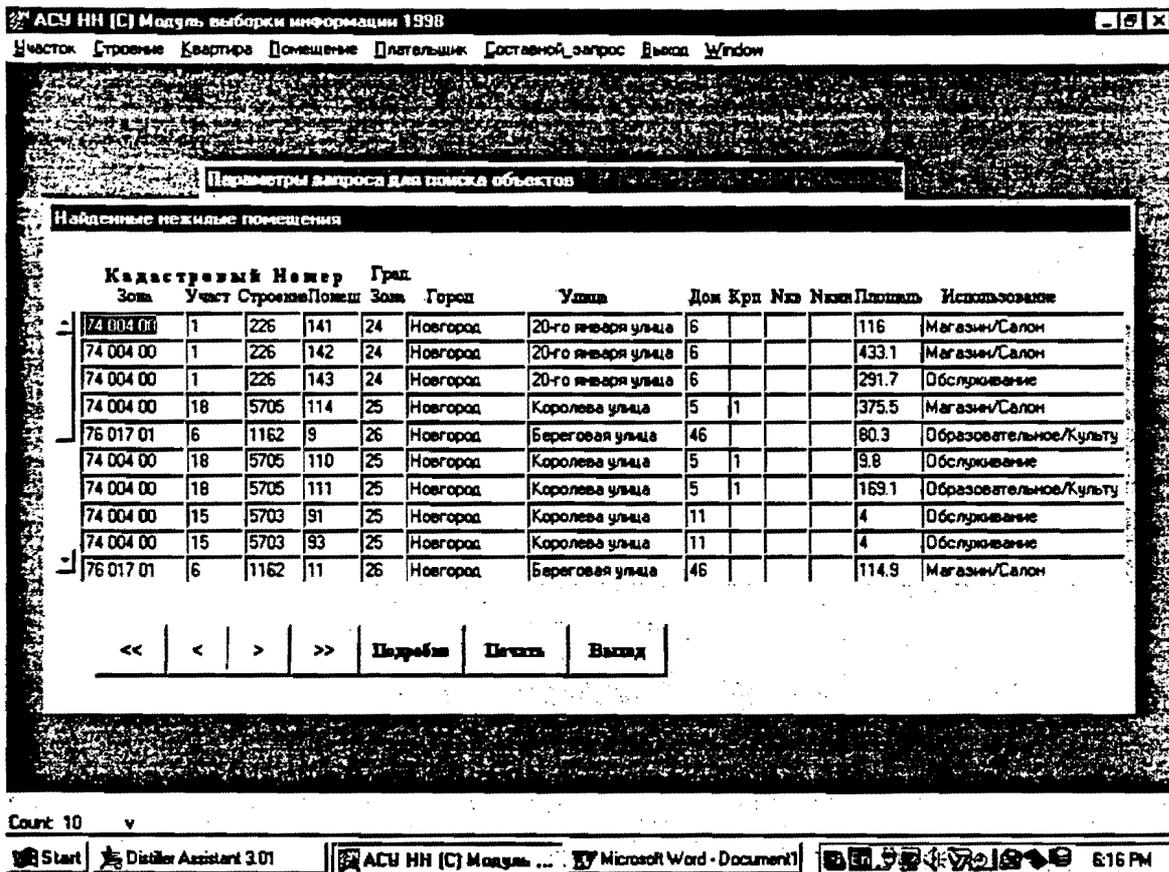


Figure 4.2.38.

Figure 4.2.38 illustrates the results of the records presented as a result of a “complex query” for non-residential premise records. The data, presented in tabular format, include:

- Cadastral number, including components for zone, parcel, building, and premise number
- The land value zone in which the premise is located
- The settlement name in which the premise is located
- The street name on which the premise is located
- The street number
- The corpus number
- The total square meters of the premise, and
- The purpose for which the premise is being used

A scroll bar at the side of the screen permits the display of additional records if more exist than can be accommodated in the area defined on the screen. The buttons at the bottom of the screen permit the user to scroll backward or forward one “screen-full” or one record at a time. The next button permits the user to display additional detail on whichever record the cursor is on at the time the button is clicked, the following button generates a printout of the records currently being displayed, and the remaining button permits the user to exit from the query.

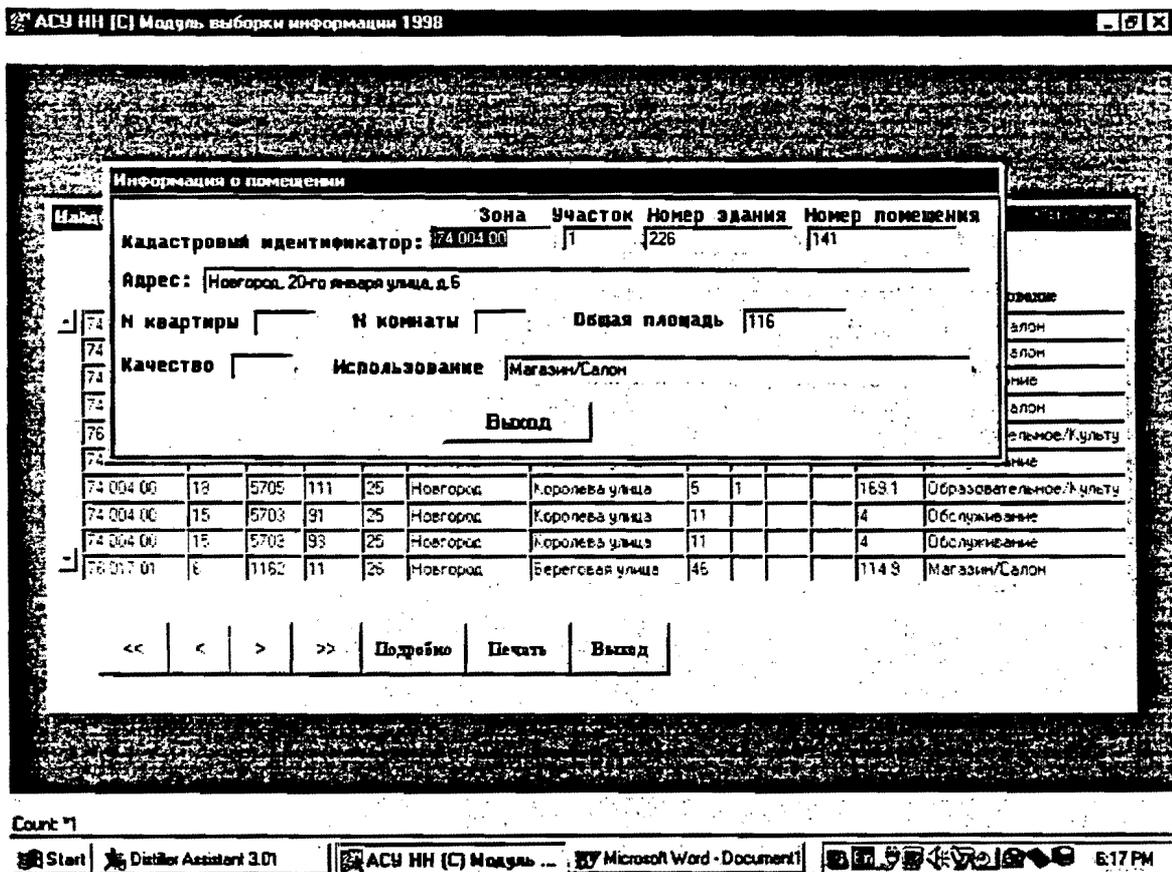


Figure 4.2.39.

Figure 4.2.39. illustrates the results of pressing the “detail” button while the cursor is located on some record in the screen illustrated in Figure 4.2.38., showing records presented as a result of a “complex query” for a selected non-residential premise. The data include:

- Cadastral number, including components for zone, parcel, building, and premise number

- The address of the parcel, including settlement name, street name, and street number
- The corpus number
- The apartment number
- The total square meters of the premise
- The quality of the premise, and
- The use of the premise

A button at the bottom of the screen gives the user the option only of closing the screen display.

CHAPTER V

FISCAL CADASTRE PLANNING AND BUDGETING

The development of a fiscal cadastre⁵ is a major undertaking in terms of manpower, the application of database technology, the development of new information resources, the coordinated acquisition of data obtained from several jealously guarded sources, and the prudent management of resources generally. Planning, budgeting, and managing this task well are essential for the successful implementation of the property tax reform. Lessons learned from the experience gained in the pilot cities, and templates developed based on that experience, can save successor jurisdictions enormous amounts of time and other resources. This discussion, with its related references, attempts to transfer those experiences by means of project planning materials and discussions of budgetary and selected management considerations. Other equally essential activities, including the development of the valuation models, the projection of tax-base adequacy, and the customization of the PTIMS software, interact crucially with the development of the fiscal cadastre, but planning most of their details is outside the scope of the present discussion.

Planning an undertaking of this magnitude is best done with the assistance of project management software, which can help identify tasks on the critical path (“bottlenecks”), can facilitate the comparison of actual and planned consumption of time and other resources, and can easily incorporate changes when the need arises. Several prototype project plans were prepared, using SureTrack (by Primavera) and Project (by Microsoft) software. These and the rest of the materials discussed here were prepared in Russian, based on actual experiences in the pilot cities

⁵ For convenience the term “fiscal cadastre” is used here to refer to the database minimally necessary for the implementation of a market-value-based property tax. In Chapter II, there was a detailed description of this database which is also called the real estate/fiscal cadastre. This database is ideally a subset of a much larger integrated database that may be called the city information system or a variety of other names. It is also related to, and may form a subset of, the real estate cadastre (including detailed records on the physical and locational characteristics of land parcels and other properties in the jurisdiction) and the legal cadastre (containing information on property rights (ownership, lien, etc.) and chain-of-title information associated with objects held in the real estate cadastre). To avoid implications about the best development strategies for all these related subsets of a potentially integrated database, various alternative but less descriptive terms are sometimes used, including real estate register. The use of the term “fiscal cadastre” here is denotes no intended implication with respect to these essentially political matters.

and the first rollout city (Pskov). The printed version of these materials captures only a portion of their value, and the English version of this discussion includes only a small fraction of the materials available in Russian. Appendix 1 reproduces the Gantt-chart view of the Project plan, which provides value by breaking down the activities into manageable tasks and identifying interdependencies among them. Some tasks require the completion of one or more others before they can begin; others require only the start or partial completion of yet others. By identifying these interdependencies and associating each task with the resources available to perform them (not shown on the Gantt-chart report) it is a trivial matter to identify whether the available resources will permit the completion of the project by the desired deadline. Although it cannot be illustrated in the appendix, another valuable benefit of using project-planning software is that it identifies where there are planned over commitments of the available resources. Since over commitments and critical paths are easily changed by adding and re-deploying resources, the value to new cities of the experiences of the pilot cities lies not in reciting which tasks were on the critical path for them, but in providing the detailed work breakdown shown in the plan. Both pieces of planning software also facilitate the management of projects that have interim deadlines by which progress must be sufficient by dates certain to permit other actions, such as considerations of draft laws by the Duma. Both also facilitate budgeting.

Budgeting may be accomplished both in the project planning software and using external spreadsheets. Two-directional exchanges of data between the kinds of programs are also possible. Project personnel provided extensive materials in Russian on expected costs of both a fixed and variable nature and indicated when those cost would have to be borne. Items whose costs would largely be fixed related largely to infrastructure, including software licenses, computer networks, mapping contracts, and the like. Reasonably detailed specifications of the necessary items are provided, along with their current costs. For items having largely variable costs, estimates of likely rates of productivity are provided, along with discussions of the kinds of resources required, the best ways to organize the tasks, and what constitute the major determinants of the productivity rates provided. For the construction of the fiscal cadastre, limiting the scope of the effort had the biggest effect on the productivity rates.

Defining the scope of the cadastre requires the definition of the data minimally required to administer the property tax. The data required will depend to some extent on the factors that influence market value, which will vary from place to place, and the criteria by which local

policy makers will want to grant tax benefits. Promulgating a uniform data set, therefore, was not the intent of project personnel, nor is it likely to be feasible. However, to form a basis for discussions in the new jurisdictions, a set of model data capture forms was developed and provided. These are reproduced in Appendix 2. The structure of the forms reflects not only the items to be captured, but also the recommended workflow associated with their use. As described in detail in Russian, the project recommends the transcription of the indicated elements from the Land Committee files onto the land committee forms and the transcription of the indicated elements from the Bureau of Technical Inventory files onto the forms for buildings and premises. In both committees there will be facts on “ownership” to be transcribed, along with data on physical characteristics.

Issues of the rights to transcribe for purposes of cadastral development and taxation (even in the absence of the official “registration” of these rights in the appropriate chambers with the appropriate documentary approvals) are also discussed. In general, the federal enabling law permits the tax to reach holders of virtually all rights so it is advisable to capture at least the following rights in the fiscal cadastre:

- Property
- Life-long inherited/inheritable ownership
- Constant (unlimited) user right
- Economic management
- Daily maintenance

In contrast, servitudes and third-party leases, i.e. those from a taxable owner to a third party, (in contrast to those from the municipality to a second party) are generally of lower priority for data capture and entry.

Data reduction issues are also addressed. The archives of both committees generally contain far more data than are needed for tax administration purposes, so many characteristics are not recommended for entry into the Property Tax Information Management System (PTIMS) at least initially. In addition, some of the coding of characteristics found to influence market value is far more detailed than necessary, so the reference materials provide suggestions on how to minimize capture and manage the essential data.

Workflow issues are also addressed in detail in the Russian materials. Since the BTI files are likely to omit the property identifiers necessary for linking their records with those of the land committee, we describe a procedure that permits each to work without unduly impeding the other and provides quality control to the forms processing. Using photocopied map fragments, land committee cadastral number tables, numbered forms, and bound collections of reviewed forms in the ways described in the Russian text, it is possible to guarantee that forms are not lost, records do not go untranscribed, and responsibility for the transcription/capture and entry of all the required data is fixed. Detailed descriptions of the various fields, their source and meaning, and how to derive them from the committee's archives are also provided. Suggestions are provided on how to organize work in an assembly-line fashion so as to maximize productivity and the development of expertise and consistency.

Instructions on field data collection are also provided, since the committees' archives are sure to be incomplete in respects of certain property types discussed in the materials, chiefly those belonging to (or under the control of) formerly closed enterprises. Field data collection requirements are discussed not only in terms of such limited property types, but also in connection with data elements that may be required for the valuation models to perform adequately, but may not be present in the archives of the committees. Characteristics such as object use, overall use, appearance (quality), and condition were important in the commercial/industrial valuation models in the pilot cities, but were not transcribable from committee records. In some cases it may be possible to infer them from other data in the archives – quality is likely related to foundation characteristics and building materials, for example. In other cases the data may be obtained from the records of other committees (such as the housing maintenance committee for uses of premises in residential properties). But in other cases actual field data collection will be required. The considerations involved in weighing these alternatives are described, and advice is given on the actual conduct of the field data collection effort. Crucially, the field data collection efforts offer the best chance the jurisdiction has for discovering omitted properties, provided the effort is organized correctly.

Establishing the necessary linkages among disparate records on land, buildings, and separately taxable premises within buildings (as well as aggregating separate buildings in an industrial complex) is an essential function performed with the assistance of the parcel identification number (PIN). PINs are based on cadastral numbers, but the latter are not yet

presently extended to assignment at the level of taxable parcels. Therefore, the reference materials develop a prototype PIN assignment procedure and discuss the issues involved in adopting one for successor jurisdictions.

In some circumstances in the pilot cities, some of the data collectors, transcribers, and data entry operators were compensated on the basis of combination of a flat amount and certain piece-rates. Such productivity based pay, of course, raises quality control concerns and is not appropriate in all circumstances, but its merits are discussed in the materials along with suggestions for how best to implement such a program if the jurisdiction decides to do it.

Land and location-related information proved unreasonably difficult to obtain during the experiment in the pilot cities, but may prove less troublesome when donor-related personnel are not involved. These issues are discussed with recommendations in the referenced materials. At least three different but related issues are involved. Maps for public consumption have traditionally been deliberately distorted, and as a result, it is said to be against the law for even small scale maps suitable only for planning not operational purposes to leave the custody of certain personnel. This problem arose during the course of our consulting endeavors with one of the raions in Novgorod oblast. Second, large-scale maps are even more sensitive, and obtaining X-Y coordinates to satisfy the needs of the valuation model builders is even more troublesome, even though there is no need for the reference system to be tied to real world coordinates. If coordinates are to be used in the cadastre, a (possibly arbitrary) reference system will have to be chosen, and the issue of public availability of these data will have to be decided. If there are neighborhoods defined that are more or less homogeneous in their influence on market value, codes identifying them may be used instead. If there are no such neighborhoods or zones defined, either the jurisdiction will have to develop them as a very high priority or the fiscal cadastre will have to carry X-Y coordinates for all taxable parcels instead. Third, the issue of incomplete and imprecise records in the land committee needs to be addressed. Obviously it is always better to have complete and extremely accurate records of the locations and sizes of the land parcels that will ultimately comprise the tax base, but it is even more important not to let lack of perfection stymie the performance of a good-enough job. Considerations in this regard, and how to resolve the problems that arise in addressing them are also discussed in the materials, along with fiscal and planning consequences of various courses of action.

Involving the major subjects of the property tax in the development of the fiscal cadastre was a strategy adopted in both pilot cities. The rationale in both cases was a nebulous combination of factors, including exigencies related to timing and budgeting, a desire to test the public-relations waters, and an attempt to assign some of the responsibility for the accuracy of the underlying data to the taxpayers themselves. Some of these reasons remain valid even in the absence of timing and budget constraints. In the event that succeeding jurisdictions decide to replicate the experience for the ancillary purposes, advice is given on how to conduct the exercise, including forms and instructions suitable for the purpose.

Managing the fiscal cadastre construction activity involves not only monitoring conformance of actual progress to plans and taking appropriate corrective actions, but also dealing with unexpected types of objects. Two such anomalous property types that arose in the pilot cities are discussed in the materials. The treatment of incomplete constructions is a big issue in Russia, due to the many buildings begun but never completed due to lack of funds. Two major alternatives are available: recording and taxing them on the basis of a percentage of completion and dealing with them according to an arbitrary schedule. The merits of each approach are discussed along with the incentives they create for certain behavior that may or may not be socially desirable. The treatment of non-building constructions, such as pipelines, power and communications networks, and the like is also a major concern. The values of some such properties are capitalized into the value of the total transferable object. Thus fences and parking lots, for example, should not be a major consideration during the construction of the cadastre, but others should be dealt with appropriately as discussed in the materials.

The referenced materials discuss the appropriate handling of these objects more fully.

Quality control issues generally are discussed at a planning level of detail in the references. Additional operational level detail on many of these issues is provided in chapter 7 of this manual in connection with valuation model validation.

Because so much of the planning and management task involves obtaining the cooperation of committees that have traditionally not been coordinated locally, recommendations are made on levels of authority that should be involved in the execution of the project. Educational seminars are recommended in addition to the ultimately available authoritarian

approach. The reference materials recite the benefits to be derived from the imposition of the new tax and the development of the necessary infrastructure.

CHAPTER V APPENDICES:

1. NOTES ON LOCATIONAL REQUIREMENTS OF THE PROJECT AND SENSITIVITIES SURROUNDING THEM.
2. INSTRUCTIONS FOR COMPLETING REAL ESTATE DATA CARDS.
3. SAMPLE RUSSIAN DATA FORMS WITH ENGLISH TRANSLATION.

CHAPTER VI

TAX IMPACT ANALYSIS

Before a new tax such as the market-value-based property tax (the ad valorem real property tax, AVRPT) is implemented, it is prudent to conduct a study of the major fiscal impacts of the tax. The major purposes of the study are to project the revenue that can be expected, so as to determine whether it will be adequate, and to identify the likely winners and losers, so as to gauge its political acceptability. If the potential revenue appears to be adequate, problematic results revealed by the analysis of tax burden shifts may suggest ways to customize the tax to heighten its acceptability. Many policies are available to ameliorate an undesirable pattern of tax burden shifts, including differential assessment ratios, differential tax rates, various kinds of exemptions, and credits against other taxes or against the heritable estate. The merits of such policies are outside the scope of this discussion, as are broader issues of long-range municipal budgeting reform, including fund accounting, dedicated revenue sources and expenditure responsibilities, trend analyses, and the like. Also, of course, there are major non-fiscal benefits that accrue from implementing an AVRPT, but estimating (“monetizing”) them is outside the scope of this discussion.

Tax impact analyses need to be undertaken not merely at the start of the project, but also as it progresses so as to ensure continued political support for the project and to accustom policy makers to likely constraints and policy considerations. For purposes of discussion, three arbitrary stages have been identified – gross estimation, sample-based analyses, and population-based analyses -- but in reality the analyses are likely to be performed approximately monthly, with refinements of method and purpose being more in the nature of a continuum than their discrete treatments here. For each stage the discussion below highlights why the analysis is being done, the requirements for conducting the analysis, and how to perform it. The discussion ends with a description of the results and experiences obtained from prior analyses and a set of appendices that provide useful illustrations and additional details.

6.1. GROSS ESTIMATION

6.1.1. PURPOSE

Typically the first step is to perform a rough estimation of the likely revenue adequacy of the tax. Since the AVRPT is being levied in the Russian Federation as a substitute for certain existing taxes (enterprise assets tax, land tax⁶, and property tax on persons), it must yield revenues adequate to replace the revenues foregone from the old taxes. Since these revenues were previously shared among three levels of government (each tax at different percentages), and since a condition of levying the new tax may be to “hold harmless” the other levels of government, it will be necessary to consider all revenues derived from the old taxes. Also, unlike virtually all other taxes, which are self administered, the AVRPT costs governments a substantial amount to administer. Administration costs in developed countries are typically 5% of the total amount of taxes collected. Estimating the costs of administering the tax is outside the scope of this discussion, but it is obvious the expected revenues must additionally exceed the expected marginal administration costs. Initially, administrative costs will greatly exceed the 5% threshold because of start-up costs, but thereafter it is reasonable to expect that on-going administrative costs will approximate 5% of the amount of revenue that the AVRPT could raise if levied at a uniform effective tax rate of 2 -- 5%.

Given defined revenue requirements, the objective becomes one of measuring the likely tax base. In the Russian Federation, relatively little land or other property⁷ is in private ownership. The federal enabling legislation, therefore, authorized levying the tax on the holders of a variety of rights, and policy makers will find it instructive to see how much the tax base changes when various categories of property rights are added to the potential tax base. It will also be necessary to apprise policy makers of the consequences of another thorny problem with land and property markets in Russia: the universal tendency to understate true transaction values, if not to hide transactions entirely. For the tax to succeed, it will likely need to be based on

⁶ Land tax may be confusing terminology, since the term “tax” is not used in the law. Nevertheless, the law On Land Payments defines the *land payment* in such a way that it really is a land tax in the economic sense. In this document the term “land tax” is used when we talk about land payments subject to the federal law “On Land Payment”. It is important to distinguish between them and land rent, the latter being established by local governments.

⁷ According to Russian custom, the term “property” denotes improvements (buildings and premises) but does not encompass the land itself, in marked contrast to usage in the United States and elsewhere.

estimates of market values derived from research involving a variety of sources, some of which will not be “official.” Policy makers may need to have this reality brought home to them graphically for them to accept the necessity of some of the preparatory work involved in implementing the tax.

6.1.2. REQUIREMENTS

For the purposes of gross estimation, the revenue requirements may be specified as the total revenues raised the prior year by the taxes to be replaced, factored up as necessary by inflation, with appropriate consideration of any extraordinary collections of arrears, advance payments, or penalties, and any extraordinary omissions. These data are generally readily available in the finance department of the city administration and in the local office of the state tax inspectorate. Project personnel initially had some difficulty in obtaining such data, although it should not be problematic for administration personnel to do this. For more refined analyses, as described below, significant data cleansing will be required, but at the earliest stages access to highly aggregated data is all that is required.

Tax base estimation is somewhat more difficult to accomplish. It requires access to data on typical market values per square meter and aggregate data on the number of square meters of improvements by kind of right (ownership, inherited tenure, daily management, etc.) and ideally by kind (or use) of property. To the extent that land is held with rights that are taxable, rather than being subject to land rental fees, the same kind of data on average prices per square meter and the estimated stock, in square meters, will be necessary for the relevant rights. For average prices, real estate agents and newspaper advertisements can be valuable sources, especially as checks on the prices recorded in official sources such as the Bureau of Technical Inventory (BTI), the Land Committee, or the Registration Chamber. For tabulations of square meters in various kinds of (quasi) ownership status and used for various kinds of purposes, the official records of the BTI and Land Committee are the first place to start. Unfortunately, however, such data will probably need to be augmented by additional information from unofficial sources. In particular, the BTI is typically not well informed about commercial and especially industrial property within the jurisdiction, since many such properties were formerly closed and generally outside the purview of the BTI. Land committee records are also generally far from perfect, with

some areas likely to be redundantly allocated to different payers and other lands lacking data altogether. In both cases the best course of action is generally to explain the needed data as clearly as possible and to allow the cognizant BTI, Land Committee, and outside professionals to make informed adjustments to the aggregated official data to reflect their best estimates of reality.

6.1.3. PROCEDURES

Once the necessary estimates are obtained as described above, the calculations are intuitively obvious. Appendix 1 presents an illustrative analysis, including a suitable means of incorporating uncertainties in the estimates. As alluded to earlier, the results at this initial stage will not necessarily be encouraging; these matters are discussed further in the results and experiences section below. Note that at this stage no major commitment of resources has been necessary. The required information should be available from a handful of experts, and the calculations, if necessary, can be done on the back of an envelope -- certainly without the kind of computing power that will become necessary for later stages of the project and analyses.

The objective, basically, is to calculate the effective tax rate necessary to raise the necessary revenues from the tax base as it has been identified thus far. The major constraint is the practical need to keep the maximum tax rate below intolerable levels. As a general rule, it should probably not exceed two percent.

6.2. SAMPLE-BASED ANALYSES

As soon as it is practical to do so, and certainly once the project begins in earnest, tax impact analyses should be explicitly based on sample data whenever facts are uncertain, and the results of prior analyses should be preserved even after they are superseded by later ones. In this way the variability of the underlying data and the extent to which essential estimates change with increasing iterations of the analysis provide useful information on the degree of confidence that can reasonably be placed in the analyses. Of course the degree of confidence in the results can also vary with the fraction of the old tax base represented in the sample. This may be especially true if, as often happens, the distribution of tax liabilities is heavily skewed (that is, tax revenues may be highly concentrated, coming principally from one or a few taxpayers).

Although it is probably not justifiable to expend the additional resources to do it, an additional method of gauging the reliability of the estimates is by means of “bootstrap,” “jack-knife,” “resampling,” and other Monte-Carlo based statistical techniques. Such techniques essentially treat the available data as a “population” from which many samples can be drawn (with replacement) after which the statistics of interest are calculated (such as the maximum required effective tax rate). An average and a “standard error” of the calculated statistics, one for each of the approximately 1000 samples drawn from the “population,” are then easily calculated. Monitoring how these data change as such analyses are repeated each month that the fiscal cadastre is under construction can give administrators and policy makers a better idea of the confidence that can be placed in the generated numbers.

In the event that certain categories of property are known to be under-represented (or over represented) at various stages in the process of the construction of the fiscal cadastre, it is an easy matter with any reasonable statistical analysis program to adjust for this problem using weights applied to each of the available (under-represented and over-represented) observations. The weights used are essentially the reciprocals of the actual proportion of such records to the totality of all records in the real world of the jurisdiction (as opposed to their proportion in the jurisdiction’s current fiscal cadastre). The weights will automatically be applied during the calculation of relevant statistics and do not complicate the bootstrap-based reliability estimates discussed above.

6.2.1. PURPOSE

The primary purpose of studies conducted in this stage of the analysis remains determining the adequacy of the revenue base and the likely constraints within which discretionary parameters, such as tax benefit policies, will have to operate. A secondary purpose is to begin informed discussions of how various benefit policies, such as preferential assessment ratios for certain classes of property, may be crafted. A side benefit or tertiary purpose of such studies is to enhance the quality control efforts of the project in many ways, including the detection of bad data associated with major properties and the early detection of valuation model inadequacies. In later stages of the project it is reasonable to begin looking for patterns in the distribution of winners and losers in the shifts of the (total) tax burden as between the old taxes

and the AVRPT. At first these analyses are done at a sectoral or group level, but later analyses can consider patterns at the individual taxpayer level and explore the explanatory power of additional variables (such as economic condition, payroll trends, or industrial sub classifications) not present in the fiscal cadastre.

6.2.2. REQUIREMENTS

Data and data processing requirements escalate rapidly as the sophistication of the analyses increases. For tax base adequacy projections, data are needed at a disaggregated level only on determinants of market value, such as physical characteristics and location. But for analyses of tax burden shifts, data at a disaggregated level will be required on previous tax liabilities as well. Initial results from the tax base adequacy analyses are likely to so severely constrain the options of policy makers that the tax impact analyst would be well advised to plan from the outset on collecting all the data required for analyses of burden shifts as well as tax base adequacy.

To make a reliable study of the fiscal impact of the AVRPT a large amount of data is required. To understand the revenue adequacy issue and the tax burden distribution issues fully, the entire fiscal cadastre must be completed, the valuation models must be finalized, the amount of tax to be raised must be determined, and the taxpayer-by-taxpayer distribution of the current tax burden must be known. These data only become available at the end of the project, shortly before it is time to issue tax bills. Interim estimates, based on incomplete and often imperfect data provide the only alternative. Scientific sampling where it is possible, and appropriate weighting of samples-of-convenience where it is not, provide a means of increasing the reliability of the tax impact analyses. Prioritizing the fiscal cadastre completion work to conform to the data requirements of the tax impact analyses facilitates the latter without seriously compromising the overall efficiency of the former.

In most developed economies, residential properties, being far more numerous, account for the largest share of the total AVRPT tax base. The situation with the current three taxes to be suspended during the experiment in the Russian Federation is far different. Political constraints on inter-sector tax burden shifts and other policy issues may force the analysis to concentrate on the commercial and industrial sectors to the virtual exclusion of other sectors. For example,

there may be a decision that the residential sector, as a whole, will not bear a significantly larger share of the AVRPT burden than the trivial amount the sector now contributes to current tax revenues. The effective tax rate in Russia for the residential sector is about one hundredth the amount of the effective tax rate in most developed countries. To prevent a massive tax revolt, and at the same time ensure revenue adequacy, it may be advisable to moderate any major shifts in the tax burden. Therefore, for a preliminary understanding of the revenue adequacy issue, a reasonably complete sample of the fiscal cadastre records for the largest enterprises, information on their current tax liabilities, and a reasonably complete valuation model applicable to commercial and industrial properties is all that is absolutely necessary. Of these three requirements, the fiscal cadastre records of the enterprises are usually the most difficult to obtain, although neither the current tax liabilities nor the valuation model is a trivial matter. Fortunately the number of commercial and industrial records in the fiscal cadastre is much lower than the total number of records for all property types, usually on the order of ten percent of the total number of records in the cadastre. It is also important to note that the information required in order to apply the computer assisted mass appraisal (CAMA) valuation model is typically much less detailed than might be expected.

Physical characteristics of properties in the tax base.

The data required to apply the CAMA model to the commercial and industrial properties depends on the exact structure of the CAMA model. Generally the major determinants of market value are highly correlated with one another, so a relatively small set of physical characteristics, together with location information in the form of either neighborhood identifiers or X-Y coordinates, will be sufficient to predict the market value of each property with reasonable accuracy. For the commercial and industrial CAMA models developed for Tver and Novgorod, information on the following characteristics was initially required for every taxable piece of property:

- the land zone (or neighborhood) in which it is located at a minimum, and preferably its X-Y coordinates,
- the overall use of the property (according to a coding scheme with 15 alternatives),
- the size of the land parcel,

- if the use of the land parcel is shared among multiple potential taxpayers, the percentage share attributable to the given taxpayer
- the use of the taxable object, if different from the overall use (such as a small commercial space on the first floor of a residential building, again according to the 15-alternative coding scheme),
- the type of material from which the walls are constructed (according to an 8-alternative coding scheme),
- the ceiling height of the object (coded into about 5 categories),
- the years in which the property was constructed and last renovated, and
- the size of the taxable object (i.e. gross buildable area)

When the tax impact analysis is extended to residential properties, the following elements of information will be required for each taxable parcel of real estate.

- the total number of units in the shared object (e.g. the apartment building, if applicable)
- the floor (story) on which the taxable object is located
- the total number of floors in the shared object
- the total area of the building unit (i.e. apartment)
- the living area of the building unit
- the kitchen area of the building unit
- the number of balconies in the building unit
- the number of loggias in the building unit

In addition to the data necessary for the application of the CAMA valuation model, the identity (preferably coded) of the potential taxpayer is necessary for analytical purposes. Also the street address is highly useful for purposes of quality assurance. When the time comes to explore the consequences of various tax benefit schemes, it will be necessary to have data on tax benefits, most usefully expressed as percentages, and a breakdown by the various levels of

government that are entitled to grant benefits. For example, the city may exempt 50% of the value of an enterprise's property from its share of the tax collected from this enterprise, but the oblast and federal shares of the tax payable by the enterprise may reflect no exemptions. Such complications arising from current practice should be recognized in the design of the tax impact study. Treating current exemptions as a percentage of the potential taxable amount enables analyses of various tax relief schemes to be made more easily. At least initially, the local authorities will be inclined to carry forward all current exemptions to the new tax system. After seeing how dramatically this erodes the tax base and what that does to the tax rate(s) on the remaining properties, however, they may be inclined to consider alternative means of providing targeted tax relief.

It is possible that later CAMA models will incorporate slightly different characteristics. In particular, the specific X-Y coordinates of all sold properties are required to develop the CAMA model. The model may then be reformulated to treat supposedly homogeneous areas uniformly instead of exhibiting continuous variation across them. In this case, the data available for the unsold properties need not include their X-Y coordinates, but rather merely the homogeneous area (or "zone") in which they are located. This is a cosmetic constraint on the model, and in an ideal situation X-Y coordinates would be used directly in the CAMA model to increase its accuracy.

Another significant increase in CAMA model accuracy is obtained if information is available on the quality and condition of the taxable objects. The pilot tests in Tver and Novgorod contemplated using information on improvement quality and condition, but the data available from records in the office of the BTI were not reliable. The cost of collecting additional information via field research was initially judged to be not justifiable, but this judgement was later reversed. If conditions are different in another city, the plans for the fiscal cadastre construction and tax impact study will have to be revised accordingly. If the CAMA model incorporates new information it must also be available for all the properties that are considered potentially taxable. In particular, it must be available by the time of the tax impact study for all the properties of the commercial and industrial enterprises to be included in the tax impact analysis.

The strategy employed for the Novgorod and Tver pilot cities was to base the CAMA models on information thought to be readily available from the extant records of the Land

Committee and the BTI. It was later discovered that the relevant physical characteristics of the properties of a number of large, formerly “closed” enterprises were not available in the BTI records. This necessitated contacts with the enterprises themselves, introductions from the State Tax Service, and a contingent of personnel to conduct the additional field research, in addition to close work with both the Land Committee and BTI.

Codes describing the use of the taxable object and the overall use of the property, if different, are also essential to the valuation model. These data were not available from either BTI or the Land Committee records. Obtaining the necessary data can be done several ways, perhaps most efficiently from the housing maintenance agencies. Alternative sources of information include cross checking whatever business listings may be available, including the telephone yellow pages. The marginal costs and benefits, including timeliness considerations, of alternative means of getting the necessary information must be weighed in deciding how to capture data either not present or not reliably up-to-date in the records of the BTI.

Valuation Models

A computer-assisted mass appraisal (CAMA) valuation model is the second main data requirement for the conduct of an impact study. It is necessary to apply the relevant CAMA model to predict the values of each of the individual properties owned by the enterprises. The CAMA model development process is outside the scope of this discussion, but typically it is based on a statistical analysis of how the pattern of sale prices and rental rates varies with the location and physical characteristics of the properties being sold or rented. These inferred statistical patterns are formalized into a set of one or more equations, usually involving a number of table look-ups, that may then be applied to the unsold properties as well. Implicitly, then, a more or less comprehensive collection and analysis of all available data on market transactions is a prerequisite to the conduct of an impact analysis. Further details on this process are described in volume V of the Roll-Out Manual, and the valuation model reports prepared for the pilot cities. It is important to note here that the general structure of CAMA models may be expected to remain essentially fixed from one jurisdiction to another, making the model building process one of essentially calibrating a more-or-less fixed model to local conditions. The fiscal values ultimately enrolled on the tax rolls may not actually come directly from the CAMA appraisal model, since a field-review process should intervene, but the model should provide a close approximation to the final fiscal values.

Matching land records to records of buildings and improvements is an essential and rather time consuming step in the construction of the fiscal cadastre. This match may not be required for the purposes of interim fiscal impact analyses, depending on the current structure of the CAMA models and the availability of alternative data management software. Records for both land and buildings must be available, and they must include an identification of the enterprise that owns or pays tax or rent on the assets and/or land, but linking buildings to land is not essential for interim tax impact projections.

Tax liabilities

A further major data requirement for tax impact analysis is information on current tax liabilities. Aggregate information on expected and actual collections of asset taxes and land taxes from legal entities is available from the city budget and other financial reports. But for burden-shift analyses, aggregate information is not enough. Even for revenue adequacy studies, it will not generally be possible to ensure that all enterprises can be included in the analysis, which makes it highly desirable to obtain taxpayer-by-taxpayer tax liability information whether the purpose of the study is testing revenue adequacy or exploring tax burden shifts. With such data, representative samples can be constructed and weighted for extrapolation to the entirety of the jurisdiction more accurately than is possible in the absence of such data. Although the land tax can be analyzed at the parcel level, *the asset tax is payable at the enterprise level, so the lowest feasible level of detail on asset tax liabilities is on an enterprise-by-enterprise basis.* Since before-and-after comparisons are only feasible at the same level of detail, the AVRPT liabilities, while they must be calculated on a parcel-by-parcel basis, must then be aggregated to the enterprise level for meaningful comparisons to be made.

It is also important to note that for comparisons to be meaningful, similarly defined liabilities should be compared. For the new tax, current-year tax liabilities, by definition, are the data the system will generate. In contrast, it is common for budget and financial report information to be seriously affected by various contaminations, such as penalties, interest, underpayments, and payments of arrears from prior years. Even enterprises themselves are not reliable sources from which to obtain their current-year tax liabilities. Thus, for the “before” picture it is necessary to obtain current-year liabilities for the assets tax from the state tax service (STS) on an enterprise-by-enterprise basis. Land tax liabilities may be obtained either from the STS or directly from the Land Committee, which is responsible for providing this information to

the STS. These data are generally organized on a parcel-by-parcel basis, although aggregation at the taxpayer level is generally sufficient for tax impact purposes. If the analysis will extend to issues beyond strictly tax matters, it may be useful to obtain information on land rental payments at the same time as the land tax information is obtained, although the distinction between the two types of payments must be maintained. This has obvious consequences for how the data are gathered and managed.

For the “before” side of the picture, data at the enterprise level on asset tax liabilities is needed for burden shift analyses. The intent of the Novgorod sample study was to rely on self-reported data from respondents to our Tax Impact Questionnaire (TIQ). However, the self-reported data were unreliable both with respect to the parcel level characteristics needed for the application of the valuation model and also with respect to the reported liabilities under the current tax system. Response biases may have contributed to the difficulties, but the largest identifiable problem with the current tax data was their contamination with delinquent payments, underpayments, interest, penalties, and the like. Thus, it turned out that the entire exercise could have been conducted without administering a questionnaire at all.

Social / typological data

Data on secondary characteristics of taxpayers of interest to policy makers, but not relevant to the valuation model, may also need to be captured and managed by the tax impact analyst. This may involve work outside the scope of the property tax information management system (PTIMS) that is the primary tool for managing the fiscal cadastre. Initially the dimensions of analysis that policy makers will concern themselves with will largely coincide with the data needed for the application of the valuation models. Thus tax shifts by kind of property (according to the aforementioned coding scheme) and location, which can easily be calculated with the data described above, will suffice for most policy makers’ needs. But if it is known that additional dimensions will need to be analyzed, these data will need to be captured and managed as well. Examples of such data include finer-grained analyses by commercial-industrial group, analyses by the economic condition of the potential taxpayer, and analyses by the kind of right that the taxpayer holds in the property. Sources for such data include the local/regional STS, Oblast Statistical Committee, Land Committee, KUGI, KUMI, and BTI. Certainly any dimension that will form the basis for a tax (exemption) policy will need to be analyzed. The danger, however, is that requirements for elegance of “official” tax policy may

escalate faster than can be accommodated by the resources available to administer them. This can divert resources away from implementing the tax competently at the technical valuation level, or even at all. Balancing these desires is a serious problem not only in the Russian Federation, where administrative resources will remain scarce at least initially, but also in advanced economies. Since such “elegance” can also blunt the impact of non-fiscal benefits of the tax, the urge to complicate the administration of the tax should be restrained. Policy makers need to be mindful that an imperfect tax that is implemented and collected is better than a perfect one that is not.

Data Management

The data management problems involved in conducting a tax impact analysis are significant. The PTIMS software should be used to the maximum extent possible to avoid the problems of inconsistency that arise when two “parallel” databases go out of synchronization. PTIMS includes a statistical module that produces a standard report, illustrated in Appendix 2, that provides essential data at a variety of levels of detail. If the statistical module is unavailable, useful supplements include a standard statistical program such as SPSS, or an extract/linking facility, such as ODBC, used in concert with other more flexible software. If only the commercial and industrial properties are to be analyzed initially it will be sufficient to have a personal-computer-based database management program capable of applying the valuation model and a spreadsheet program capable of performing simple statistical analyses and summarizations. The data should be organized in a relational database in third or fourth normal form to avoid redundancies and to minimize the chance for inconsistencies to arise. To maximize labor productivity, the programs to be used on the personal computer should be capable of exchanging information with the PTIMS.

Jurisdictions considering the implementation of an AVRPT should not underestimate the data management issues involved. It is a common mistake to assume that since relevant bureaus and committees may already have partially computerized their files it will be a relatively trivial matter to convert such data to the structures necessary for the PTIMS. By extension, the assumption goes, the extraction of the data necessary for the fiscal impact analyses should be trivial. In reality several big surprises lie in store during the construction of the fiscal cadastre. The first is the discovery that much of the data in the existing computer files is likely to prove inconsistent unless the designers of those systems were extraordinarily scrupulous in normalizing

the structure of the data and programming a multitude of edits for consistency, reasonableness, and the like. A second is the likely need to create unique and unambiguous identifiers for taxable objects, subjects, and rights, and to enforce rules such as that the identifiers should remain unique and unambiguous with the passage of time.

Systems that have been straightforwardly automated from existing paper-based records system generally do not handle these matters correctly. In particular, they tend to rely on identifications based on names, street addresses, and the like. Such data are notoriously subject to misspellings, meaningless changes, and identical names for different things. To facilitate automated analyses, including matching of records from different sources, it is essential that coded identifiers be used. Of these, the most important is the cadastral number, occasionally referred to as the parcel identification number. The two are synonymous only if the cadastral number is understood to encompass more segments than have been traditionally been assigned by the Land Committee. In particular, anything that can be separately owned, including each building and each separately ownable premise, must be identified. Furthermore, if any of the hierarchy of land, building, and premise changes, for example, if the land parcel is subdivided, new codes must be assigned since the old ones no longer refer to the same object that they used to do.

Other important identifiers that must be managed correctly include the enterprise identification number (INN) used by the State Tax Service to identify payers of the asset tax, and the so-called and numbers, which are used by the oblast committee on statistics and the registration office of the city administration, respectively. Through these links it will be possible to aggregate all properties owned by an enterprise, to determine the part of buildings and structures in the asset-structure of each enterprise, and to identify uniformly and unambiguously the economic sector in which the enterprise is active. The city administration is generally the best source for information on the financial condition of the enterprises and also (along with the STS) for cross reference tables that let analysts identify or distinguish enterprises given one set of identification numbers and a data set that is organized by another set. Data on the economic sector(s) of the enterprises and their asset structure, of course, are only required when an analyst is seeking to determine whether changes in tax burdens follow a pattern related to such sectors or asset structures. In the pilot cities the evidence indicated that the tax burden shifts generally were not explained by such factors.

Personnel

The personnel engaged in the tax impact analyses should be both trustworthy and reasonably bright. Security and privacy issues arise because of the accessibility of such potentially sensitive data as the financial condition and tax liability of individual taxpayers. Alertness to anomalies and experience with quality control processes, especially in a data processing environment under development, will prove invaluable. Ability to correctly manipulate software for database management, spreadsheet analyses, and elementary statistics is also essential.

6.2.3. PROCEDURES

Once there are data available on at least a few significant property owners (or owner-equivalents) and payers of the taxes-to be replaced, the methodology for estimating tax base adequacy can be refined. The total tax levy can be estimated as the sum of the old-tax liabilities of the property owners represented in the fiscal cadastre thus far. The gross potential tax base can be estimated as the market value of their properties in the fiscal cadastre. The ratio of the two is an estimate of the required (flat) replacement tax rate to replace the foregone revenues. This may be modified if desired, to account for project costs. The weighted estimate derived in this manner should be improved if additional data are available on the extent to which the available data under-represent important components of the tax base as it is expected to be constituted when the fiscal cadastre is complete. The use of weighting to ensure that each strata of the available data base appropriately matches the total tax base ultimately expected is illustrated in Appendix 3. It also illustrates the use of other factors, applied at the sectoral level, to reflect assumed likely levels of uncollectability, tax exemptions, and hypothetical assessment ratios.

Initially, the data will not be adequate for straightforward application of the valuation models, and the models themselves may be under construction/refinement. The most effective procedure in such cases is to attempt to bracket the likely results by performing at least two analyses, separately taking as defaults for missing values of critical variables the highest and lowest values they are likely to assume. This general approach was employed in Appendix 1. Monte Carlo techniques, mentioned above, are also a possibility, although probably not warranted. Data, valuation, and modeling problems are evident when alternative value

predictions differ dramatically. Other quality indicators are the standard deviation of individual effective tax ratios calculated for the various enterprises and the extent to which such numbers change during successive iterations of the analysis.

6.3. POPULATION STUDIES

6.3.1. PURPOSE

Estimating revenue adequacy as precisely as possible, free from sampling error, is a major objective of the population-based tax impact studies. Such studies also, more significantly, offer the first real opportunity to study on a taxpayer-by-taxpayer basis, not just on a sector-by-sector basis, likely shifts in tax burden. If, as happened in one of the two pilot cities, the revenue requirements are high relative to the tax base, an additional purpose of the study may be to expand the analysis to include alternative policies for the rental of properties controlled by the city administration and the rental of land. Land rental, recall, is the levying of “payments for land” on land that is not subject to the federal law. In both cases the revenues so raised are not shared with the other levels of government in the same way as taxes, so analyses are somewhat more complicated. Attention to certain rental property policies is advisable even in the event that tax base adequacy considerations don’t demand it. In order not to discourage privatization, it is essential that the newly imposed burden on apartments and other residential property not exceed the amounts that would be payable on similar properties that were not privatized. This may be accomplished by coordinating valuation and rate-setting policies for the so-called “naim” payments (residential occupancy fees) with the valuations and rates developed to implement the property tax.

6.3.2. REQUIREMENTS

The requirements are largely identical to those for sample based studies, except that data on additional dimensions of tax policy (forming the basis of potential exemptions and other benefits) now becomes crucial. If the tax base remains constrained there may also be an expansion of the scope of the analyses to encompass rental properties and rented land in addition

to taxable properties and land. This, of course, requires the capture of additional data on such objects rented from municipal (not third-party) sources.

6.3.3. PROCEDURES

As soon as the real property register is populated, it will be possible to work with a greater number of taxpayers. However, before the register is completed, the number of real properties that are linked with taxpayers is less than the total number of real properties in the database. This happens because the rights to real properties change more often than the technical characteristics of real properties, such as area. Another effort-consuming component of the register creation is the linkage of land and improvements data. At the stage when the register contains almost all the data on real properties but no actual linked data between land and improvements on such land, and land data that is not matched with taxpayers' data, the tax rate may be estimated by comparing the total tax liabilities to be replaced for the entire jurisdiction with the total value of all real property in the register estimated with the CAMA valuation model. The latter should be weighted to adjust for under representation. The essential difference is that the revenue requirements are given externally rather than from the sample data. Sub-totals of values of some property classes may be corrected by applying expert judgements. Then, having the tax rate, changes in the tax burden for some of the taxpayers whose real property is identified and matched in the register can be estimated. At the final stage, the tax analysis is done for all the taxpayers.

In addition to broadening the analyses to encompass all potential taxpayers, it will likely prove advisable to broaden the analysis to encompass related kinds of payments. Property-related payments of legal entities and physical persons under both the old and the new tax systems include taxes themselves as well as rent payments, which are called rent payments for legal entities and occupancy fees (naim-payments) for residential properties rented by physical persons. Thus the analyst may be called upon to review burden shifts of a consolidated payment comprising taxes, land rent, rent for non-residential buildings and premises, VAT related to rent, and naim payment (occupancy fee) for residential properties.

Calculation of the Tax Rate

The objective is to calculate the tax rate required to produce the stipulated revenues, typically those lost from the suspended taxes. This is most easily done using a spreadsheet, as illustrated in the appendices. In the event that the reader is more comfortable seeing the logic expressed as a formula rather than embedded in a spreadsheet we present the following equation for the calculation of the property tax rate:

$$r \left(\sum_{i=1}^n k_i V_i \right) + r s_l V_l + r s_m \left(\sum_{i=1}^n k_i V_{im} \right) + r k_{n+1} V_{n+1} + P = S ,$$

where

r - is a real property tax rate (an unknown to be found solving this equation for r);

S_l - a coefficient that is a multiplier to be applied to the real property tax rate in order to find an unknown land rent;

S_m - a coefficient that is a multiplier to be applied to the real property tax rate in order to find occupancy fee for municipal buildings and premises;

K_i - assessment ratio for i - type non-residential property;

n - number of non-residential property types;

i - values of non-residential properties of i -type to which enterprises have ownership or similar rights;

l - values of land parcels rented by enterprises;

im - values of municipal buildings and premises of i -type that are rented by enterprises;

K_{n+1} - assessment ratio for residential properties;

$n+1$ - value of residential properties. If residential property is classified into sub-categories like multi-family houses, individual houses, cottages, etc., to which different assessment ratios are assigned, then the following sum of terms for each sub-category should be included in the equation: the product of multiplication of a uniform tax rate and assessment ratio

assigned to a given residential sub-category, and the sum of the values of all the properties falling into this sub-category;

P - a sum of occupancy fees of legal entities for municipal residential property;

S - the sum of all "old" system taxes and payments to be substituted by the new tax.

Below there is a hypothetical example of the new tax rate and land rent rate calculation for a scenario envisioning a land rent to be twice the amount of the real property tax rate, and rent of enterprises for municipal property to equal the tax rate.

	Estimated Value in mln of rubles	Assessment Ratios	Taxable Value (4)=(2)*(3), in mln of rubles	Tax Rate Or Rent	Tax Liability (6)=(4)*(5) in mln rubles
1	2	3	4	5	6
Individual single-family houses	100	0.01	1	0.05	0.05
Multi-family houses	200	0.01	2	0.05	0.1
Parking lots and garages	10	1	10	0.05	0.5
Offices	40	1	40	0.05	2
Services	10	1	10	0.05	0.5
Stores	30	1	30	0.05	1.5
Warehouses	60	1	60	0.05	3
Small industry	50	0.5	25	0.05	1.25
Large industry	70	0.5	35	0.05	1.75
Buildings and premises for transport services	10	1	10	0.05	0.5

ulture, sports, religion	5	1	5	0.05	0.25
htels	5	1	5	0.05	0.25
osks	5	0.2	1	0.05	0.05
ublic catering	5	1	5	0.05	0.25
her	20	1	20	0.05	1
nd parcels in nership	30	1	30	0.05	1.5
nted land	50	1	50	0.1	5
tal	700	-	339	-	19.45

The total amount required to replace the "old" system payments is 19.4 million rubles.

The spreadsheet developed by project personnel permits the entry of all desired parameters and constraints and then automatically calculates the necessary tax rate, making the analysis easily repeated for varying assumptions.

6.4. RESULTS AND EXPERIENCES

6.4.1. INITIAL ESTIMATES

For the purposes of determining revenue requirements during the experiment in the cities of Novgorod and Tver, the administrative costs were ignored, since they were largely funded by the project. Revenue adequacy analysis focused on the ability of the AVRPT to replace the revenues from the three suspended taxes. Of these, the assets tax is generally the largest revenue producer. Although none of the three suspended taxes is levied on a market value basis, in general the definitions of the tax base of the land tax and persons' property tax are substantially the same as the definition for the AVRPT. This led to a supposition that the tax base for the AVRPT could be projected using adjustment factors applied to the existing tax bases. This supposition, however, was soon falsified. The relation between market values and normative values was not reliably predictable. Also, for the assets tax, there are two complications. First,

the tax base encompasses many more assets than are subject to the AVRPT, such as inventories, motor vehicles, and livestock. Second, the tax is generally payable in the city where the enterprise is registered, not where the land and improvements are sited, although there may be some “sharing” of the revenues collected by the former with the latter.

As a first rough estimate, then, cities having substantial enterprises that are registered elsewhere are likely to gain from the introduction of the AVRPT at the expense of the cities of registration. Intuitively, it also seems likely that cities with enterprises that have substantial amounts of inventory, work-in-process, or other personal property on their balance sheets are less likely to benefit greatly than cities where most of their enterprises’ assets are tied up in land and buildings. For example, office buildings and high-prestige bank buildings are more likely to be revenue productive for the city because their owners have more real property, while shipyards and inexpensively built warehouses are inventory intensive and have less property subject to the AVRPT. Although these facts suggest a method for making very rough projections of the likely impact of introducing the AVRPT, caution must be exercised when applying this technique. Intuitions can be misleading, as some of the analyses by industrial group revealed.

Results to date of the tax impact study of commercial and industrial properties in Novgorod demonstrate the unpredictable nature of changes (the deltas) from the old system apart from predicting the market values and calculating them. Project personnel calculated that the combined effect of replacing the land and asset taxes, including exemptions, with the AVRPT, would produce a diverse set of tax burden changes, even when a hypothetical uniform, revenue neutral tax rate is used. When percentage increases or decreases in the tax burden of individual enterprises were analyzed statistically in an attempt to discover any patterns in the changes, no significant factors were found. Factors considered, but not found to be significant, included the type of activity in which the enterprise engaged, its size, its financial condition, and the pattern of tax liabilities under the current tax system.

A more useful methodology for estimating the feasibility of implementing the AVRPT using highly aggregated data is to divide the revenues to be replaced, including the shares due to all the levels of government, based on the most recent budget adjusted as necessary for anticipated changes between that fiscal year and the time of project implementation, by the estimated tax base. Using budgets as actually implemented, rather than as planned, is probably advisable, given recent tendencies for unrealistic budgets to be accepted based on political

expedience. Costs of the project to be amortized in the first year may be added to the required tax levy, if desired.

The potential tax base of the raions of Novgorod oblast were estimated by multiplying the average market price per square meter by an estimate of the number of square meters of property in an ownership form that permits a tax to be levied. (The analysis could also have been done using data compiled on a per-premise rather than a per-square-meter basis.) Clearly rights characterized as “property” are taxable, but the amount of such property will generally be insufficient to raise the required tax levy at a reasonable tax rate.

Chapter VI, Appendix 1 presents an illustration of this problem from the context of extending the experiment to the raions of Novgorod oblast. As indicated in the appendix, the effective tax rate required to replace the foregone taxes would have to be on the order of 800 percent, a figure that is impossibly high. Imposing land rental changes would only bring the rate down to the neighborhood of 200 percent. The explanation for these figures lies in at least three causes that have not been quantified reliably as of this writing. First, the tax burdens here, and in the pilot cities, appear to be quite high under the current tax system. Second, the true market values of the properties comprising the tax base are probably higher than were estimated by the analyst, who relied on figures in official registers, where prices are understated to avoid transactions taxes. Third, there are undoubtedly components of the tax base that have been omitted from the analysis. As noted above, commercial and industrial property is notoriously lacking from BTI records. Also, properties with rights akin to ownership but not registered in the official records will almost surely need to be added to the tax base. Finally, residential property may have to bear a somewhat higher tax burden than it has done in the past.

Given an inadequate tax base, other property rights, very near to “property” will need to be considered. A legal basis may be established for some right forms, such as perpetual use and life long inherited estate, but perhaps not for others, such as economic management, temporary use, use, and leasehold. Estimating the amounts of property (including land) by the type of rights to the property is a very illuminating exercise.

In the first pilot cities such initial estimates not made, in part for fear that the experiment would not go forward if initial indications of the tax rate that would be required were found to be unreasonably high. This reluctance is being repeated in the initial rollout cities, which have

heard that the pilot cities are having difficulty resolving tax base issues. The pilot cities have found the experiment to be highly valuable, especially in connection with the development of an information system far superior to any that preceded it, but they have found that replacing the revenues from the suspended taxes may be problematic. Part of the problem lies in the process by which budgets are made and intergovernmental sharing arrangements are negotiated, and this is exacerbated by the asymmetrical risks of the levels of government. Since the cities bear the costs both of implementing the project and of guaranteeing "normal" revenues to the other levels of government, but must share any benefits, they are loathe to err on the side of optimism or pessimism. The first error sets up difficulties later, and curtails their potential to negotiate better sharing arrangements, and the latter may preclude the experiment from taking place by inhibiting local funding sources for it in the first place. Thus there is an unfortunate institutional incentive for the cities to act in a manner that seems locally irrational in order to be economically rational in the larger scheme of things. At a late stage of the property tax experiment for the first pilot cities an attempt was made to negotiate the sharing arrangements in advance of the tax levy finalization. In particular, the cities wanted to transfer to the highest levels of government no more than was actually shared the previous year, and thereby to secure for themselves any windfall the experiment may yield. These negotiations failed, and at his writing it seems that the experiment may be jeopardized. It remains to be seen whether fixing intergovernmental fiscal relations will be a prerequisite to ensure the implementation of the experiment.

6.4.2. SAMPLE BASED ANALYSES

Several dozen projections of the revenue adequacy of the AVRPT have been done in each pilot city since the start of the experiment. Most have yielded results that have made the experiment seem feasible, with maximum effective tax rates in the range of two to four percent. These analyses, unfortunately, are being challenged by more recent ones based on more nearly complete data. The analyses themselves, however, also signaled their own limited reliability by generating numbers that changed more than trivially from one iteration to another. Among the causes for the substantial changes (and limited reliability) were significant changes to the database and equally major changes over time to the structure and coefficients of the valuation models. The analyses did serve the purpose of accustoming policy makers to the constraints they will likely face in the granting of tax benefits, but in general were subject to more mis-steps than

will need to be repeated in the roll-out cities. Details on some of major experiences are provided below.

Novgorod Non Residential

In Novgorod the first sample-based analyses were made based on a sample of commercial and industrial parcels, specifically those that responded to our Tax Impact Questionnaire (TIQ respondents). There were 174 enterprises and approximately 1500 land parcels and 1500 records of buildings or other improvements. The parcel level information was managed in Access, which was also used to apply the CAMA valuation model to the sample parcels to generate appraised values. Tax benefits information was also managed in Access. Summary queries were used to aggregate information at the enterprise level. The resulting summary files were exported to Excel for ratio calculation and a variety of comparisons between old and new tax rates and additional analyses of tax burden redistribution. Standard statistical programs (NCSS and SPSS) were used to manage and analyze additional data on the kind of activities in which the various firms engage, their financial condition, size, and patterns of previous tax liabilities, in an attempt to discern patterns in the resulting redistribution of the tax burden. As mentioned previously, this search for general patterns was largely futile. The detailed results of the redistribution of tax burden, however, was useful in facilitating the city's deliberations on how to deal with issues of exemptions and other forms of tax relief. In the interest of helping other cities learn from the pilot experience, the futile exercise will be described in greater detail below.

All enterprises having a 1995 tax liability exceeding one million (old) rubles were selected; there were 496 of them. The enterprises were asked to supply the following information:

1. Taxable assets in 1995, the tax liability and the actual asset tax paid, including both buildings and land.
2. A list of buildings and structures owned by the given enterprise and their balance values in 1995.
3. A list of land owned or leased by the given enterprise and the areas and tax/rent for each parcel.

One hundred seventy four enterprises responded. These made up the so-called TIQ sample, which formed the basis for the analyses of the next several months. Its usefulness was limited by problems of data contamination. The study needed data on tax liabilities associated with the most recent year (only), but respondents provided data affected by underpayments, payments of arrears, penalties, interest, and other inaccuracies. The questionnaire data were also affected by problems associated with period discrepancies. During the course of the study the tax base of the old tax changed dramatically. Taxes, payable quarterly, are based on a weighted moving average of liabilities for the prior four quarters as well as the current date. Not only did the tax rate change from 1995, when we started the project, to 1996, the first baseline year for the "old taxes," but the federal regulations prescribing the valuation methodology to be used in calculating the asset tax base changed as well. As a result, the only useful information we were able to obtain on the "before" side of the tax revenue picture were data obtained from the STS. For a completed year, STS records are capable of providing current-year tax liabilities free from the previously noted contaminations. For a tax year in progress, estimates need to be made based on the available data on collections, the patterns of the previous year's true tax liability, and knowledge of any relevant changes in the tax rates or valuation bases.

The questionnaire data on buildings and structures did not allow for identification of separate objects. As a rule the accounting office completed the questionnaire, and their approach differed from the real property tax concept. Thus, in the questionnaire they could write "administration" as one object while actually it might consist of several separate buildings with different numbers of stories and ages. Thus, the majority of the information turned out to be not very useful for our needs. We ultimately managed to receive useful data on about 100 enterprises. The data for other enterprises were taken from the oblast Committee on Statistics in paper format. After this, a decision was made to ask for actual payments in the STS and Land Committee, which we eventually received in the electronic format.

Because there were no data yet in the real property cadastre or in the BTI files for these property types, we had to start working directly with the TIQ enterprises by making field reviews of their property. We also obtained information from local KUMI and Land Committees, where, fortunately, there were several computerized files in addition to paper files. Information on the type of business, size and financial status of the sample enterprises in Novgorod was also gathered. The data for the impact analyses were integrated into a separate personal computer

database, together with the data on old tax liabilities received from the STS and Land Committee.

When the first market values were generated by one of the preliminary CAMA models, we looked closely at objects of the TIQ enterprises whose values were atypical, that is, very small or large. The properties were double-checked with the aim of identifying discrepancies or technical errors such as total area of a building erroneously ascribed to one of its premises, etc. Doubtful data were compiled in spreadsheet files, which were exchanged among city and project personnel for checking and correction. Error resolution and associated quality control tasks required effort at the level of one full-time-equivalent, although it was divided among several individuals.

For construction of the “after” side of the picture, the questionnaire solicited information presumed necessary and sufficient to develop estimates of market values of each of the parcels owned/used by the responding enterprise. These questions were asked in expectation that the construction of the fiscal cadastre would be a long process and would not readily lend itself to acceleration for those parcels relevant to the tax impact study. It turned out, however, that the perception of our respondents, who came primarily from accounting backgrounds, of what constituted a parcel differed from the conception implicit in the AVRPT. Thus the information they provided could not generally be matched to real-world objects and was ultimately discarded. Fortunately, in Novgorod the fiscal cadastre was not being constructed from scratch. Rather, a set of existing computer files was reorganized and augmented from other paper-based records. This situation made it feasible to assign a higher priority to the extraction and development of records relating to the enterprises in the tax impact questionnaire sample. These records became available for tax impact analysis purposes long before the completion of the fiscal cadastre. Initial CAMA modeling efforts generally validated the previously defined neighborhoods or economic zones (*ek-raions*). This information was available in computer records from the land committee. Therefore, the data augmentation efforts were largely limited to ensuring the currency of information on owner/renter/occupants and coding the properties for their use types. The scheme for this was promulgated by the project, but it was derived from narrative (non-coded) information in the computer files of the land committee, so the human effort was minimized.

After the initial CAMA model was applied and the first estimates of market values were made, tax burden comparisons were made and properties of enterprises with large burden changes (outliers) were carefully reviewed. In addition to the outlier review, in-office verification efforts were made on all properties. Of particular concern were properties where it appeared from the combination of use type and square meters that the total area of a building was being attributed, in error, to a single premise located in it. The dubious data were extracted to an Excel file for verification and augmentation and imported as corrected into a revised version of the Access database for another iteration of CAMA model application and tax burden shift analysis. Since residential properties are to be taxed to the occupants, rather than enterprises that constructed them for their employees and may still carry them on their balance sheets (although economic control over them has effectively been transferred to the city), it was essential to eliminate such parcels from the analysis, which was simply done by means of a dedicated 100% exemption code.

During the course of the in-office and field review it became obvious that the CAMA model was not performing appropriately for properties of different sizes and ages. As a consequence, the model was revised structurally to include a size adjustment factor and in other ways to reflect depreciation, age, and location differences. Subsequent refinements to account for quality and condition in industrial improvements were also made. Multiple iterations are to be expected in the course of CAMA model refinement and tax impact analysis. Thus, in the absence of the PTIMS valuation module, it was essential that the database software be flexible enough to permit application of a variety of valuation models.

Before the analysis began, one primary concern in Novgorod was to determine if the loss from the tax base of assets other than buildings was greater than could be made up by changing to a market value basis of assessment for both buildings and land. One suggested solution was to add back into the tax base certain marginal elements of the definition of real properties, such as pipelines and railroads. But in well-developed market economies these types of properties are typically assessed on a unit basis by a higher level of government than those participating in this project. Such properties are appropriately appraised at the national or oblast level, with some fraction of their total value apportioned on a largely arbitrary basis to the various local governments in which the taxpayer has a physical presence.

As a result of these concerns, the primary calculations made from the initially available data were the effective tax rates required to replace the revenues lost from the suspended taxes. A separate rate was calculated for each individual enterprise. The weighted average rate was then taken as the necessary rate to be applied uniformly to all property. The standard deviation of the effective tax rates was taken as an indication of the level of confidence that could be placed in the results. The standard deviation was quite high, but the fraction of the old tax base represented by the Tax Impact Questionnaire sample was about 2/3 of the base, so the effect of the uncertainty/lack of confidence was limited. The weighted average rate was 4.5 percent or 4.0 percent depending on whether the existing pattern of tax benefits was or was not assumed to be carried forward and applied to the AVRPT. This rate, although on the high end of customary practice in developed economies, was lower than initially expected. Therefore, further consideration of adding the pipelines, railroads, and other transmission facilities into the tax base was judged to be unnecessary. The rate also presented a strong argument against an arbitrarily imposed tax rate cap of 2 percent. Although the ideal of a uniform tax rate applicable to all types of property is appealing, it was clear that a maximum tax rate of two percent would not suffice to replace the revenues lost from the suspended taxes absent the necessary political will to increase dramatically the tax rate on residential property. Therefore the federal enabling legislation did not include such a requirement, although it featured prominently in drafts before the initial tax impact results were obtained.

Tax burden shifts were then identified. The following factors possibly affecting those shifts were analyzed:

- business type;
- size of the enterprises;
- financial situation of the enterprise (profitable, average, near bankruptcy);
- current tax liabilities;
- the portion of buildings and structures to the total assets structure.

None of these factors except the last one, as shown by mathematical statistics, significantly affects the change in tax burden. There was a slight indication that those enterprises with a lower share of real property to other assets will be benefited although this

advantage was not considerable inasmuch as the tax burden is generally affected by many factors.

The same sample of 174 enterprises was analyzed to discern the so-called "outliers". The following reasons for such outliers were established:

1. Large tax exemptions which will remain in the new tax system.
2. Overvaluation or under-valuation of assets or land in the existing system of taxation.
3. Land rent at high rates for some types of property such as street vendors.

At various times, additional samples of industrial properties were used to analyze the nature of tax burden shifts, both at the sectoral level and the individual taxpayer level. In general, the determination of the applicable tax rate was outside the scope of the analysis of the sample data set. One such sample included all the enterprises for which the real property cadastre then had information on buildings, structures and land, and also parcel identification numbers (PINs). The PIN was a necessary link to match tax liability files in the old and new systems. There were 700 enterprises satisfying these conditions. A second sample included the largest enterprises and a representative selection of additional enterprises in the city, by sector. This sample of 298 enterprises was used to analyze burden shifts for individual enterprises, and to research the causes of "outlier" results.

In general it appeared that enterprises in the trade, supply, restaurant, communications, bank, insurance, and intermediary categories would be relatively benefited by the tax change relative to other kinds of businesses. The tax on industrial, power, and construction enterprises would remain largely unchanged. Housing and communal service enterprises, and enterprises in the social and cultural sector would be considerable losers in spite of having the lowest assessment ratio (30 percent). Transportation, service enterprises, hotels, research and public institutions would face increased tax burdens to some extent. These general trends were identified impressionistically and could not be confirmed as statistically significant. In the analysis of the second sample of 298 enterprises, it was found that 38 of them had assets tax and land tax exemptions, 186 were owners of their buildings and lands and therefore potential owners of the new tax, and 210 were renting land. When rental considerations are added to tax considerations and total burdens calculated on a before-and-after basis, tenfold changes were not uncommon.

Novgorod Residential

At a much later date, when the commercial and industrial database was largely complete, an analysis of residential property was undertaken on a sample basis. The sample was limited to apartments having various sizes, numbers of rooms, wall materials, and locations in the city. The following assumptions were employed:

- a real property, not a physical person would be the object of taxation; therefore the total tax liability would not be affected by the number of residents or owners;
- differential effective tax rates would be employed for major classes of property, to be implemented by means of several assessment ratios. These would be used to benefit housing. Whereas the maximum assessment ratio of 100 percent would apply to commercial properties, an assessment ratio of 2.5% would apply to residential property. (Under the terms of the federal enabling legislation, the effective tax rate for residential property cannot be more than 50% of the maximum effective tax rate);
- a nominal tax rate of 4% of the assessed value of the real property would apply to all property types;
- all exemptions in the current property tax and land tax would remain to protect low income taxpayers, e.g. full exemptions granted to pensioners, war veterans, the disabled, etc.

Tax burden shifts were calculated for different apartments and with different assessment ratios. With an assessment ratio of 2.5 percent and a tax rate of 4 percent, (for an effective tax rate of 0.10 percent) the annual tax burden would increase by 2.5 to 3 times against the current one. An owner of a one-room apartment would pay about 30 to 40 rubles per year⁸. An owner of a two-room apartment would pay from 60 to 70 rubles. An owner of a three-room apartment will pay 90 - 120 rubles annually. If the assessment ratio were increased to 10 percent, the tax amount would increase tenfold to twelve-fold over current liabilities; the city administrators believed this to be an unacceptable rate of increase.

⁸ Although the analysis was made before the ruble was redenominated, the figures quoted here are in redenominated rubles.

For purposes of studying the likely coordination problems between tax policy and naim policy, a sample of 250 apartments in Novgorod representative in terms of location, year-built, number of rooms, total and living area and form of ownership (private or municipal) was formed. A market value for each apartment was estimated and its hypothetical tax liability assessed. Then an occupancy fee for each apartment was calculated using the method that will be adopted together with the new tax (for municipal apartments only). The results showed that tax burden shifts depend on the quality of apartment. With the city's preferred rate and ratio, the tax liability remains near the present level for typical (standard) apartments; it increases for apartments with more than three rooms or apartments with larger areas. Thus, for a three-room apartment downtown (Volosova Street) the tax liability is about 3 rubles/month (under the old and the new systems). For a five or six-room apartment the real property tax will be about 5 rubles/month while the old tax liability does not exceed 3 rubles. The naim payment or occupancy fee for municipal apartments is consistently three to five times higher than either the old or the new real property tax.

Tver

In Tver tax impact analyses began the in early 1997. At that time the city had completed a considerable amount of work on real property cadastre construction. BTI data were entered on all residential real property. However only 1,500 out of 6,000 enterprises had data on their real property in the cadastre. For analytical purposes only some 800 enterprises could be used. The remaining 700 enterprises were missing the codes in the cadastre that are necessary to match records with STS files so that data on current tax liabilities could be obtained.

CAMA valuation models were applied to industrial and commercial property and to apartments and single-family houses. The cadastre already had data on the majority of real property, although the data were not complete. Therefore expert appraisals were used for some property types. This was done through comparison of the available data with similar data in Novgorod, adjusted for Tver specifics. Questionnaires were sent to about thirty of the largest enterprises, similar to the practice in Novgorod, asking for information about their real property. Data on current tax liabilities were obtained from the local STS and the Land Committee, while data on businesses were gathered from the Registration office of the city administration. Because the BTI data were incorrect and incomplete, field reviews were organized in Tver to clarify technical characteristics.

Tax rates and land rents were calculated assuming that taxes would apply to currently owned real property and land held with rights equal to ownership, that rent rates would be equal to the real property tax rate, and that valuations for land rent would be the same as those for the property tax. Two scenarios of land rent calculation were considered. Under the first scenario the tax base and the rent base of a real property would be the value estimated by the CAMA model and all the assessment ratios would be equal to one. Under the second scenario, the assessment ratios would vary according to property type and be the same as for Novgorod.

- commercial real properties - 100%
- industrial real properties - 70%;
- buildings and structures of social and cultural designation - 30%;
- residential real properties - 1%;
- land plots - 100%.

At the time, revenue neutral tax rates were calculated to be 1.54% if applied universally or 4.67% for the classes with assessment ratios of 100% in the second scenario, with other classes enjoying lower effective rates as compounded by their assessment ratios. These effective tax rates were significantly lower than the corresponding ones being estimated for Novgorod, so there was much less perceived need to expand the analyses to encompass rental policies.

The review of tax burden shifts on legal entities suggested two factors affected the size of the tax liability: the type of business and the total area of the buildings and premises of the given enterprise. The latter appeared to affect only enterprises in the trade, supply, retail services, social, cultural, and fundamental research sectors. Small enterprises tended to be winners and large ones losers here. The pattern of tax burden shifts appeared somewhat similar to that of Novgorod; among the potential winners are retail enterprises, restaurants, transportation, communications, banks, insurance companies, and power enterprises. In contrast, cultural, sports, education and public organizations, housing/communal-service enterprises, and state management bodies tended to bear increased burdens. The case for construction companies and industrial enterprises was mixed. In no cases were the patterns of the apparent results shown to

be statistically significant (greater than might have arisen by chance), although the magnitudes of some of the apparent shifts would be highly significant in a fiscal economic sense.

A sample of 180 of the largest enterprises-taxpayers was made in Tver to study tax burden shifts. For each of them a new consolidated payment consisting of the real property tax plus land rent was calculated under the two scenarios. For 25 enterprises (14%) the new liability grew by over 2.5 times.

Analyses for physical persons were also made in Tver, based on a 200-apartment sample. As in Novgorod, in Tver the property tax has been always lower than the occupancy fee for the similar municipal apartments and will remain so under the new tax and the methodology envisaged for the occupancy fee calculation. New consolidated payments varied according to the size of apartment.

6.4.3. POPULATION ANALYSES

The next step in Novgorod was to repeat the analysis using not merely a sample of commercial and industrial properties but rather properties of the entire fiscal cadastre. This is the primary approach taken in Tver. This approach has the advantage of eliminating sampling error⁹. Its main drawback is that it requires a great deal of judgement and intuition to obtain much useful information from this approach until the fiscal cadastre is completed, which is a time consuming and expensive process.

Absent a need to explore the issue of stretching the definition of taxable real estate to encompass pipelines and other transmission facilities, and absent a sample of taxpayer-by-taxpayer data on current tax liabilities, the Tver analyses principally addressed the issue of revenue adequacy. To compensate for the incomplete status of the fiscal cadastre, various estimates were made of the percentage completion of classes of property in the cadastre. These percentage estimates were then incorporated as weights in the analysis. Other significant points where human judgement entered critically in the analysis were in the estimation, on a gross basis, of the percentage of a class of property that was likely ultimately to be exempted or otherwise excluded from the tax base. Finally, the Tver analysis explicitly contemplated the possibility that not all the taxes due would be collected, and therefor it used percentage estimates

⁹ Of course if the cadastre is not complete sampling error is not eliminated. If the original sampling plan was better than the intuitively developed weightings used to compensate for omissions sampling error could even increase.

of uncollectable taxes, by class, to build an allowance indirectly into the specification of the revenues required to be raised. All of these judgmental factors are explicitly shown on a spreadsheet, where they could be changed easily and combined with other, more reliably known information and policy options, such as assessed ratios by class of property, to project likely results. By changing the model parameters, the sensitivity of the analyses to the assumptions being made can be measured. A sample of such an analysis is included in Appendices 3 and 4.

As mentioned above, the majority of the analyses in Tver indicated that the tax effort there would not be as strenuous as was expected in Novgorod. Unfortunately, at a late date in the experiment it was decided that the available data on registered rights in property were not adequate for the imposition of the tax. That is, some of the property assumed to be taxable might not be. At the time of this writing it is not known to what extent the desired revisions to rights data will erode the tax base.

The search for patterns in the distribution of changes in the tax burden from the old system to the new (and the failure to find any that were significant) yielded a variety of interesting insights. The methodologies employed included classical analysis of variance, multivariate regression analyses, and non-parametric statistical tests, principally Mann-Whitney and Kruskal-Wallis. Where appropriate the data were re-scaled using logarithms and other transformations to account for the asymmetric distributions of some of the data, particularly ratios. The failure to find significant patterns was explored further, and the following explanations were developed. Under the old taxes a variety of exemptions that will not all be continued distorted the before side of the picture in a largely arbitrary way. The failure to find significance in the structure of the enterprises assets (as between real property and property excluded from the new tax base) is probably a result of the freedom that enterprises had in the valuation of their assets. Although the assets have a normative value based on standard tables, with values factored up for inflation by officially promulgated coefficients, the enterprises were also free to contract with professional appraisers for selected revaluations of assets for which the normative value procedure was thought not to work correctly. Thus the asset tax base appears not have borne no predictable relationship to market values as estimated by the project. The lack of a significant finding with respect to location probably has two causes: the fact that location figured in the computation of liabilities under the prior tax regime and the difficulties inherent in conducting such analyses validly at an enterprise level when many enterprises have multiple

locations. Since old-tax data are available only at an enterprise level, not a parcel level, the possible analyses were circumscribed.

6.5. METHODOLOGICAL LESSONS LEARNED

6.5.1. COLLECTION OF DATA ON TAXPAYERS

Enterprises

Industrial enterprises, commercial firms and other legal entities are currently paying assets taxes under the federal law "On the Assets Tax on Enterprises". The law describes tax exemptions granted to legal entities with regard to their total assets or a portion of their assets. Among those exempt are budget-funded organizations, cultural, educational organizations, enterprises where disabled are employed, garage co-operatives, orchards' co-operatives, and others. Some types of property are also tax exempt, such as land, housing and communal property, social and cultural facilities, real property for environmental or fire-protection purposes, property related to civil defense, and the like. Local governments have the right to introduce tax exemptions for some categories of taxpayers. Land tax exemptions are granted under the federal law "On Land Payments." Again, local governments may also grant land tax or rent exemptions.

The data on the taxpayers of the assets tax and the tax liabilities of the existing taxpayers can be found in the local branch of STS, while data on land or rent payments may be taken either from the Land Committee or from the STS. Local governments may also give some benefits to renters of municipal real properties.

When comparing current and future tax liabilities of legal entities, one should be very careful because such data may vary depending on the data source. Thus, when data are needed from an enterprise, the current tax liability is a simple total of tax liabilities levied on all real property of the enterprise, less tax exemptions, if any. Data provided by the STS may or may not include tax exemptions; in addition, such data may contain delinquencies, fines interest on arrears, actual paid tax instead of the assessed tax, etc. Therefore in making requests one must carefully specify the information needed. It is best to obtain net tax liabilities and tax exemptions reported separately. Information on arrears, penalties, and the like is not needed at all on a

taxpayer-by-taxpayer basis. (Such aggregate information may be useful in constructing an allowance for uncollectable taxes, though.) When asking about the tax base, the so-called residual annual value is required rather than the balance value.

In general it is undesirable to ask for these data from enterprises. Even if the request is very clear and excludes ambiguity, there will still be respondents who will misunderstand your request. It is preferable to receive data from a single source like the STS. In this case the data will be comparable. It is also preferable to receive electronic files instead of paper files.

Physical Persons

Under existing law, owners of non-commercial real property must pay a property tax. Among such owners are owners of residential housing (privatized apartments and single-family houses), garages, and dachas. The law grants exemptions to the disabled, war veterans, victims of the Chernobyl accident, pensioners, etc. Local governments are allowed to grant additional tax exemptions to categories of taxpayers. Essentially all current taxpayers except for owners of transportation vehicles are potential taxpayers of the new real property tax. Information on currently liable taxpayers and their tax liabilities can be obtained from the STS, KUMI, KUGI and BTI. Delinquencies on this tax are high, and in general it costs more to administer than it raises in revenue.

Physical persons may also be liable for the land tax if they own land. Information on land taxes may be obtained from the STS and the land committee.

6.5.2. COLLECTION OF DATA ON PROPERTY

Residential Property

Residential property includes the following:

- municipal apartments and rooms in communal (shared) apartments;
- apartments (rooms) owned by physical persons (privatized);
- apartments used by dwelling co-operatives;
- individual single-family houses.

Data on all of the above property types are maintained by the Bureau of Technical Inventory (BTI), and these data are used for the fiscal cadastre construction. Data on municipal apartments and housing fund privatizations are also available in KUMI (Municipal Property Management Committee). Whether BTI and KUMI archives are up to date should be established by means of interviews and a field review exercise of the sample properties.

Individual dachas (garden houses) and garages

Individual dachas and garages may be owned either by physical persons or dacha and auto co-operatives. Data on such properties located within the city administrative boundaries should be available in the BTI office. The city administration should decide when, if ever, they should be included in the analyses, since tax revenues generated by these property classes are likely to be insignificant and the cost of collecting the data will be high if the BTI records are incomplete. Additionally, local governments may exempt these properties from the property tax on physical persons. For instance, in Novgorod, a total exemption from the property tax on physical persons was planned for dachas and individual garages.

Land parcels

A certain portion of the total city land is owned by enterprises, another portion is owned by the municipality (some of which is rented to enterprises), an additional portion is owned by physical persons, and a large fraction of the land within the city boundaries is of uncertain ownership. Data on location, area and ownership rights to land parcels are available in the Land Committee.

For purposes of valuation and tax impact analysis, the following land characteristics are required:

- land parcel area;
- zone in which the given parcel is located;
- land parcel address transformed into XY-co-ordinates (possibly only for a sample of land parcels, as noted below);
- a given taxpayer's share in a given land parcel (if a parcel is used by more than one potential real property taxpayer);

- land use code assigned according to the scheme devised by the valuation modelers

Property X-Y co-ordinates are required for mass appraisal model-building in order to identify the pattern of locational value influences and perhaps to locate value influence centers. Once the patterns and influence centers have been determined, the model may be reformulated to treat supposedly homogeneous areas uniformly. In this case only the zone is needed, not the precise X-Y coordinates. In any even no real world reference frame is needed. It is sufficient if all points can be unambiguously located and if distances between any two points are not distorted. It is not necessary to know where any point is with reference to external criteria, such as the equator or the Greenwich meridian.

Industrial and commercial property

Properties of this class may be owned either by enterprises or by the municipality and rented to legal entities. The ratio between the former and the latter ownership patterns varies from city to city depending on local specifics. The rate of transition of municipal buildings and premises into ownership by enterprises depends on the will to facilitate development of the real estate market. Other considerations also play a role. In the cities of Novgorod and Tver, many municipal buildings are located in the historical part of the city and are protected by law. They are thus perceived not to be subject to privatization. Another consideration especially prevalent in Novgorod city is the practice of incorporating into lease agreements specific provisions for the improvement and further maintenance of rented buildings or premises, particularly those in historical locations. The data available to the project did not permit a determination of the extent to which such covenants exerted a measurable effect on market values. In fact, no rights-related value determinants were found to be measurable. State (municipal) data are available in KUGI and KUMI, which corresponds to the data on these properties available in the BTI office.

For purposes of valuation and, therefore, tax impact analyses, data are required on the following characteristics of building and premises:

- total object area (building or premise area);
- land area assigned to this building;
- year built;
- story height;

- wall type;
- city rayon code (zone code);
- a taxpayer's share in a given object (if a building or premise are used by several legal entities);
- object use code;
- overall use code as assigned by the valuation modelers

Data on all of these characteristics except for the last two are typically available in the archives of KUGI, KUMI, and BTI. Obtaining data on uses of properties can be done several ways, perhaps most efficiently from the housing maintenance agencies. Alternative sources of information include cross checking whatever business listings may be available.

The most difficult task is to obtain data on objects that are on the balance sheets of enterprises. Under the old system, the enterprises themselves were responsible for the valuation of their properties in order to calculate asset tax liabilities related to their buildings, premises and structures. Many industrial and research-and-production enterprises were "closed," meaning access restrictions applied both physically and with respect to the disclosure of data on their property characteristics. Thus there was little incentive for BTI files to record such properties, in contrast to their records on residential premises. In general, BTI archives contain inaccurate information on properties of enterprises and omit most such properties altogether. To obtain property data on enterprises, a field inspection is typically necessary. Collection of data from enterprises should be organized in order to obtain data on property characteristics of the enterprises in the tax impact analysis sample first.

A pre-condition of the accuracy of the fiscal impact analysis results is unambiguous identification of both taxpayers and real properties in the computer database. It is inappropriate to use the names of enterprises as their identifiers. A single enterprise may be entered with several names, e.g.: full name, short name, old name, etc. Any extra dash, space, or period put in the enterprise's name during data entry can cause problems when the computer recognizes these two names as two different enterprises. Therefore, taxpayer and property codes are essential. A national system of identification of taxpayers is the INN (Individual Number of Taxpayer). A parallel code system, OKPO clearly is intended to identify any legal entity within the Russian

Federation. During tax impact analyses, the first code system appears preferable, since it is used by the Tax Inspectorate and therefore allows data on an enterprise to be easily linked with data on its objects and with land and property tax liabilities under the old tax system.

The unambiguous identification of real property objects is not easy. Typically, cities have existing land coding systems under which a cadastre number is assigned to every land parcel. The coding system is theoretically clear, but ambiguous in its detailed application. In the Novgorod oblast project it was found that more than half of the land area was lacking properly assigned cadastral numbers. Even in the pilot cities there were substantial efforts required to perfect their assignment. The structure of cadastre number incorporates identifiers of a region, cadastral massive, quartile, and sub-quartile. But real properties (buildings and premises) attached to parcels are not identified by the same cadastre number of a given land parcel, and in order to distinguish between different buildings, or enterprises BTI typically uses letters and numbers, such as a, b, a1, b2, a-prime, etc. Such a classification is clearly not well suited to automation. In constructing the Oracle-based PTIMS, arbitrary record numbers were used to ensure there would be no ambiguity, although the old notation was also carried forward for reference purposes.

6.6. RESULTS TO DATE

The analyses done to date have had a number of salutary effects. They have at least tentatively resolved the issue of the need for expanding the tax base. They have illustrated the relatively high levels of taxation now being imposed. They have made explicit the need to minimize exemptions and other tax benefits in order to preserve a tax base sufficient to raise the desired amount of revenue. And they have given urgency to the need to seek out new revenue sources, including considerations of land-rent policy changes and changes in housing maintenance/rental fees. The data requirements for the analyses have also helped to inject a dose of reality into an otherwise academic consideration of alternative mechanisms for delivering tax relief and other kinds of social benefits. The likely land use consequences of the change in taxation are beginning to be clarified, and the public relations steps necessary to justify the tax burden changes both to the general public and to the most seriously affected taxpayers have also been highlighted. The primary methodological conclusion is that sample based analyses are

better accomplished without using a questionnaire, using STS-obtained data combined with fiscal cadastre data instead.

The primary substantive conclusion is that keeping the maximum effective tax rate under five percent of market value will not be easy (although that is the highest rate expected to be supportable). The appendices and text have illustrated the troubles faced by the cities in keeping the tax rate to reasonable levels while protecting residential property owners. At the time of this writing, Novgorod had the most reliable data due to Tver's problems with data on property rights. In Novgorod, the total tax levy needs to be on the order of \$16.5 million, but to raise this amount a uniformly applied effective tax rate of 5.78 percent would be required, applicable to all property types, including residential (in contravention of the enabling law). Using the effective tax rates desired by the city administration (2 percent for commercial, 1.4 percent for industrial, 0.02% for residential) only \$4.6 million would be raised. Raising the remaining \$12 million through land rent policy changes is being considered, but the change is probably too much. The three available alternates seem to be raising the burden on residential property owners, finding additional components of the tax base, and scrapping the tax reform. The second offers some promise due to two considerations. First, non-building industrial structures might be added to the tax base, although removing them to provide an investment incentive to industry was a significant argument in favor of the tax reform. Second, there is some hope that the cities may have a reserve of "undiscovered" tax base that will materialize only after negotiations on intergovernmental revenue sharing have been finalized. The ultimate resolution of the problem remains very much in doubt at this writing.

Because of its position at the forefront of the fiscal cadastre development process, the needs of the tax impact analysis drove many developments and yielded a number of secondary benefits. These included highlighting data quality problems, deficiencies in the valuation models, and problems in the program of completing the highest priority elements of the fiscal cadastre. Most important of all, though, the tax impact analyses provided the necessary level of comfort to go on with the project in the face of the inevitable uncertainties that surround it.

CHAPTER VI APPENDICES

- 1. TAX IMPACT ESTIMATE**
- 2. PTIMS STANDARD STATISTICAL REPORT**
- 3. TVER TAX IMPACT ANALYSIS, PRELIMINARY**
- 4. NOVGOROD TAX IMPACT ANALYSIS, DRAFT 33**

CHAPTER VII

VALUATION MODELING METHODOLOGY AND ASSESSMENT FUNCTIONS

Property valuation and property tax assessment are two separate but closely related functions. Valuation is the process of assigning a value to every property in the jurisdiction. For purposes of the experiment, the base of tax is to be an estimate of market value obtained through the use of a computer assisted mass appraisal process. The tax assessment function is the process of establishing the tax liability for each property in the jurisdiction. After the estimate of market value has been determined, the “legal” assessment ratios and exemptions are applied. According to the Experiment Law, the local administrations are given authority, in most cases, to set the assessment ratios and exemption policies. The exception is that the residential property tax base cannot be more than 50% of the market value.

It is common practice for properties to be classified in separate categories, for example, by commercial, industrial, residential, or agricultural use. Policy makers can determine the percentage of market value to be taxed based on the property use category. Traditionally, agricultural and residential properties are taxed on a smaller portion of their market value than commercial and industrial properties. The tax rate may be uniform for all classes of property or may vary by property use categories. Tax billing, collection accounting and enforcement and compliance monitoring complete the assessment process.

7.1. VALUATION

The privatization of property will facilitate development of the real estate market in Russia. The existence of a real estate market implies a price for real property. However, this market price is always a subject of private agreement of the parties. Thus it is not a perfect indication of the market specifics, since it can be affected by arbitrary and personal factors. The experience in market economy countries shows that the basic values of various characteristics of real properties are the price paid at the time the property enters into a sales transaction. From this information, an appraisal model is developed which can be applied to all like properties

which have not entered into sales transactions. This value model is a more reliable indication of supply and demand than the actual sales price because it is not affected by arbitrary factors.

To create this valuation model, which has to include the basic value characteristics of all real properties, it is necessary to develop a clear valuation technique. The computer assisted mass appraisal method best suits the purpose of valuation and allows the property tax administration to value large groups of properties with a minimum amount of time and financial costs.

For the most part, property tax administrators practice mass appraisal. Using standard data sets, mass appraisal models, and quality assurance procedures, they are able to appraise large numbers of properties economically. Mass appraisal, like single-property appraisal, is applied economic analysis. In appraisal, factors affecting the supply and demand of real estate are expressed in valuation models (formulas). Using statistical methods and computer-assisted mass appraisal (CAMA) systems, property tax administrators can produce appraisals that take into account more supply and demand factors than usually are considered in conventional single-property appraisals. Consequently, mass appraisals can be highly accurate.

In contemporary mass appraisal, the major analytical activity is called "valuation modeling." A valuation model is a mathematical representation of the behavior of the real estate market at a particular time. There are four steps in mass appraisal modeling: (1) specification, (2) calibration (3) application, and (4) review and evaluation. Specification involves deciding which supply and demand factors to consider (such as land area and number of stories of the building) and their assumed relationship to market value. That is, do they add to or detract from value; is the mathematical relationship additive or multiplicative? Calibration is the analytical work necessary to quantify the relationships postulated in the specification process. Two computer-assisted techniques for calibrating mass appraisal models are in widespread use: multiple regression analysis (MRA) and the adaptive estimation procedure (AEP or "feedback"). Application is the mechanical or computerized process of estimating property values by applying the calibrated model. Review and evaluation is the work the property tax administration does to ensure that the mass appraisal models are performing satisfactorily. In the best of mass appraisal practice, each computer-generated value estimate is reviewed before an assessment notice is sent or before the value estimate is used by the tax administration system to generate a tax bill. Evaluation also includes ratio studies of the new values.

The valuation model builder should review data needs early in the modeling process. The review should consider the completeness and accuracy of the data. In addition, a profile of property characteristics should be developed. This profile will identify the types of properties for which the model will be valid. Atypical properties present two problems. If they are used in model calibration, the valuation model may be skewed so that it will not accurately represent typical relationships between property characteristics and property values of typical properties. Conversely, a model that is well specified in terms of typical value relationships may not work well on atypical properties.

7.1.1. APPROACHES TO VALUE

Mass appraisal models typically are based on three broad “approaches to value,” (1) the sales comparison approach, (2) the income approach and (3) the cost approach.

Sales Comparison Approach

If sufficient sales data are available, mass appraisal models based on the sales comparison approach provide the most supportable estimates of value. Initially, simple models are advisable. However, the property tax administration should plan to employ more sophisticated models as real property markets develop and the volume of available sales increases. The methods used to calibrate the models might begin with spreadsheets and descriptive statistics. Multiple regression analysis can be used when the volume of sales in a model group exceeds 30, or 4 sales for every independent variable in the model. Similar criteria can be used to evaluate the feasibility of using adaptive estimation procedures.

In mass appraisal, the sales comparison models generally have the following general form:

$$V=f(X_1,X_2,\dots,X_N),$$

where V is estimated sale price, f stands for “a function of”, and $(X_1\dots X_n)$ are property characteristics. Models may be additive, multiplicative, or “hybrid” in form. Multiple regression analysis or the adaptive estimation procedure may be used to calibrate the models. In addition, the traditional sales comparison model can be automated and market calibrated. The traditional model takes the form:

$$V=S_C+ADJ_C$$

where V is a market value estimate, S_C is the sale price of a comparable property, and ADJ_C is the total value adjustment to the sale price of the comparable for the quantitative and qualitative differences between attributes of the comparable and the subject property.

Income Approach

The income approach refers to procedures for finding the present value of the income a property is expected to generate in the future. The approach is therefore appropriate for the appraisal of income-producing property. The income approach is based on the premise that the value of such a property is directly related to the amount, duration, and certainty of the income that will be generated by the property. The notion that income receivable in the future is always worth less than an equal amount of money currently in hand (the concept of time preference) underlies all income approach techniques. The degree of time preference can be viewed as a function of four factors: anticipated loss of purchasing power (inflation), loss of liquidity, the cost of investment or loan management, and risk. These factors are combined to form a capitalization rate, defined as the relationship between income and value, as in the formula:

$$R=I/V$$

where R is the capitalization rate, I is income, and V is value. If the income from a property is known, the capitalization rate can be determined. We can estimate value by simply rearranging the equation above as follows:

$$V=I/R$$

Hence, if annual income equals \$10,000 and the capitalization rate is 0.16, the value of the property is:

$$V=\$10,000/0.16 = \$62,500.$$

An examination of this example will reveal that for a given amount of income, a higher

capitalization rate will result in a lower property value, and vice versa. The greater the risk, inflation, and the like, the greater the capitalization rate. (It should be noted that the second equation represents a special, basic capitalization model or formula technically, it is the formula for capitalizing an endless, level income stream in perpetuity.)

In mass appraisal practice, separate models can be developed to estimate market rents, vacancy and expense ratios, income multipliers, and overall rates in order to accommodate finite income streams, variations in the amount of income, and variations in components of the capitalization rate.

Market rents can be estimated as a function of property characteristics:

$$\text{Market Rent} = f(X_1, X_2, \dots, X_n),$$

where $X_1 \dots X_n$ are variables relating to property characteristics. Market rents should be expressed on a per-unit basis, for example, rent per apartment unit or rent per square meter of gross leaseable area. Important independent variables include size, effective age or condition, and economic area or neighborhood. Market rents used in the analysis can be gathered by questionnaire, through field interviews, or during the appeals process. The models can be effectively calculated by additive regression. Expense ratios can be calculated in a similar manner:

$$\text{Expense Ratio} = f(X_1, X_2, \dots, X_n).$$

Again, important independent variables include size, condition, and location, as well as property type. If the model is formulated so that the variables are calculated with respect to standard or typical features, the constant in the model can be interpreted as the typical expense ratio. Development of expense ratios in this manner assumes adequate expense data, which are more difficult to collect and analyze than gross income data. Where adequate data are not available, industry norms sometimes can be used.

Once expense ratios have been estimated and used to compute net operating income (NOI), overall rate (OAR) models can be developed:

$$\text{OAR} = \text{NOI/SP} = f(X_1, X_2, \dots, X_n).$$

The independent variables should include factors that help explain variations in overall rates, such as location, building condition, and (sometimes) land/building ratios. Again, if these variables are expressed about the average, the constant from the model will reflect the typical OAR.

Gross income multipliers (GIMs) often provide a practical and effective alternative to net income equalization:

$$\text{GIM} = \text{SP/GI} = f(X_1, X_2, \dots, X_n).$$

Theoretically, the model should include those variables important in estimating OARs, as well as those that relate to expense ratios, since GIM includes no expense allowance. From a practical viewpoint, however, the same variables, particularly location and condition, tend to be important on both counts, so that a GIM model may be no more complex than an OAR model. Gross income models do not require the collection and analysis of expense data.

The above analyses can be done on spreadsheets if the samples are small enough. The chief advantages of direct sales analysis are that the estimates directly reflect market activity and the pattern of the estimates provides information as to their reliability. Regarding the latter advantages, if the estimates in a stratum cluster around a central value, and if the pattern of estimates among strata is consistent with expectations, the estimates can be relied on. On the other hand, if the estimates vary greatly or if the pattern is illogical, the estimates can be judged unreliable.

The Cost Approach

The cost approach is applicable only to properties with buildings and other improvements. It is based on the premise that the value of such a property equals the cost of acquiring an equally desirable substitute, with the process of acquisition being the production of the substitute building in this case. The cost approach therefore begins with estimating the cost of constructing a new but otherwise equally functional building (replacement cost new or "RCN") on the same site as the property being appraised. The site is appraised as if vacant and available for development at its highest and best use. The market value of the building is

estimated in two main steps. First, the current cost of constructing the building is estimated. Market value, however, is based on the building in its current condition and circumstances. If the current cost of the building is greater than its current market value, the difference is termed accrued depreciation or diminished utility. The second step, therefore, is to estimate the amount of accrued depreciation from all causes.

The estimation of the current cost of the improvements requires a detailed description of the design of, and materials used in, constructing the improvements. The approach also requires data on current costs of labor and materials. In addition, data are needed on other direct and indirect costs of construction. Statistical agencies and firms may compile data on building costs, eliminating the need for the property tax administration to do it.

In mass appraisal, current building costs are expressed on a per-unit basis (for example, per square-meter) and arranged in schedules, which are compiled in a cost manual. Separate schedules are developed for each building type and construction quality class. Computerizing cost schedules speeds calculations and improves accuracy. The schedules can either be reproduced through a computer table or, to some extent, approximated with formulas. The latter approach reduces processing time and facilitates updating. Computed values may not exactly match those produced from the manual.

Cost manuals should be clearly written and contain complete instructions, including sample photographs of each building class. The manual should also be accompanied by a form that organizes the required data in a logical sequence for collection and permits the data collector or appraiser to check or circle common features or enter appropriate codes from the manual for less common features. Such codes can eliminate the need to cost the item separately if the manual is computerized. In addition, there should be a training program that introduces data collectors to the importance of accurate data and explains proper use of the manual, as well as standard operating procedures and conduct in the field.

The success of the cost approach depends on reliable estimates of accrued depreciation. By definition, depreciation is loss in value from any cause. Accrued depreciation includes physical deterioration, functional obsolescence, and economic obsolescence. Physical deterioration refers to the state of repair of an improvement. Functional obsolescence measures with how well designed an improvement is relative to current standards of performance, use, and

architectural taste. Economic obsolescence relates reductions in utility due to conditions outside the boundaries of the property itself. As an example, the construction of a new highway will affect existing traffic patterns and will adversely affect the values of commercial properties along streets with less traffic. For this reason, economic obsolescence sometimes is called locational obsolescence, but that term has more limited connotations than economic obsolescence.

In mass appraisal, standard depreciation allowances are contained in tables or schedules. These depreciation allowances should be derived from market data. The derivation of market-based depreciation schedules begins with the calculation of building residual values (sale price less land value), which are divided by estimated replacement cost new (RCN) to yield percent good. Percent good is then plotted against age or effective age:

$$\% \text{ Good} = (\text{SP} - \text{LV})/\text{RCN} = f(\text{age}).$$

From the plot, one can visually construct a smoothed percent good table. Or, if one prefers, depreciation tables can be derived in a similar manner by plotting the complement of percent good against age or effective age:

$$\% \text{ Depreciation} = 1 - (\text{SP} - \text{LV})/\text{RCN} = f(\text{age}).$$

(Loglinear multiple regression analysis can also be used to calibrate nonlinear relationships between age and amount of depreciation.) The success of this approach requires that land values be rational and consistent. Separate depreciation models should be constructed for different property types and locations.

The cost approach is generally easier to implement in jurisdictions with relatively new structures.

7.1.2. LAND VALUATION

Special attention should be devoted to land valuation because accurate land values form the base of an effective appraisal system. A credible land valuation program requires that land values be updated regularly to reflect the current market value.

Land is best appraised by the sales comparison approach. Where sales are inadequate, other techniques must be used. Mass appraisal of land involves developing models of per-unit land values through analysis of local sales. These models are documented in tables of land rates and adjustments and in land value maps.

A preliminary step in the mass appraisal of land is the determination of appropriate strata and units of comparison. Appropriate bases for stratification include “zoning” or permitted use, location or neighborhood, and size of parcel. Stratification ensures that land values will be based on market data for properties subject to similar supply and demand factors. Land in each use or zoning classification should be assigned an appropriate unit of comparison to facilitate analysis. The chosen units should reflect that way in which market participants analyze land values. If parcels are fairly uniform in size, the parcel itself might be the unit of comparison. If parcels vary in size, an area measure should be the unit. Street frontage is another frequently used unit of comparison. Land sales should be expressed as price per unit and plotted on maps. This helps make patterns visible and establish benchmark values.

Per-unit land values tend to vary with size and depth of parcels, and appropriate adjustment factors should be developed. Depth factors (arranged in tables) can be used to adjust frontage values for varying depths of lots. Similar adjustment factors may have to be made for irregularly shaped parcels, corner locations and so forth.

Geographic information systems (GIS) can be used to display sales and other selected data on maps tailored to the analyst’s needs. For example, one could display vacant land sales occurring in the last two years along with sale price per square meter and date of sale. Such systems require that parcel boundaries be digitized or otherwise geocoded, a time-consuming and expensive venture. As an alternative to full-scale GIS system, PC-based mapping packages can be used.

In addition to using automation to organize and display data, computerized land models are possible. To prevent the model from being dominated by several high value sales, the dependent variable is best expressed on a per unit basis (for example, per square meter):

$$SP/UNIT = f(\text{land characteristics}).$$

Land characteristics may include size, shape, topography, traffic, view or frontage, and

distance variables. The model can be calibrated with either additive or multiplicative MRA. Global response surface analysis can also be used. Although successful results have been reported, land valuation models often prove unacceptable, reflecting the inherent difficulties of land appraisal. Sales prices may be insufficient in number or unreliable, and capturing the situs value of individual parcels is difficult. Even where land value models cannot be used directly, however, they can help establish market relationships and appropriate adjustments for situs factors, such as corner location, lake frontage, oversized lots, and so forth.

Land appraisal is particularly difficult in built-up areas with few land sales. There are several conceptual solutions to this problem. One is to use land residuals (sales prices less RCNLD) in modeling. However, problems in accurately estimating RCNLD render this approach difficult. Another, more promising solution, where at least some land sales are available, is to include both vacant and improved parcels in model development:

$$SP = f(\text{land and building characteristics}).$$

The model includes the usual land and building characteristics, along with a binary variable coded "1" for improved parcels and "0" for vacant parcels. The variable thus represents the premium (or decrement) in value associated with site improvements not captured in other variables. The model can be decomposed into land and building values: the model constant (B_0) is part of land value and the binary improvement variable constitutes part of the improvement value.

If there are insufficient vacant land sales to use this approach, several other options using improved sales are available. One can constrain the regression constant to zero. If the model is well specified, it will produce separate land and building values. Second, one can allocate the constant between land and building values based, for example, on typical land/building ratios. Or one can use feedback, which contains no constant and produces a decomposable model. A common problem with all these approaches is correlation between land and improvement characteristics, which makes the allocation suspect. Barring inordinate problems, however, one of these approaches may prove acceptable. The overriding advantage is that land and building values are estimated simultaneously and consistently. Finally, RCN may be used in lieu of building additive variables in a decomposable cost calibration model. This approach eliminates

building quantitative variables and reduces multi-collinearity. Again, the constant must either be constrained or allocated between land and buildings. The model yields separate land and market-adjusted building values.

7.1.3. DEVELOPING THE MASS APPRAISAL MODEL

Data Collection And Data Analysis

The first step in mass appraisal modeling is data collection. Data are to be collected on those basic characteristics of the valued real properties which are most significant to real estate brokers in pricing.

Data may be categorized as either qualitative or quantitative. Qualitative data are based on discrete, predefined categories.

For successful modeling, data should be thoroughly analyzed. Measures of central tendency and dispersion such as mean, median and coefficient of variation (COV), coefficient of dispersion (COD), and standard deviation should be calculated for quantitative data. Qualitative data should be analyzed using frequency distribution, histograms and correlation analysis.

At the next stage, data should be “cleaned up” by using multiple regression analysis (MRA). In the first step, some statistically insignificant sales, or outliers, are eliminated from the analysis. Sales screening is implemented by a robust regression method. Robust regression is an iterative process. It analyses data dispersion and excludes data on those sales where the price deviation from the average, given the values of descriptive factors is considerable. Based on the results from robust regression computation, weights (robust weights) are assigned to each observation. Weight values may range within the [0;1] interval. They show how strongly this observation differs from the sample average (given parameters are fixed). Extreme values may stem, for example, from some special sale circumstances such as payment delays, personal arrangements or physical condition of an apartment. The closer the weight value gets to zero, the bigger the deviation from the average. Implementing the above procedure is not difficult since there exists a special Robust regression software (NCSS), which allows for automatic computation of robust weights.

For further analysis, data are to be filtered according to the resulting robust weights, thus

eliminating the data in which the robust weight values do not exceed a threshold, such as 0.05.

After the robust regression, stepwise regression should be used to select significant variables. Stepwise regression is an iterative process of which there are two versions - forward and backward. In forward stepwise regression analysis, variables are entered iteratively until all significant predictors have been included. In backward stepwise regression, the algorithm begins with all variables and iteratively eliminates those that are insignificant.

The Linearization Process

The second step in real estate market modeling is linearization of qualitative variables. Linearization of variables implies transformation of qualitative variables which were initially coded as quantitative values, into quantitative values reflecting market preferences. To select a specific method for these transformations, a number of considerations have to be analyzed. Among the most important of these considerations is to determine the significance of a variable. That is, what is the variables importance in price-building. Another consideration is to determine the multi-collinearity of the variable. That is, its interrelationship (strength of relationship) with other variables affecting the price. The linearization method shall be selected based on the results of this analysis.

A general approach to determine the weights of qualitative variables is based on the assumption that it is possible to identify a customer's preferences. We assume that these preferences under either the price of an apartment, or the price per square meter of total area. We can use price per 1 sq. m because all the qualitative characteristics describe the apartment in general.

There are two methods of linearization of qualitative variables, namely:

Transformation of qualitative variables into binary variables. In this case, each possible value of qualitative variable is coded 0 or 1. For example, for a floor variable there may be created the following binary variables:

#1 = 1, if an apartment is located on the first floor,

0, in other cases.

#2 = 1, if an apartment is located on the second floor,

0, in other cases., etc.

Then, these binary variables may be entered into the price model along with all other descriptive variables. This procedure allows for determining the impact of each value of the variable on the market price, with no *a priori* assumptions on inter- relationships.

Qualitative variables may be converted into numbers reflecting their relative values or desirability. This process is called scaling. Scaling can be done by value of 1 sq. m of total area. For each value of the variable being linearized, there should be computed the average price per 1 sq. m and a value of the qualitative variable corresponding to the maximum number of actual sales should be computed. At the final stage of the transformation, all the averages have to be normalized per price per 1 sq. m..

The result of normalization of the qualitative variables is their weights. Values or weights exceeding 1 shows that this apartment type is better (more preferable) than a typical one, and visa versa.

Relationship Analysis

Step 3 in the modeling process is an analysis of how various factors affect the real property price and interact with each other. The purpose of this stage is to: first, identify the factors which contribute the most to the price building, and, second, to identify relationships between the descriptive variables. The basic tool for relationship analysis is multiple regression analysis (MRA).

At this stage, there should be an analysis of variables into the total determination coefficient in order to identify the significance of the variables. For instance, using stepwise regression one can monitor the process of entering variables into the model, thus identifying the variables which provide for model improvement.

Location Analysis

The location value response surface analysis provides a means of adjusting for location in econometric modeling. In the first stage, value influence centers are determined. To identify location influence centers, a linear model has to be built and should include all the factors available, for the moment, as independent variables, except for the variables describing location of a property. Based on this model, estimated values and residuals will be computed as the ratio

between actual price and estimated value. Residual values greater or less than 1, indicate that there are factors affecting the price that were not included in the model. At this stage, the assumption is made that we did not take the location influence centers, both positive and negative into consideration. For instance, location of a residential property in the industrial neighborhood can affect its price negatively. The industrial zone being called a negative location influence center.

To identify the location influence centers a contour plot should be built which transforms the relationship between the residuals (coefficients) and the coordinates. By analyzing the concentration of level lines on the graph, one can identify location influence centers and the radius of their influence. Coordinates of these centers can be identified by the point located in the center of concentration of isolines.

The next stage of location analysis is Global Response Surface design. The Global Response Surface is a three dimension surface showing the price per sq. m of a property with regard to its location. To build this surface, a non-linear regression method may be used with the variables describing the location of a property as independent variables, and price per sq. m as the dependent variable. There are a number of software packages specifically designed to build this type of surface. In the NCSS package, it is called Global Response Surface .

Based on the non-linear regression model the estimated values are computed. These estimated values are scaled (by dividing them by their average value) in order to get a price index such that the average equals 1. This index constitutes a property location factor and may be used in further regression analysis as an independent variable. The index explains a systematic variance of price per sq. m. of a property affected by location.

7.1.4. TYPES OF MASS APPRAISAL MODELS

Linear Models

Models can be classified into two broad categories, linear and non-linear. A linear model is the most primitive model in mass appraisal. In a linear model the relationship between the price and characteristics of an object is additive, and the model looks as follows:

$$P = A_0 + A_1X_1 + A_2X_2 + Y + A_nX_n$$

where

P is the price of the object;

X_1, X_2, \dots, X_n are characteristics of the object;

$A_0, A_1, A_2, \dots, Y, A_n$ are coefficients of variables, that is the object's characteristics.

Additive linear regression can be used to identify the degree of importance of each of the variables and to show how well the model itself performs as an estimating device.

However, the adjustments derived from additive models represent a fixed marginal contribution to value and do not recognize interaction among the variables. The inter-correlation of real estate data; the difficulty of getting full, complete and accurate parcel characteristics; and the use of a sales sample determined by market activity and not by random sampling to estimate the model, may cause violation in one or several assumption of the linear regression model. That in turn will cause instability of the model and will bias the estimates of the coefficients.

Non-Linear Models

Non-linear, rather than linear models are often better for model calibration. Three types of non-linear models are used in mass appraisal: multiplicative models, additive models and hybrid models. The multiplicative model has the following form:

$$P = A_0X_1^{A_1} * X_2^{A_2} * Y * X_n^{A_n}$$

This model may be transformed into an additive model with the help of logarithms.

An additive linear model may include transformations of variables such as logarithm, root, reverse functions, and for these variables it will be non-linear, although it remains linear in structure.

A hybrid model unlike the additive model includes both additive and multiplicative relationships. The hybrid model may be transformed into additive or multiplicative model. The following function is an example of hybrid model:

$$P = A_0 + A_1X_1 + X_2^{A_2}X_3^{A_3} + Y + A_{n-2}X_{n-2} * X_{n-1}^{A_{n-1}} * X_n^{A_n}$$

In no way can this function be transformed into a linear model. A special mathematical tool is needed to simulate this type of relationship. As a rule, non-linear models are built with iterative procedures.

Linear Regression Model Building

As mentioned above, Linear Regression Model is the simplest type of mass appraisal models.

To build a linear real property valuation model one would build a linear regression as a function of all the qualitative and quantitative characteristics of a property (actually as a function of the linearized values of the property characteristics). A thorough statistical analysis has to be made in order to identify significant variables. After the model meets all statistical criteria, then there remains a need to check how well the model describes the interaction of price and various characteristics. This can be done with the help of graphic analysis of relative residuals produced by the model. Ultimately, we get a linear real property valuation model.

Non-Linear Regression Model Building

To refine the model, non-linear regression techniques can be used. The most convenient tool for nonlinear model design is adaptive estimation procedure (AEP or feedback). Feedback is adapted from engineering sciences based on the principle of making continual corrections to a process from information on its current course or movement, thus the term “feedback.”

In mass appraisal, a valuation equation is specified and adjusted as data on individual sales are sequentially processed and analyzed. The process is done repetitively, with each sale processed many times, until the model converges on a satisfactory solution.

Feedback calibrates the general hybrid model. For application of AEP it is necessary to determine the structure of the model and to select proper starting weights. Proper selection of the starting coefficients for feedback speeds the convergence and gives more satisfactory results.

Feedback seeks to minimize the average absolute error, thus it is less influenced by outliers than MRA and may produce more stable results.

For the application of AEP special software packages exist, which also allow presentation of the modeling results in a convenient form (see Attachment).

7.1.5. MODEL QUALITY CONTROL

The main criterion of model quality is the percentage of dispersion explained by this model. The coefficient of determination is such a criterion for regression analysis. This coefficient is usually marked as R-squared in scientific works. R-squared can be computed by the following formula

$$R^2 = \frac{\sum_{i=1}^N (\hat{Y}_i - \bar{Y}_i)^2}{\sum_{i=1}^N (Y_i - \bar{Y}_i)^2}$$

where Y_i are the actual prices of real estate objects, \bar{Y}_i are the mean values of the prices,

\hat{Y}_i are the modeled values and N is the number of observations in the sample. The coefficient of determination shows the percentage of dispersion explained by the model as a percentage of the variation in the dependent variable. Values of the coefficient of determination may range within [0; 1] interval. By world standards, the range of values of the coefficient of determination for the linear model should be no less than 80%.

Another important indication of valuation quality is a coefficient of dispersion (COD). The COD is the major statistic used to determine quality in real estate appraisal using non-linear models.

$$COD = \frac{100 * \sum_{i=1}^N |R_i - \tilde{R}_i|}{N * \tilde{R}}$$

where R_i are ratios of the actual prices of the objects to the modeled values; \tilde{R}_i are

median values of these ratios, N is the number of observation in the estimated sample. The COD value should not exceed 20%. In addition to being applicable to judging the quality of non linear models with reference to the model-building data set, the COD is also widely used in judging the quality of models as time passes and new data on sales prices and predicted values become available.

7.1.6. MASS APPRAISAL MODEL APPLICATION

Let us consider an example of application of the model produced with the help of the mass appraisal techniques.

The model has the following form:

$$\text{Price} = \text{General characteristics} * (\text{Building value} + \text{Land value} + \text{Misc. value}),$$

where

$$\text{Building Value} = \text{Building qualitative characteristics} *$$

$$(\text{Base Rate1} * \text{Gross Building Area});$$

$$\text{Land Value} = \text{Land qualitative characteristics} *$$

$$(\text{Base Rate2} * \text{Land Parcel Area});$$

Base Rate 1 is the basic price per sq. m. of the building area; Base Rate 2 is the basic price per sq. m of the land area. General characteristics, building quality characteristics and land quality characteristics can be determined during the process of modeling. For instance, general characteristics can reflect inflation; characteristics of a land parcel can reflect a property location or topography, and building quality characteristics such as wall material, can describe the physical characteristics of a property.

To calculate the price of a property by this formula, one needs to know the building area, the area of a land plot attached to a property, its location, and all qualitative characteristics of a property. Coefficients of qualitative characteristics can be derived from the tables, and the price of a property can be calculated by the above formula.

7.1.7. STABILITY IN THE VALUATION PROCESS

Maintaining an up to date valuation is important in the administration of the property tax. Frequent reevaluations or reappraisals are recommended, especially in a rapidly changing economy. The basic motivation for revaluation is equity. Taxpayers need to know that they are paying only their fair share of the tax burden. If the property is over appraised, taxpayers will complain and may result in costly, and time consuming appeals. If the property is under appraised, the tax base is lowered, and thus higher tax rates are set. The higher tax rate is also applied to the property which is over appraised, making the process even more inequitable.

When reevaluations are frequent, taxpayers may question large value changes that cannot be explained by current market conditions. Consequently, an objective of valuation modeling is “stability” over time as well as accuracy and explainability. Stability is difficult when reappraisals are infrequent. There are several techniques to help ensure model stability. The first is that model specification should be the same or similar over time. This is particularly important if properties are reappraised annually or biennially, since changes in model structure can cause unnecessary value shifts. Models sometimes must be changed. Previous models may have been poorly specified or overly complex. A structural change in the market may have occurred, requiring the consideration of new variables, or better information, for example, geographic coordinates or improved neighborhood boundaries, may have become available. In such cases, models should be re-specified and improved. However, barring such circumstances, modelers should strive to keep model specifications similar.

Second, if properties are appraised annually or biannually, use of three or more years of sales can lend stability. In this way, some of the sales used to calibrate the previous model will be used in the new model. Time adjustments should then be applied as required.

Third, constrained regression can be used to minimize coefficient changes. If not constrained, coefficients for variables of marginal importance can fluctuate widely. Constraining these variables to reasonable ranges can improve model stability with minimal loss in model accuracy. A number of packaged mass appraisal systems feature constrained regression. Feedback and nonlinear MRA also permit such constraints. (The same effect can be achieved in statistical packages by adjusting the dependent variable and rerunning the model.) Stability in

feedback and nonlinear MRA may also be enhanced by beginning the starting coefficients with their ending values from the previous revaluation.

Fourth, linearized values can be obtained from global or regional models. The preferred method of deriving values or weights for linearized market is through binary variables. However, this approach tends to produce inconsistencies and instability, particularly where few observations are available, say for a given roof type. Stability can be improved by combining modeling areas for purposes of deriving such weights before beginning work on individual models. Although this requires added front-end work, it will be more than offset by reduced time in the development of individual models. Further, once these weights are determined, they can be expected to remain relatively stable over time, so that small changes every, say, five or six years, may be sufficient.

Fifth, modeling techniques such as Bayesian regression can be used to incorporate previous model results.

7.1.8. VALUATION REVIEW

The initial application of a mass appraisal model is straightforward. However, the property value estimates that result from the application of a mass appraisal model should be reviewed before the estimates are used to determine tax obligations.

The value review process considers data quality, the appropriateness of the valuation model in question, and the success of the calibration of the model. Consistent with the principles of quality assurance, performance reviews should take place at each stage in the model development and application process. Reviews should include pre-reviews, desk reviews, and field reviews. The nature of the appraisal program itself and the properties being appraised affect the emphasis that should be given to any particular step in the process.

The property tax administration should review valuation models for completeness. That is, the model should take into account the general factors that affect the value of property in the stratum in question. In a similar fashion, the tax administration should consider whether any of the properties in the group have special factors that affect their value. This requires an analysis of property characteristics data, as discussed below.

Data on property characteristics should be reviewed with the objectives of detecting possible data errors and "outliers." Outliers are exceptional properties that may skew model calibration or that may be outside the range of properties for which the model is valid. The data review should be most stringent with properties that have recently been sold and that have new buildings or other changes. It is important to determine whether the sale took place before the change occurred. The property tax administration should also consider whether the sale price was consistent with expectations.

An essential step in the model application and review process is to apply the model to a test group of properties. The test group should not include any of the properties used to develop the model. Most of the test group should have recently sold, so that the sales prices can be used as a basis for comparison with the appraised values. A ratio study can be used to decide whether model performance is satisfactory.

Valuers, if they are experienced, also can compare model-generated values with the prices--or range of prices--for which they would expect the properties to sell. Consistent or marked discrepancies in the two estimates suggest that further review is warranted, although it must recognize that the valuer's judgment can be faulty. In a similar fashion, if more than one valuation model has been developed, the consistency in the estimates produced by the models provides a useful gauge.

After the final model is applied, the property tax administration should review each value estimate. If property characteristics data were collected or verified shortly before the model was developed and applied, the review can take place in the office. Otherwise, the review should take place in the field. In any event, some properties should be reviewed in the field to resolve questions about data accuracy and model appropriateness. Having recent photographs on file or digital images of properties on hand reduces the need for field reviews. In making the review, the values should have reports summarizing property characteristics and appraised values. It also is helpful if the reports indicate percentage changes in appraised values and express values on a per-unit basis. These make it easier to evaluate the consistency of the estimates. Access to the latest data edit reports also can be helpful. Properties with unusual changes should be reviewed more carefully.

Valuation Adjustments

Review procedures should be highly structured and described in a manual. The discretion valuers have in changing model-generated values should be described. Insignificant changes should not be allowed because of the expense of processing them. Reviewers also should document why they overrode model-generated values. Sometimes codes can be designed for this purpose. Valuers also should initial the records they change so that an audit trail can be maintained. The reviewing valuers should be trained in the review procedures. Training exercises can be developed to test whether the valuers understand the procedures.

7.1.9. COMMUNICATING THE RESULTS

Once developed, valuation models and resulting values must be disclosed to taxpayers. The manner in which this is done affects the acceptance and supportability of the reappraisal, as well as affecting the overall public perceptions of the property tax administration. The ability to show clearly how values were calculated will help resolve complaints and lend credibility to a reappraisal. Taxpayers are entitled to know, at least in a general sense, how their values are calculated. Clear explanations are one measure of good public service.

Modeling Considerations

The ease of explaining a mass appraisal model begins with the structure of the model itself. Sales-based models with many variables and exotic transformation are difficult or impossible to communicate and, for technical reasons (namely multi-collinearity), may have seemingly irrational coefficients. By contrast, relatively simple models are easier to explain and more likely to have stable, reasonable coefficients. Similar considerations apply to cost and income models. Sound model structures will be more readily understood and accepted by taxpayers and their professional representatives and more easily defended before appeal boards.

Sensitivity Analysis

Sensitivity analysis is a process of showing how much a dependent variable will change when an independent variable changes by one or more units. The technique is akin to the adjustment tables produced in the base home approach, except that the adjustments are computed from the regression constant rather than the base home value. As in the base home approach,

nonlinear terms can be illustrated through benchmarks, for example, the term,

$$189 * \text{SQRT}(\text{LOTSIZE})$$

could be shown as:

Lot Size	Adjustment
5,000	13,364
6,000	14,640
7,000	15,813
8,000	16,904
9,000	17,930
10,000	18,900
11,000	19,822
12,000	20,703

Like the base home approach, sensitivity analysis can be largely automated.

7.1.10. VALUATION MODELING PLAN

Before the valuation modeling begins, it is necessary to develop a plan outlining the steps necessary to successfully complete the effort. Of course, the plan assumes that well trained personnel are available, either within the city or on a consulting basis from other cities. The initial valuation modeling plan of the Property Tax Project consisted of the following:

1. assumptions about data gathering and use of models
2. principles guiding model building
3. steps in the modeling process
4. staffing required for the process

Assumptions About Data Gathering And Use Of Models

The following assumptions are used to guide the valuation modeling effort:

- Properties for valuation modeling will be obtained from local Realtors and other knowledgeable persons, possibly including media sources.
- The basic data for valuation modeling will come from Realtors and expert appraisers.
- These data will be supplemented with data from the Bureau of Technical Inventory (BTI), the Land Committee (L.C.), and the Municipal Property Fund (PF)
- Only secondary market transactions are of interest in the pilot projects.
- Global models are developed and are expected to be transferable among cities. Global models which have been developed in the pilot cities will be transferred to each city and adjusted for local conditions.
- The basic structure and contents of each model will be the same for all cities.
- The calibration of model coefficients will be recomputed in each city.

Principles Guiding Model Building

The following principles are followed during the construction of models.

1. Appropriate model structures will be selected based on property type, data availability, and modeling purposes.
2. Market models will be developed for all property types if the quality of data allows, but definitely on residential property.
3. Income models will be developed on non-residential property if data allows
4. A cost approach model is planned for industrial property.
5. All models will be developed in DOS-based systems and will be transferable to the Oracle-based Property Tax Information Management System (PTIMS).
6. Data will be entered and analyzed and models developed in Paradox or Access, NCSS, AEP and possibly SPSS software, but will be programmed into NCSS software after completion.
7. Categorical variables will be linearized for model application, even if calibrated as

binaries.

8. Linearized value tables will be prepared for all categorical variables.
9. Response surface techniques will be used for location analysis in model calibration, but geographical boundaries may also be used if appropriate or if legitimacy concerns make them advisable.
10. Outliers, possibly excluded from model calibration, will be reviewed for data errors and corrected for re-use if possible.
11. Computerized data screening techniques will be used on all data sets.
12. All models will be fully documented as to data availability, analysis and calibration procedures employed, and model results.
13. Modeling will be carried out in conjunction with Russian counterpart staff as assigned.

7.1.11. RESULTS OF THE MODEL BUILDING EFFORTS IN NOVGOROD AND TVER - VALUATION FORMULAS AND TABLES

As a result of the model building exercise, three different property types were defined, apartments, single detached houses, and non-residential properties. Non-residential properties included all properties not intended for residential purposes, such as commercial and industrial. Therefore, three different valuation formulas were developed. As market conditions in Novgorod and Tver differed, the models are distinct for each city.

Apartments

Typically, an apartment is defined as a standard residential unit belonging to a multi-storied building where a number of separate units share each story of the building. Usually, a property right is associated with the apartment itself, but no land rights are associated with it.

The formula used to value apartments in Tver is:

Apartment Value = Infrastructure Value + Building Value

Where:

Infrastructure Value = (Unit Residential Land Price) * (Land Zone Location Adjustment Coefficients) * (Infrastructure Value Allocation Coefficients) * (Total Apartment Area)

And:

Building Value = (Base Building Value) * (Compound Adjustment Coefficient)

Where:

Base Building Value = (Unit Building Price) * (Total Apartment Area) + (Unit Living Area Price) * (Total Living Area) + (Unit Room Price) * (Room Count Adjustment Coefficient) + (Unit Kitchen Area Price) * (Kitchen Area) + (Unit Balcony + Loggia Price) * (Balcony + Loggia Count Adjustment Coefficient)

Where:

Compound Adjustment Coefficient = (Exterior Wall Type Adjustment Coefficient) * (Building's Stories Adjustment Coefficient) * (Apartment's Floor Adjustment Coefficient) * (Top Floor Adjustment Coefficient)

Detached Houses

Typically, detached houses are clearly spatially differentiated units intended for residential purposes, usually fewer than three stories and for which a land plot has been specifically allocated. There may be a need to categorize detached houses in order to capture the value differentials between the old-style typical cottage type and the newer homes being developed in the emerging real estate market.

Occasionally, large detached houses are internally divided into a number of standard residential units. For taxation purposes, these units shall each be considered and detached house. Land is allocated to each unit as specified in the property rights document, or in the absence of rights data, proportionally to the total area of the corresponding unit.

The formula to be used for detached houses in Tver is:

$$\text{Detached House Value} = \text{Land Value} + \text{Building Value}$$

Where:

$$\text{Land Value} = (\text{Unit Residential Land Price}) * (\text{Land Zone Location Adjustment Coefficient}) * (\text{Land Plot Area})$$

And:

$$\text{Building Value} = (\text{Unit Residential Building Price}) * (\text{Wall Type Adjustment Coefficient}) * (\text{Cottage/Standard Type Adjustment Coefficient}) * (\text{Total Built Area})^{\text{(Exponential Built Area Adjustment Coefficient)}}$$

Non-Residential Properties

Properties not intended for residential use are extremely varied and include such uses as industrial, commercial, warehouse, garage, etc. Therefore, the valuation formula for non-residential properties should reflect, within reasonable limits, the variety of possible situations encountered in this group.

The formula to used to value non-residential properties in Tver is:

$$\text{Non-Residential Value} = \text{Land Value} + \text{Sum of All Individual Building Values}$$

Where:

$$\text{Land Value} = (\text{Unit Non-Residential Land Price}) * (\text{Land Zone Location Adjustment Coefficient}) * (\text{Lot Area}) * (\text{Lot Size Adjustment Coefficient}) * (\text{Property Overall Use Adjustment Coefficient})$$

And:

$$\text{Individual Building Value} = (\text{Unit Non-Residential Building Price}) * (\text{Object Built Area}) * (\text{Object Use Adjustment Coefficient}) * (\text{Building Location Adjustment Coefficient}) * (\dots\text{Adjustment Coefficients})$$

7.2. ASSESSMENT

The assessment process requires that a complex set of policy issues be evaluated and set into administrative regulations. The city has been given rather broad discretion in issues which will effect the ultimate tax burden for each taxpayer.

Generally, the property tax has been established as an annual tax to be levied on the owners and other legal rights holders. The tax will be calculated as a fraction of the estimated market value (fiscal value) according to the status of the property as registered in the fiscal cadastre on January 1st of each year. The tax will be paid in two equal instalments with due dates set on July 31st and November 30th.

Specifically, the cities of Novgorod and Tver have established separate assessment ratios, tax rates and exemptions policies. These decisions are made according to the results of tax impact studies and the prevailing political and economic environment in the city.

7.2.1. A VALUATION ADJUSTMENT PLAN

Computer assisted mass appraisal techniques produce acceptable valuations for most properties. However, valuation models used to predict property values cannot take into account all factors affecting the value of each property in a given jurisdiction. Therefore the values of some properties will need to be adjusted manually to take into account the effects of market forces not captured by valuation models. The most effective way of dealing with such factors is to allow manual adjustments by expert appraisers to land and buildings.

Manual adjustments to values should be the exception rather than the rule. As such, only 10 percent of properties (more or less) should receive such adjustments. If many more than 10 percent of properties require manual adjustments it is an indication that valuation models should be adjusted. The magnitude of the valuation adjustment for an individual property should be 20 percent or less for most properties.

Adjustment to properties should be allowed during valuation field review and for resolution of appeals. An efficient way of processing valuation adjustments is to create a multiplier which can be used to adjust values. In this way values can be adjusted either upward or downward.

At the beginning of the field review process the multiplier should be equal to 1.0 for all properties, indicating no adjustment is required (for example, \$100,000 X 1.0 = \$100,000). When a property requires an upward adjustment a value greater than 1 is required (for example, \$100,000 X 1.25 = \$125,000). If a downward adjustment is deemed necessary than a number less than one should be applied (for example, \$100,000 X .90 = \$90,000).

Value adjustments should be allowed against building value and land value. Individual adjustments could be made to building and/or land values. The reason for each value adjustment should be documented. A set of adjustment codes can be used to indicate the reason. The following is a suggested list of adjustment reasons and the corresponding codes:

Land Adjustment Reason	Code
Excess land size	1
Marsh or swamp land (underwater)	2
Wetlands	3
Contaminated lands	4
No utilities	5
Unbuildable	6
Irregular shape	7
Irregular topography	8
Traffic	9
Land locked (no access)	10
View (positive adjustment)	11
Waterfront (positive adjustment)	12

Building Adjustment Reason	Code
Vacant and abandoned	1
Servitude	2
Extensive capital improvement ongoing	3
No bathroom	4
Physical damage and unoccupied	5
Severely damaged and unsound structurally	6
High quality	7
Functional obsolescence	8
Economic obsolescence	9

A document for recording valuation adjustments during valuation field review should be created. A document for recording valuation adjustments during the complaint process should also be developed. These documents will also be used as input source documents for updating the PTIMS database.

The following is a list of examples showing application of the adjustment and adjustment reason codes.

Example 1: A negative adjustment to land value

	Model Value	Adjustment	Final Value	Reason Code
Land	\$10,000	0.90	\$9,000	1
Building	\$20,000	1.00	\$20,000	
Total	\$30,000		\$29,000	

Example 2: A positive adjustment land and building value

	Model Value	Adjustment	Final Value	Reason Code
Land	\$10,000	1.20	\$12,000	3
Building	\$20,000	1.05	\$21,000	5
Total	\$30,000		\$33,000	

7.2.2. TAXPAYER NOTIFICATION

Property tax reform should be an open and transparent process. The public should perceive the reform as bringing a new approach to taxation in terms of the amount of information made available, and better procedures for services to taxpayers. It is not only necessary that the reform effectively change the legislative and administrative basis of the tax, but these changes should be reflected in what the taxpayers perceive as the face of the tax administration. For the property tax, most of the interaction with the taxpayer is through the Valuation Notice (Property Description Notice) and the Tax Bill /Tax Receipt Notice. Therefore, attention should be paid to the proper design and management of the notices so as to provide an effective public relations tool. The notices should supply each taxpayer with the value placed on his/her property by the property tax department, the tax rate applied to this value, the tax liability and the date and place for payment of the tax.

Unlike many other taxes which are self assessed, the property tax is based on a value established by the property tax administration. The large numbers of properties and property characteristics required for this valuation function make mistakes inevitable. Therefore, it is

advisable to notify the taxpayer of his/her value and characteristics used for valuation and assessment in advance of the tax billing process. This gives both the taxpayer and the property tax administration an opportunity to make any necessary adjustments in the data characteristics or valuation before the final tax bill is produced.

Property Description Notice Or Property Valuation Notice

During the initial cycle of the property tax experiment the decision was made to send a notice to the taxpayer which included all the property characteristics as represented in the real property tax cadastre. This Property Description Notice will not, however, include the value of the property because the Valuation Regulations have not passed the necessary legal requirements in either Novgorod or Tver. The Property Description Notice should achieve the objectives of thoroughly revising the information in the fiscal cadastre in order to minimize complaints at the time of billing.

The Property Description Notice is a computer-generated Form displaying the data characteristics in the fiscal cadastre. The taxpayer will be instructed to make corrections to incorrect data and then sign and return the information to the Property Tax Department. The Property Tax Department will then up-date the cadastre. As time and resources permit, the Property Tax Department will audit the Notices returned by the taxpayer and check dubious information through field visits.

The Tax Bill / Tax Receipt

Under the current experiment law, the State Tax Service will continue to have the responsibility for tax collection and taxpayer compliance. The State Tax Service payment and accounting practices do not meet the requirements for a modern property tax administration. Therefore, it is necessary for the property tax administration to come to an agreement with the local branch of the State Tax Service as to the billing and receipt format.

Like the Property Description Notice, the Tax Bill / Tax Receipt is a computer generated form using specific data registered in the fiscal cadastre. Unlike the Property Description Notice, the Tax Bill / Tax Receipt includes a minimum amount of property characteristics information. The Tax Bill / Tax Receipt is designed in duplicate to provide one copy to the Property Tax Department and the State Tax Service and one copy for the taxpayer.

Data for the Tax Bill includes the property location address; the taxpayer address; the property type; the property identification number (PIN), the estimate of market value from the model for the land, the estimated market value for the building, the total estimate of market value, the exemptions and tax privileges, the assessment ratio (percentage of market value to be taxed), the taxable value, the tax rate, the legal share, total current years taxes, prior years delinquent taxes and penalties and interest and the Total Tax Liability.

Data for the Tax Receipt portion of the notice includes PIN; tax year; tax amount for first installment; due date and payment place of first installment; PIN; tax year; tax amount for second installment; due date and payment place of second installment.

7.2.3. THE TAX ROLL

The Tax Roll is the official document in which the property tax department keeps a record of the complete set of tax-related information for all taxable properties in the fiscal cadastre. A new Tax Roll is produced each tax year. The Tax Roll contains the PIN, name, address, tax base, assessed tax, tax exemptions and benefits, taxable share in property, taxpayer identification, share of tax liability, and tax delinquencies.

The Tax Roll should be presented in electronic format, as a screen format and printed report, and in hard copy format. Ideally, both formats should be compatible. The Tax Roll should contain all properties in the cadastre including those who may be totally exempted.

In addition to the Tax Roll, the property tax department should have summary information which is easily available to all.

CHAPTER VIII

NON-FISCAL BENEFITS OF PROPERTY TAX REFORM

8.1. STRENGTHS OF THE REAL PROPERTY TAX

It is increasingly clear in the Russian Federation that long overdue social reforms cannot be financed by greater tax increases on taxpaying households and enterprises. Instead, a more vigorous effort must be undertaken at all levels of government to increase public funds by way of:

- lowering tax administration costs through consolidation and rationalization;
- widening the tax base through inclusion of more taxable objects;
- higher income tax and VAT receipts due to economic recovery.

Reforming (consolidating and rationalizing) the existing system of real property tax is expected to contribute to achieving these fiscal benefits. It should not lead to a general increase in the tax burden for only those taxpayers who already pay taxes. Other factors can be expected to generate a slight increase in revenues in later years. These higher revenues should then be directed to much needed municipal services rendered by local self-governments to their taxpayers.

In the near term, the costs of implementing these reforms are likely to be higher than the immediate fiscal benefits. However, there are a number of important non-fiscal benefits in both the economic and social spheres that the reform will bring about. These benefits, though difficult to estimate directly in monetary terms, increase the total benefits from the reform to far exceed the costs of reform implementation. This should be kept in mind by municipalities considering the introduction of property tax reform. Spending on this reform by local self-governments should be viewed as an investment rather than expenditure regardless of how it is classified from an accounting point of view.

Public awareness of non-fiscal benefits is especially important for those taxpayers who will be confronted with new or higher property tax bills. These groups will need to understand that there are also non-fiscal benefits that they should recognize as offsetting (if only in part) the

imposition of a tax or a tax increase. The following taxpayer groups will most likely experience changes in property tax bills:

- *communal housing residents* who are to face new tax bills will need to see that they are going to receive higher quality communal services worth the tax cost borne by them. At the same time, they will need to be told that they have to share the tax burden which is already borne by other taxpayers;
- *owners of high value homes and apartments* who face higher tax bills will need to be convinced that they are enjoying highly valuable locational amenities that are not available to others (accessibility, prestige, etc.);
- *commercial space owners/users in prime locations* who face higher bills will need to understand that they are in a better position to pay higher taxes because their location confers higher profitability and hence is more valuable;
- *industrial enterprises in attractive locations* who face higher taxes will need to understand that they are occupying land which is attractive to many other entities that have competing uses. These competitors are willing to pay more for the property, making it more valuable and thus increasing its tax amount. In order to stay in their locations, the enterprises will need to pay more or make a portion of the land available to more productive users who will pay part of the property tax bill.

In general, the link between property taxes paid and local services that are financed with these taxes must be emphasized. Judging from experience in Novgorod City, the direct link between taxes and services will most likely focus on the following aspects of local life, curable by local self-governments, about which taxpayers are unhappy:

- insecurity of public places including streets (poor lighting);
- power supply failures;
- poor central heating;
- frequent water cut-offs;
- insufficient gas supply;
- unsafe backyards (especially a concern for parents of young children);

- dilapidated entrances to buildings (lack of pride in one's home);
- rats, mice and other domestic pests;
- poor drainage/sewage systems;
- frequent elevator breakdowns;
- infrequent garbage disposal.

The following pages discuss the non-fiscal benefits of property tax reform, including its equity aspect.

8.2. MORE RELIABLE AND STABLE LOCAL GOVERNMENT SOURCE OF REVENUE TO FINANCE LOCAL INFRASTRUCTURE AND SERVICES

In the fall of 1996, the citizens of Russian cities elected their first self-governments, with the hope of making their cities more livable and affordable as soon as possible. Local self-governments need a reliable system for financing their operations and for stimulating further development of their cities.

In response to these needs, Novgorod and Tver have become the first cities in Russia allowed by the Federal Duma¹⁰ to reform their local tax systems related to land and buildings belonging to enterprises and households. This property tax reform experiment is intended to move the two cities toward a rational system of property taxation, which is the financial base of most cities in market economy countries. In Novgorod Oblast, two municipalities, Borovichi and Staraya Russa, are part of the property tax reform experiment as well.

The essence of the reform is to replace the three existing and very complicated taxes¹¹ with a single tax on "real property". The new consolidated property tax will become a major revenue instrument in the hands of local self-governments. Revenues from real property taxes will continue to be spent on further improvements in local services and infrastructure. The basic principle of the new consolidated real property tax is to make the tax amount closely related to

¹⁰ In July 1997, the Federal Duma passed new legislation "On the Execution of the Experiment on Real Property Taxation in the Cities of Novgorod and Tver."

¹¹ These are: (1) the real property tax on objects of physical persons; (2) the tax on land of physical persons and legal entities; and (3) the tax on assets of enterprises.

the estimated market value of real properties owned or used by enterprises and households. The use of estimated market values assures more equitable distribution of the necessary tax burden according to the principle of tax solidarity and in relation to real money prices reflected in estimated market values. At the same time those who happen to have difficulties in meeting their tax responsibilities may be granted relief by their local self-governments.

The substitution of property taxes and land payments into a new, consolidated real property tax which will go to local self-governments is an important factor making local budgets more autonomous and stable. This increases local financial independence, and enhances transparency between the tax and its uses (for local infrastructure services), which both strengthen local democracy as the basis of a strong federal state. Transparency and direct accountability improves tax compliance of taxpayers, since they see a more direct link between their taxes and local infrastructure services financed with these taxes. Property owners who pay taxes can see that their tax money is invested to provide tangible services which quite often improve the value of local land-based assets.

8.3. DIRECT LINK BETWEEN LOCAL TAXES AND LOCAL SERVICES

The local elected government understands well what kind of services and infrastructure the population wants to have first given the modest financial resources of the local budget. In order to deliver these services and infrastructure, the enterprises and households must pay local taxes. If the local self-government would like to deliver more and better services, local taxes must be raised. If the local government wants to be reelected, it must respond to the population's preferences on taxes and services. There is a direct relationship between the two.

To illustrate this point, examples of the improvement in local services as well as new ones created after the property tax reform are provided:

- The maintenance of residential buildings. Many citizens complain about common areas in residential buildings (entrances, staircases, corridors) as being very run-down, dingy and generally unsafe. This affects the quality of housing in a very negative way. The city would like to improve regular maintenance of these areas and make some renovations, but the local city budget does not have any additional funds for increased expenditures for these purposes. If the city is allowed by its citizens to

increase property tax revenue, it will be allowed by the new law to keep all the additional funds and spend them for improved services.

- Other examples relate to improved street lighting, less domestic pests such as rats in residential areas through more frequent garbage removal. It may be better public transportation such as new buses or street cars, better roads, better and safer schools or a more reliable supply of hot water.
- Every time the city administration needs to fund better services requested by local citizens, it can increase the tax rate and spread the burden of increased costs equitably among the citizens. This way, no money leaves the city borders and is reused directly for necessary services as requested by citizens through their representatives on the city council. It may be that citizens think the property tax is too high and needs to be lowered. This would require the local government to decide which services need to be reduced. Again, the priorities of the local citizens will help to make that choice and reduce the least important services. The taxpayers must tell the city government what their priorities are by talking and writing to their elected representatives on the city council. This is what is meant by the direct link between local taxes and local services. The money is raised and spent within the city's jurisdiction.

8.4. STIMULATES ECONOMIC DEVELOPMENT BY REDUCING TAX BURDEN ON ENTREPRENEURSHIP

The current tax burden is high in the Russian Federation, especially on productive enterprise assets and "profits." Taxation of accumulated wealth in the form of real estate is an alternative option to these excessive taxes on entrepreneurship. The transition from the assets tax on enterprises to the real property tax would stop "stripping off" funds for investments in production upgrading. The tax burden would shift from production activity to wealth accumulation, which would create an easier situation for those engaging in active production of goods and services, which creates employment. The overtaxed enterprises can shift some of their burden onto the "newly rich" commercial land uses (which usually occupy high value locations) as well as shifting tax burden from building (assets) to land component (location). In relation to taxpaying households one can say that composition of the tax burden would be

shifting from production (assets, profits) towards consumption (personal wealth). This should tend to stimulate local economic recovery.

8.5. DECREASED TAX AVOIDANCE AS THE PROPERTY BEING TAXED IS VISIBLE AND TANGIBLE

It is more difficult for real estate to avoid taxation than other taxed objects such as profits and income. As a result real property tax enforcement may increase tax collection compliance, which will produce a slight increase in revenues or at least help finance the costs of implementing the reform. In subsequent years the initial broadening of the tax base will mean that more taxpayers can share the same tax burden, which should make it possible to lower the tax rates. Local finance situation will improve as a result.

8.6. DEVELOPMENT OF INFORMATION ON REAL ESTATE MARKETS TO ENCOURAGE PRIVATE INVESTMENT

The opportunity to tax real property at market-based values implies that:

- real property objects as well as their characteristics and values are known; and
- taxpayer rights and restrictions on properties are known.

Real estate markets can develop efficiently only if sufficient reliable information is available to market participants. In this respect the real property tax provides such an information base, which stimulates better and faster development of local real estate markets. The computerized registry of real properties (real estate/fiscal cadastre) in the municipalities will create an information base of real property values and market activities. This information may be used for a variety of other purposes, not only for property taxes, and can be made available to investors and other market participants who can improve their activities thanks to this information. This will help generate more economic activity and help with development.

Better information about real estate and the market makes it easier for investors to make investments. More investors will become interested in this sector and some will shift their funds from the stock market to the real estate market. Increased investor interest will raise the price they are willing to pay for real estate. This will in turn increase taxable values of real estate

assets which will increase local government tax revenues. The more active the real estate market, the higher values it usually produces and the higher the local government revenues.

8.7. PROMOTE LAND INVESTMENT AND STIMULATE ECONOMIC DEVELOPMENT THROUGH MORE EFFICIENT LAND USE

Many users of land do not utilize that valuable resource efficiently. This means a lost opportunity for better economic development. If more productive users of land resources can be found and matched with the land, the city economy will improve. The property tax reform encourages less productive users to make their land (or parts of it) available to more productive users. This should stimulate economic development.

Thus, economic development of the city will take place in a more efficient way when existing enterprises and investors start developing vacant land for more productive use. It is important that the most valuable land be developed as quickly as possible because its market value depends on its high productivity. The real property tax reform is to encourage such investments by establishing high taxes on vacant land that is valuable. In other words, the reform will discourage land speculation by those who hold the land and do not develop it by waiting for even higher land values. If they do not have the funds to invest, they should make this land available to others through sale or rent. The proceeds from the sale or rent can then be invested in other productive activities or deposited in the bank. To illustrate this point, the following example of effective land use by enterprises is provided.

One can imagine an enterprise which is having economic problems. This enterprise occupies a valuable location with a building that could be used for office purposes. Consequently, in accordance with the new property tax, the enterprise has to pay a high tax because of the high value of its land and buildings. Looking for ways to pay the higher tax burden, the enterprise discovers that part of the building can be subleased to private companies that are looking for well-located office space. Since there is less economic activity, the enterprise can make more rooms available to other users. Furthermore, the enterprise discovers that one of its storage buildings that is not currently used can be rented to another firm looking for warehouse space. Finally, the enterprise discovers that part of the land can be developed with yet another new office building. If the enterprise controls the land, it can enter into a joint

venture arrangement with a developer or it can simply sell the land if it is the owner of the land. The net result is that the higher property tax has stimulated a more intensive use of the valuable land and buildings. The enterprise is now paying higher taxes and probably has extra funds to improve its economic performance. The buildings and the land are also being used by office tenants, a warehousing company and by occupants of the new building.

In short, the enterprise could not pay its taxes so they changed their activities, their profits increased and they used land more effectively. The economy of the city improves through a more economic use of existing land and buildings. At the same time, higher property taxes means that the city now has funds to provide better local services such as street lighting, building maintenance, schools, health services and local transportation.

8.8. PROVIDES THE PUBLIC WITH AN ACCURATE VALUE OF THEIR REAL ESTATE ASSETS

The real property tax is an instrument to make the real estate market more clear to the public through creation of a real property database (real estate/fiscal cadastre) and systematic record keeping system. Creation of a comprehensive real property register is too difficult to be accomplished by a single market player or association of market participants. Annual tax bills provide “free” information to households on the “value” of their real estate wealth. This in turn, enables and encourages them to periodically review their economic situation with relation to both income and wealth. As a result more economic adjustment decisions are made regarding real estate assets (sale, relocation, purchase, lease, etc), which improves local allocation of these resources to the benefit of the overall local productivity.

8.9. REDUCES LAND SPECULATION AND ENCOURAGES PRODUCTIVE USE OF LAND

Hoarding of land and land speculation is harmful to economic and urban development. It hampers achievement of the general economic goal of matching productive users of land with appropriate land needed for maximizing their productivity. The present system of granting property rights to the existing users (through privatization) does not assure the optimal matching between land and its users. The ad valorem tax encourages the process wherein highly valuable land gets developed sooner than less valuable land. Owners/occupiers who do not develop their land find it more costly to keep the land idle because they pay high tax. In a longer term they are

forced (financially) to either develop the land (to produce income for paying tax) or sell it to others who can put the land into “higher and better” uses. As a result the supply of highly desirable land (indicated by high prices) increases, which works towards stabilization between demand and supply and thus prices.

8.10. ENCOURAGEMENT OF PRIVATIZATION PROCESS

An ad valorem property tax system stimulates the privatization process since more private property means more market transactions, which can be used for accurate establishment of estimated market-based values. On the other hand, municipalities find a number of encouraging factors connected to privatization. Privatizing of profitable real estate assets is easier since the loss of rental income is replaced with ad valorem revenues on the same real estate. In relation to land assets the current users are not often the best and highest users. But once the asset is privatized the ad valorem tax will “steer” these assets to the hands of higher and better users. The very process of housing privatization can become more realistic with the introduction of ad valorem property tax. Households considering buying (for symbolic price) their dwellings will be more careful in making their decisions, since imminent property tax liabilities will not be as easy to defer as it is practiced with maintenance and renovation costs. This will help with more rational selection of appropriate tenants to become responsible owners.

8.11. EQUITY ASPECT OF THE AD VALOREM PROPERTY TAX

8.11.1. THE EQUITABLE DISTRIBUTION OF TAX BURDEN

The ad valorem property tax distributes the tax burden in a more equitable way than a tax based on area or other artificial administrative values. If the tax is more equitable it can more easily be accepted by the people/taxpayers, but in this case it should be universal. The more universal this tax is the lower the average tax burden will be in order to generate enough revenue needed for provision of municipal housing, infrastructure and local services. The notion of more equitable distribution of the property tax burden should also be positively viewed by the people. Those facing higher tax bills will be the ones who own higher-value well located properties, usually in central locations. Those facing lower tax bills will be the ones who own lower-value less attractively located properties.

8.11.2. HIGH-VALUE ASSETS AND LOW ABILITY TO PAY

On the other hand, equity considerations will have to address the problem of ability to pay for those facing higher property tax bills. There may be cases where taxpayers own high-value assets, but who exhibit low ability to pay. If the assets are used by them as residences there will be equity issues raised about the tax burden. A system of abatements, for example for lower income people, and exemptions can then be used to assure equity considerations. A similar situation may arise with struggling new enterprises. It should be noted however, that the ad valorem property tax is to eventually discourage a mismatch between asset value and ability to pay, especially in the non-residential sector. The property tax is to encourage inefficient land users (usually those who are unable to generate ability to pay) to turn over land to more efficient users by way of an efficient market mechanism.

8.11.3. REDUCTION OF HOARDING AND SPECULATION IN LAND

The equity aspect of the ad valorem property tax is realized also through anti-hoarding and anti-speculative effects it creates in social perception. It is especially important in a society where property rights are granted through a privatization process to owners who are not necessarily the most efficient users of the newly gained wealth and who have not created these values. Therefore, in order to move land and space into the hands of more efficient users, there is a need to prevent speculative holding of valuable land resources from investment. It is important to remember that, while monopoly is destructive in any economy, speculation is not inherently bad, but the issue is to tax speculative gains properly.

8.11.4. COMPENSATION FOR "INEQUITABLE" PRIVATIZATION

An important equity argument may be used with respect to privatization process, which has been criticized often on equity grounds. Opponents claim that privatization is really just transfer of high capital amounts (benefits) without commensurate transfer of obligations. It is also discriminating against the younger generation which at the time of privatization does not possess privatizable rental dwellings. The ad valorem tax is an example of taxing the new wealth so inequitably distributed through the privatization process. The public sector, through privatization, is losing rent payments on its assets, but replaces that shortfall with a wealth

related ad valorem tax. Thus, privatization is equitable in the sense that those households which obtain more valuable assets, pay accordingly higher taxes even though everybody paid approximately the same symbolic price for privatization.

8.11.5. EQUITY OF NON-AVOIDANCE

Real property taxes are very difficult to avoid, which is equitable in itself. The inability to avoid this tax imposes a high level of compliance which broadens the tax base and allows possible reduction of average tax rates. The "gray sphere" in this field is virtually impossible as it is with other taxes, especially income tax and VAT, which for the same reason can be seen as less equitable.

8.12. CONCLUSION

Politicians and specialists who manage cities need to know that their municipality can take advantage of a number of benefits from ad valorem property tax reform. Besides the fiscal benefits, the non-fiscal benefits described above are expected to be significant. These benefits should be discussed and weighed by municipalities implementing the ad valorem property tax reform. The equity aspect of the ad valorem property tax is an important argument to be made for building citizens' interest in the reform. If the property tax is more equitable, it can be more easily acceptable by the taxpayers. The non-fiscal benefits of the property tax reform should be aggressively addressed in the public relations program in order to educate the public and gain support for the reform.

Property taxes are highly visible. Some politicians may be tempted to avoid them and go for easier and less visible transfers from other government budgets (regional and central) or for indirect taxes. Awareness of the important non-fiscal benefits of the ad valorem property tax system should motivate politicians and technical experts to choose this method of municipal finance. An ad valorem property tax system is proven to be successful and, if managed effectively, can be implemented without excessive costs.

CHAPTER IX

TAXPAYER EDUCATION AND PUBLIC RELATIONS PROGRAM

A public relations and taxpayers education program is an essential part of the property tax reform process. The success of the reform depends, in part, on the public's support and understanding of how the reform benefits the taxpayers and their city in addition to the impact that the redistribution of the tax burden will have on them. The fiscal impact of the new property tax ("winners" and "losers") should be explained to the taxpayers. It is also very important that the taxpayers understand the link between local taxes and local services. Thus, fiscal and non-fiscal benefits of the property tax reform should be aggressively addressed by the public relations program.

Unlike the existing taxes in Russia, property tax is based on a value generated by the local government. It is not a self-reporting tax. Taxpayers must understand the basics of real estate market values and its implications on their tax assessment and tax bills. An active taxpayers education and public relations program is important to the implementation of the tax system and taxpayers' compliance.

9.1. GOALS AND OBJECTIVES OF THE TAXPAYERS EDUCATION AND PUBLIC RELATIONS PROGRAM

At the local level, an effective taxpayers education and public relations program has five goals:

- listen to the public;
- inform frequent users and elected officials;
- inform the media;
- inform the public;
- place information in the public's hands.

Getting to know the taxpayers better plus educating and involving the taxpayers in decisions that affect them is the best approach for a successful taxpayers education and public relations program.

The main objectives of the program are as follows:

- create and manage a positive perception of the property tax reform as a useful and efficient process among the taxpayers;
- explain the real property tax reform concept as well as the economic and non-economic benefits of the reform;
- explain the principles of the tax policy (tax rates, tax base, exemptions, etc.)
- highlight how revenues from property taxes will be used and expenditure monitoring procedures;
- improve the public's perception of the tax offices;
- prevent negative feedback resulting from certain increases of the property tax burden;
- improve taxpayers compliance.

An effective way to achieve these objectives and goals is to use the following tools and materials:

- periodic official publication, for example, a property tax newspaper or newspaper supplements;
- direct communication such as direct mail to taxpayers;
- mass distribution of printed materials such as brochures on property tax;
- radio/TV public service announcements;
- seminars, press conferences and briefings;
- press releases;
- radio/TV talk shows (expert to expert, elected official to journalist);

- dialogue with selected taxpayers' groups and elected officials;
- video-film about property tax;
- poster for billboards and wallboards.

The public relations program should begin after the tax policy (tax rates, tax base, exemptions, etc.) is defined. Some preparatory work should start earlier. The taxpayers should be informed of the importance of the property tax, policies and procedures for compliance and how the collected money will be used. It is very important that taxpayers understand the link between local taxes and local services as well as other non-fiscal benefits of property tax reform.

For more information about non-fiscal benefits of the reform, please see Chapter VIII of the Manual.

9.2. HOW TO DESIGN AN EFFECTIVE TAXPAYERS EDUCATION AND PUBLIC RELATIONS PROGRAM

The program should be designed with knowledge of the reform strategy as well as the taxpayers' attitudes/preferences. Before designing the program, a number of issues need to be resolved, such as:

- Who should be informed and persuaded?
- What information should program materials contain and where should the emphasis be placed?
- How are the materials to be disseminated?
- How should the PR program be organized (organizational chart)?
- When should the various tasks be performed (Gantt chart)?
- When should the PR program begin?

The program should address both the general public and selected taxpayer groups. The general public needs to be informed and convinced more generally, while the target groups need to be involved more deeply. The following taxpayers groups require specific attention within the scope of the taxpayers education and public relations program:

- Communal housing, rent-paying residents;
- Private homeowners in high-value locations;
- Owners/users of commercial properties;
- Enterprises.

The above taxpayer groups should also be divided into “active” and “passive” taxpayers. The active taxpayers are people interested in tax reforms beyond their individual tax situation and who may become champions of the reform. The active taxpayers will most likely be government officials, tax officers, independent experts, managers, researchers, and finance and economic specialists. Taking into consideration the overall demoralization of taxpayers in Russia which produced widespread non-compliance and tax evasion, ruining the public finances of the country, there is a need to identify and address questions of active taxpayers. They should be provided with the information intended to be disseminated by them (an example of the booklet for the active taxpayers is included in the appendix).

The passive taxpayers are characterized as those with little substantive understanding and desire to learn the technical aspects of the property tax reform. A sociological survey conducted in Novgorod during the fall of 1996 suggests that equity and service delivery issues, rather than efficiency in dealing with passive taxpayers, needs to be emphasized (an example of a one-page brochure for passive taxpayers is included in the appendix).

The following steps should be taken in the design of the public relations program:

- Development of the conceptual framework and strategy, including issues described above. It is recommended that the strategy will be based on the results of the public opinion survey. The public opinion survey should focus on the specific target groups’ perceptions of the reform of the property tax system and their preferences for local services provided by the municipalities. In short, the public opinion survey should identify the perceived important issues of taxpayers.
- Preparation of information and its distribution. It is recommended that the PR tools described earlier be used to communicate with taxpayers and the general public. The taxpayers should be divided into groups as already mentioned.
- Taxpayer feedback and city administration response.

It is recommended that a detailed action plan/work plan be prepared, including a Gantt chart that describes the various tasks to be performed, timeline, and human resources allocation (what has to be done, when it has to be done and by whom).

An effective taxpayers education and public relations program can be designed and implemented at a low cost. The creativity of people who design and implement the program is what is most important!

The following pages describe the conceptual framework and the public relations implementation strategy. In the appendices for this chapter, some PR materials such as brochures for active and passive taxpayers as well as questions and answers about the property tax experiment are included.

9.3. CONCEPTUAL FRAMEWORK

9.3.1. STAGES OF THE IMPLEMENTATION PROCESS

A public relations and taxpayer services program occurs in two stages. The first stage pertains to the process of the introduction of the tax reform, while the second stage is the actual regular operations of the property tax system in the city. The public relations component, including the taxpayer education program, focuses mostly on the first stage (tax introduction), and the taxpayer services component focuses on the second stage (tax operations).

The public relations and education programs for taxpayers are an essential part of the local implementation of property tax reform. The success of its implementation depends, in part, on the public support and understanding by public of the benefits of the reform to them and their city, especially how the redistribution of the tax burden is going to impact them. An active public relations and taxpayer education program should enhance the chances of successful implementation of the reform and boost taxpayer compliance.

The public relations process should be divided into three consecutive stages:

1. Strategy development and program formulation;
2. Information preparation and dissemination; and
3. Taxpayer feedback and city administration response.

The first stage, strategy development and program formulation, should be developed by the city administration team which will include staff members from relevant departments [most likely the property tax, economics, and finance departments, as well as the representatives of the local property committee, Bureau of Technical Inventory (BTI) and State Tax Service (STS)]. The local team leader will probably want to add other members to the team. The strategy and program should be reviewed and approved by the city mayor before subsequent implementation.

The second stage, information production and dissemination, should involve mostly local specialists. The local team should be involved in the preparation of information and materials while organizing taxpayer education seminars and holding meetings with taxpayers.

The third stage, taxpayer feedback and city administration response, should only involve a local team.

The process of strategy development and program formulation should be supported by background materials concerning:

- A final implementation plan of the property tax reform experiment, and
- A methodology typically used in public relations and taxpayer education.

The background material may then be used to resolve the following issues:

- *Who* should be informed;
- *What* contents and emphasis should be contained in taxpayer information;
- *How* should the information to taxpayers be disseminated;
- *Who* should be doing which activities (organizational chart); and
- *When* should the various activities take place.

9.4. STRATEGY DEVELOPMENT AND PROGRAM FORMULATION - THE PROPERTY TAX IMPLEMENTATION PLAN

While the work on the valuation model is proceeding, an implementation plan will already be taking shape. It may change, but some premises will have already been crystallized to a considerable degree. The most important aspects of the reform that the public relations program must address are those of the fiscal impact on taxpayers and the non-fiscal benefits that

will compensate any the adverse effects on taxpayers.

The degree to which taxpayers feel the fiscal impact of the reform depends on the category of the taxpayer and the distribution of the tax burden within each category. There are basically two taxpayer categories, or sectors, that will need separate attention in terms of public relations and taxpayer education:

- taxpayers of residential properties,
- taxpayers of non-residential properties (industrial, commercial)

Two situations can be described as irrational and in need of modification. One concerns distribution of the tax burden between residential and non-residential sectors. The former is generally under-taxed and the latter generally over-taxed. The other occurs within each sector where the tax burden is irrationally distributed because it ignores differences in property taxes stemming from different in economic values.

With regard to the first situation, it is apparent that shifting some of the tax burden from non-residential to residential sectors is necessary for the long term. Through analysis of the existing system, it should be ascertained what portion of the present tax revenues is contributed by the residential sector and what part is contributed by the non-residential sector (industrial and commercial). Initial inquires indicate that in Staraya Russa, legal entities contribute an overwhelming portion of the property related taxes (through an asset tax of 5.7% of total local revenues as compared to 0.2% by individuals). It is assumed, however, that during the initial year of the reform, it will be necessary to retain some sort of revenue neutrality with respect to the present residential taxpayers, concentrating efforts on the more equitable redistribution of the tax burden and on adding new taxpayers (such as tenants in communal housing stock).

The second situation will be addressed through the natural mechanics of the property tax reform. That is, by shifting to taxation of economic values related to the market value of the property.

Taxation of residential properties

A sensible, and prudent means of increasing the tax contributions of the residential sector is to broaden tax liabilities by:

1. including rental apartments in tax liability;
2. reducing unwarranted exemptions; and
3. redistributing the tax burden according to property value.

All approaches are possible if conveyed to the public through a carefully crafted public relations and taxpayer education campaign.

Broadening the scope of individual tax liability to include rental housing is another way of increasing rents by the equivalent of a tax contribution. This will increase the tax base substantially, since rental apartments still constitute a considerable part of the residential stock (in Staraya Russa and Borovichi about 50% of apartments have not been privatized). The imposition of property taxes on rental apartments may be easier to accomplish than outright rent increases since the equity argument of sharing the tax burden between apartment owners and apartment tenants is valid. This may be especially significant in housing areas where apartment owners and rental tenants live in the same building. The surplus generated by the inclusion of rental apartments into the property tax base could be used to either lower property tax rates or improve services and amenities accessible to tenants. Some of the surplus could be used to improve the economics of the housing stock (repairs). This depends on the political will and the taxpayers' acceptance of the reform.

Federal laws often grant exemptions without specific calculations of the cost to local budgets. Exemptions should be made explicitly visible and branded as subsidies financed through higher taxes on non-exempt properties. The value of the exemptions should be classified in local budgets as subsidies. This way, the process of establishing property tax rates and the level of subsidies (to finance exemptions) will be brought under the lens of public scrutiny. This alone should create enough political pressure to reduce unnecessary exemptions, which seems to abound in the current system. Any cut in subsidies should again be reflected by lower tax rates in order to develop the proper perceptions about this important linkage to taxpayers and politicians.

Increasing tax liabilities on the most valuable residential land and buildings, typically located in central areas or in fashionable single-family enclaves, may be acceptable to taxpayers if backed with improved services and amenities. Then the increase in tax revenue can be used for services demonstrating a direct link between property tax and local services. This is crucial

in forming the proper taxpayer perceptions of the role of local taxes. At the same time, the center of the city could be improved in order to form a positive city image which is vital to the development of tourism and the general improvement in the citizens' living environment. The "city center" is the best place to begin these processes.

Taxation of commercial and industrial properties

The non-residential sector is considered to be generally overtaxed, contributing the overwhelming part of the present property tax revenues. This sector consists of two distinct sub-sectors: industrial and commercial, which behave quite differently. Generally, the industrial sub-sector is much less dynamic than the commercial sub-sector, especially the larger city of Borovichi. Consequently, industrial properties are overtaxed in comparison to commercial properties. There should thus be some redistribution of tax burden from industrial to commercial sub-sector, which should be welcomed by a number of struggling enterprises in both Borovichi and Staraya Russa.

The reduction of the tax burden on the industrial sector can also be achieved by the redistribution of taxes according to the market related values of land and buildings, but keeping the total tax revenue from this sub-sector at the same level since its share in property tax revenues is much higher than the commercial sub-sector.

There should be a substantial opportunity for tax revenue increase from the commercial service-based sub-sector, which is likely the fastest growing economic sector in both. This will increase the need for retail and office space, which should materialize mostly through a reuse of the existing space underutilized by centrally located present public owners, residential apartments, as well as surplus industrial office space and unused industrial buildings adaptable for office uses. In the longer term some new construction of office and retail space may be expected.

In terms of tax revenues it may be expected, that much of the addition of commercial space through reuse will lead to additional tax revenues. Introduction of the market value-based structure of the property tax on these properties should increase tax revenues substantially from this sub-sector. Much depends on the value development of commercial real estate, which in turn is predicated on zoning reform such as the one recently adopted in the city of Novgorod.

Target Taxpayer Groups for Public Relations Program

The public relations program delivery system can be broad-based or narrow in focus. The broad-based component will address all taxpayers, while the narrow focus will be provided to taxpayer groups (by type and location) confronting higher tax bills in comparison with the existing taxes. These narrow target groups will have to be studied with the help of sociological and political surveys in order to establish their perceptions and preferences in terms of non-fiscal benefits (services, amenities), which should be offered to them during the initial implementation process. Some of these groups are already known, like for example rental apartment tenants (all) and owners/users of commercial properties (all). Other groups should be identified after tax impact analysis indicating high-value areas of the city, where taxpayers will be facing higher bills.

9.5. INFORMATION PRODUCTION AND DISSEMINATION

As already mentioned the basic public relations methodology follows the sequence of three stages:

- strategy development and program formulation;
- information production and dissemination; and
- taxpayer feedback and administration response.

The information production and dissemination stage should use a number of techniques for communicating with taxpayers. A number of basic techniques should be considered for this process. Communication methods with taxpayers usually consist of the following:

- public service announcements (PSA) to radio and television stations;
- news releases to newspapers, radio, and television;
- issuance and delivery of information brochures to all taxpayers;
- distribution of posters in public places;
- performing taxpayer surveys to identify preferences for services/amenities that should be improved using the property tax revenues;

- holding educational meetings with selected taxpayer groups;
- addressing letters to selected taxpayers.

All these activities should try to achieve basic objectives in terms of winning taxpayers understanding and acceptance of the proposed property tax reform. The objectives may be listed in the following sequence:

1. Educating taxpayers about the importance of property taxes to finance city development including urban housing, infrastructure and municipal services;
2. Educating taxpayers about the linkage between taxes and services/amenities;
3. Educating taxpayers about the equity impact of conversion to value based tax system;
4. Informing taxpayers about the fiscal impacts of conversion to the market value-based system;
5. Identifying, together with taxpayers, their preferences for non-fiscal benefits;
6. Presenting the final impact, fiscal and non-fiscal, of the reform to taxpayers.

The local team designing the final public relations strategy should decide which elements need to be emphasized and in what ranking of importance. An important discussion should focus on non-fiscal benefits that the taxpayers will expect (demand) in order to compensate for higher tax bills. The survey to that effect will need to be carefully drafted and executed (based on Novgorod experience). These benefits will range from various direct municipal services in the form of public utilities, through other amenities in the form of safety, street, transportation etc. and to the effects of city wide development translated in the form of employment, efficient land use, and civic pride (see separate paper on non-fiscal benefits). The survey will help to establish ranking of local improvements preferred by target taxpayer groups. Local politicians will also be able to influence the final choice of service/amenity improvements to be financed with the expected surplus produced by the implementation of the property tax reform.

9.6. TAXPAYER FEEDBACK AND THE ADMINISTRATION RESPONSE

Taxpayer services is an important part of regular public relations interaction between taxpayers and the already functioning property tax administration. Taxpayers should have one well defined place where they can:

- get relevant information;
- lodge complaints regarding tax bills, and;
- obtain responses to formal complaints.

The goal of the taxpayer service is to provide taxpayers with timely information regarding their property taxes and to inform them as taxpayers of their rights and responsibilities.

9.7. PUBLIC RELATIONS IMPLEMENTATION STRATEGY

9.7.1. GOALS AND OBJECTIVES

The public relations implementation strategy deals mostly with the introduction of the property tax system in the city. The regular ongoing taxpayer services provided after the introduction of the tax are discussed elsewhere.

The implementation strategy for taxpayer education and promotion campaign, developed by an appointed task force or by a specially created property tax department, should consist of three basic components:

- goals and objectives
- target taxpayer promotion program
- public taxpayer education program

The ultimate goals of the reform are to gain taxpayer acceptance for the introduction of the tax and gaining their compliance during the operation of the tax. This requires the attainment of several objectives:

- raising of awareness of the general public;
- raising of awareness of the business community;

- building a taxpayer constituency for the reform; and
- mobilizing support of the constituency for tax introduction.

Raising the awareness of the general public needs to show the linkage between local taxes, of which property tax is an important component, and improved quality of life through better municipal services paid for by the tax.

Raising the awareness of the business community, who have a better understanding of economics, needs to show that the property tax is a logical step in strengthening of local budgets and their self-sufficiency, which should allow the city to stimulate economic development through investments in necessary infrastructure.

The building of a taxpayer constituency for the reform requires identification of taxpayer groups who are most likely to understand, appreciate and support the introduction of market-value based property tax system in the city.

The mobilization of the targeted taxpayer constituency requires that the identified taxpayer groups take an active and positive role during the campaign preceding the introduction of the new property tax.

The attainment of these goals and objectives can best be achieved by focusing the activities of the city in two broad programs:

- promoting the idea with targeted active taxpayer groups, and
- educating the general taxpayer public about reform significance and benefits.

The target taxpayer promotion program should start as soon as results are known from taxpayer survey, and tax impact analysis. The general taxpayer education program should start only after the necessary local regulatory framework has been put into place.

9.7.2. TARGETED TAXPAYER PROMOTION PROGRAM

Before the necessary local regulatory framework has been put into place the work should start with a small, but well targeted, group of "active" and influential taxpayers to form their

positive attitude towards the new property tax, as well as to get their valuable inputs to be used in final formulation of local regulations. The active taxpayer group will be identified after taxpayer survey and tax impact analysis have been completed in the city. The results of the work with the group will then be used in the broader general public tax education program. And the active taxpayer group representatives may be successfully used in that education program. Some of these people will be the ones who are interested in the tax reform due to their professional interests. The others will be those who are to be affected by the tax in terms of confronting higher tax bills.

The promotion program for working with targeted active taxpayer groups should be aimed at advocating the cause, rather than merely reporting on the new tax policy. It may use direct appeals to social values, emotions, sense of responsibility, etc. This would include pointing out to these people that, after all, the property tax reform is initiated by the very people who are taxpayers themselves and often the ones who are to confront higher tax bills after the reform.

The *target taxpayer groups* will need to receive more technical information addressing a more direct interest of these taxpayers. They will most likely be coming from the following groups:

Communal housing residents, who are to face new tax liabilities and will need to see that they are going to receive higher quality communal services worth the increased tax. At the same time they will need to understand that they have to share in the tax burden which is already carried by other taxpayers;

Private residential owners of high value homes and apartments, who are to face higher tax bills will need to be convinced that they are enjoying high locational amenities, which are not available to others. At the same time they might be shown that tax money, which will be spent on municipal services in their area will benefit the value of their properties, which is good in itself.

Commercial space owners/users in good locations, who will need to understand that tax burden varies depending on the amount of business, which differs by location. If one has a good business location he/she will be generating enough cash flow to pay the higher tax. And conversely, in a poorer location generating less cash flow the owner/user will be paying a lower tax.

Industrial enterprises in attractive locations, who will need to understand that they are occupying land which is needed by many other users who are willing to pay more for using it. In order to stay in their locations the enterprises will need to pay more or rationalize their land use by making parts of it available to other users who will help pay for tax increases.

In a way, the work with these groups will allow the city to identify crucial issues and concerns that need attention in the final shaping of tax policy and regulatory framework for a given city with its peculiar economic and social structure. The program should address directly the questions, anxieties and objections that these specific groups might have concerning the reform. Key messages should be developed on the basis of the following argument themes:

- social justice in equitable distribution of the necessary tax burden;
- incentives to the best use of scarce and valuable land and space resources;
- enhancing local finances to be able to improve municipal services;
- responsibility and assertion of rights;
- significance of land and real estate;
- changes in the tax system are legally valid
- legal security through tax appeals and remedies;
- other arguments that might arise during discussions.

Working with these taxpayer groups will require a number of activities such as:

- Information messages placed in the mass media and/or story ideas provided to journalists. Articles should be placed both in general periodicals, business newspapers, local papers (such as Red Spark in Borovichi), radio/TV programs;
- Radio/TV announcements and "round-table" talk shows, with special training provided to those experts who will participate in round table discussions. Key messages may be delivered directly by tax officials, or indirectly by others. The shows should provide an all-round coverage of property tax issues;
- Taxpayer seminars promoting the ideas of the property tax reform among targeted taxpayer groups. Agendas for seminars should vary depending on targeted taxpayer

group, since these groups might have different perceptions and issues;

- Open town meetings with large groups of taxpayers living in the same area, such as communal housing. Such meetings provide an opportunity to demonstrate that the city administration is seeking advice and information from concerned residents/taxpayers;
- Taxpayer brochures on the new property tax highlighting the benefits and essence of the tax reform. Copies of the brochures should be made available for the people to take home and study. It should be included in information packages distributed to target groups. It is essential that the brochures be easy to comprehend. Separate brochures can be developed for passive taxpayers (see separate paper) and for active taxpayers;
- Newspaper supplements on the new property tax will be in great demand and produce a powerful effect. The materials need to be adapted to a particular format and profile of a given newspaper using a wide range of approaches - from emotional to rational;
- Posters for billboards and wall placements for the general educational campaign illustrating the essence and implementation steps of the tax reform. They will be particularly useful in places where people make their tax payments, i.e. post offices and banks.

9.8. GENERAL PUBLIC TAX EDUCATION PROGRAM

This program should start once the relevant local regulatory framework has been adopted in the city. The program should focus on increasing the public awareness of the reform's economic significance and benefits for city residents. It should be done in a manner that increases government credibility, which is of crucial importance to public acceptance and subsequent compliance. For this reason the education program needs not only to pass on information about the new tax, but allow for:

- taxpayers to voice their views under a controlled debate;

- correction of erroneous and demagogic information;
- mitigation of negative aspects of the tax; and
- addressing the relevance of the tax to problems of municipal services.

It is important to emphasize that the program should not bear the characteristics of being a promotional campaign, as is the case with targeted taxpayer program, but the focus should be on explanation and persuasion that the reform is aimed at solving many current problems. It is essential to address existing fears and apprehensions. The program should develop a notion of the inevitability of the tax and its direct linkage to the needed improvements of municipal services, which taxpayers are typically unhappy with due to:

- insecurity of public places including streets;
- power supply failures;
- poor central heating;
- frequent hot water cut-offs;
- insufficient gas supply;
- dysfunctional backyards;
- poor lighting of streets and yards;
- dilapidated and poorly lit building entrances;
- rats, mice, cockroaches and other domestic pest;
- malfunctioning of sewage systems;
- frequent elevator breakdowns;
- irregular garbage disposal services.

The line of argumentation during controlled public debates is to show that the population is complaining about deficient municipal services, which can be verified with the results of survey of taxpayer attitudes and preferences. Whenever possible, hard economic data and logical arguments relevant to life experience should be used. If the public agrees with the need of specific improvement and addition of municipal services then the next argument is to talk

about how to finance these improvements through an efficient and equitable tax source. That is where the concept of a market value-based property tax becomes socially justifiable, credible and a responsible way of financing what the public wants to have.

In order to strengthen the arguments for the property tax, other benefits should be indicated as beneficial to general economic development and other groups:

- increase of revenues of a local government, which needs funds;
- more efficient use of land and building scarce resources;
- strengthen more autonomous local government finance;
- consolidate various taxes related to land and buildings;
- reduce administrative burdens on businesses in tax calculation and reporting;
- decrease tax avoidance, which is "ruining" public finance in the country;
- shift some tax burden from industrial to commercial and residential uses;
- develop comprehensive information about real estate properties and markets.

While educating the public about the benefits of property tax reform, one should also devote time and resource to correcting distorted perception about the tax reform, and to mitigating any negative aspects of the reform. Many of these distorted perceptions stem from ignorance, cynicism, fear or demagoguery by opponents of the reform. The misperceptions should be corrected quickly, so that they do not gain permanence in the public perception and do not encourage non-compliance.

The materials used in the program should be developed to emphasize the positive trends in the city and the role of the new tax to galvanize these developments. Property owners who might be apprehensive in having their properties taxed more heavily should feel that their properties are truly more valuable if they are more taxed. The general public should disassociate taxes from such sensitive issues as non-payment of wages, lay-offs, etc.

The tools used for the general public education program are of the same type described above in targeted taxpayer program with additional emphasis being placed on:

- press conferences and briefings;

- press releases;
- Newspaper supplements containing:
 - ⇒ "the talk of the street";
 - ⇒ questions and answers, letters from the taxpayers;
 - ⇒ analytical reviews;
 - ⇒ success stories from pilot cities and from abroad;
 - ⇒ monitoring of the tax reforms results;
- direct communications such as direct mail;
- one-to-one radio live talk shows (if there are local radio stations);
- mass distribution leaflets.

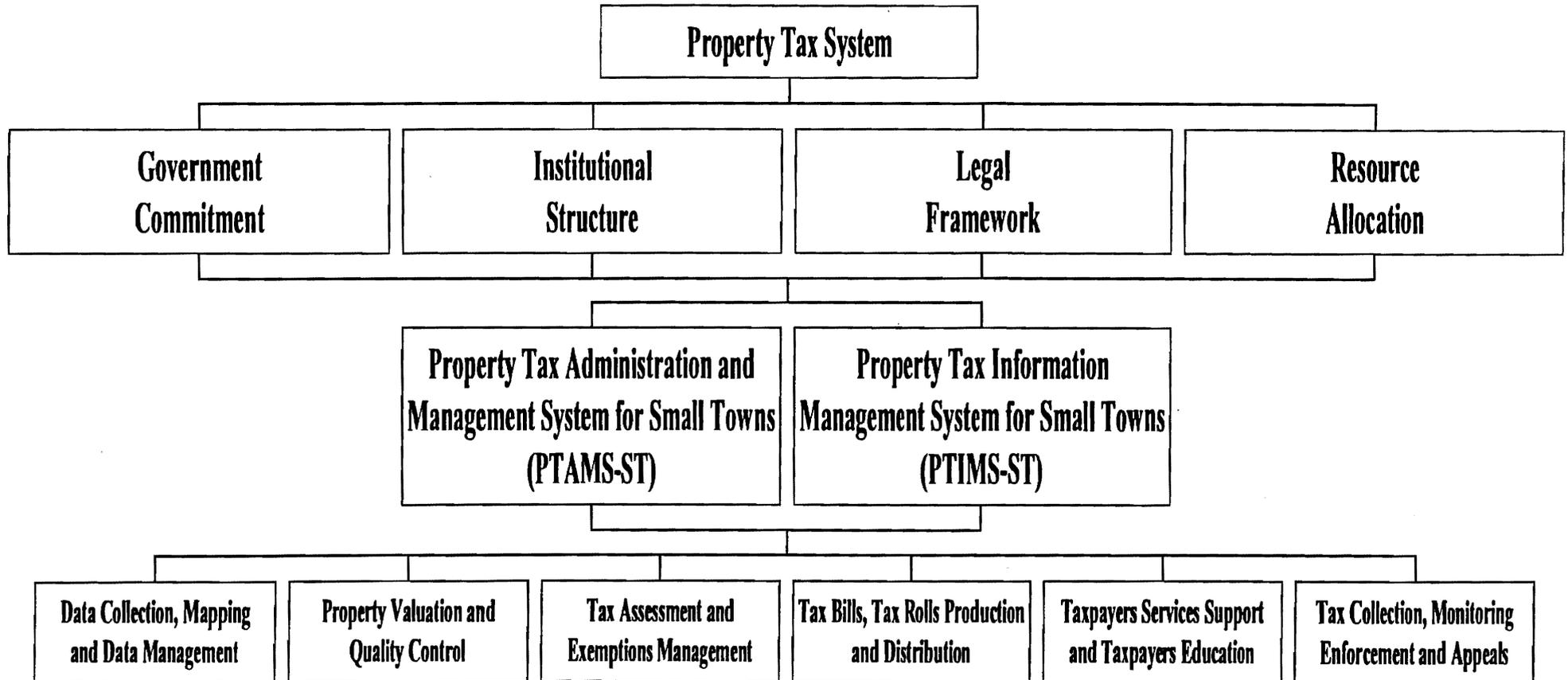
CHAPTER IX APPENDICES

1. YOUR CHANGING PROPERTY TAXES: WHAT YOU NEED TO KNOW ABOUT THE PROPERTY TAX REFORM EXPERIMENT IN THE RUSSIAN FEDERATION
2. EXPERIMENTAL IMPLEMENTATION OF MARKET VALUE BASED REAL PROPERTY TAXATION IN BOROVICHI: EXAMPLE OF THE ONE-PAGE BROCHURE
3. EXPERIMENTAL IMPLEMENTATION OF MARKET VALUE BASED REAL PROPERTY TAXATION IN STARAYA RUSSA: EXAMPLE OF THE ONE-PAGE BROCHURE
4. QUESTIONS AND ANSWERS ABOUT THE PROPERTY TAX EXPERIMENT IN THE RUSSIAN FEDERATION

CHAPTER II

APPENDIX

Figure 1: Major Components of a Property Tax System



CHAPTER V
APPENDICES

APPENDIX I

LOCATIONAL DATA

Locational and map-related data are used in the administration of the property tax in multiple ways. In most contexts, the same base data are used for all purposes, although the scale of the maps that are generated from the data can range from 1:500 in heavily urbanized areas to 1:2000 and smaller in less-developed areas and for more broad-scale analytical purposes. In the context of the Russian Federation, however, where some of these data are considered state secrets and therefore are not made publicly available, the situation can become much more complicated. The following describes the requirements of the property tax project and some of the solutions that have been adopted in the pilot cities.

It should be emphasized at the outset that at no time does the administration of the property tax require an absolute reference frame. Except for the geodesy department's purposes of ensuring relative accuracy, (which fundamentally can only be done by ensuring absolute accuracy), there is no need to relate local data to a real-world reference frame such as degrees of longitude and latitude. Additionally, there is no need in property tax administration for as much precision as is generally required for surveying and land-titling purposes. Some high-precision mappers refer disparagingly to the maps used in property tax administration as cartoons floating in space, and there is some justification for this characterization. Nevertheless, property tax administrators do have very real mapping needs, which are summarized below.

- Mapping for Discovery purposes

The only way to ensure that all taxable land has been included in the fiscal cadastre is to map all the parcel boundaries, whether any given parcel is taxable or tax exempt, and to examine the resulting map for gaps and overlaps. This process is sometimes compared to assembling a jigsaw puzzle or re-assembling the pieces of a broken plate. Only when the assembly is completed can you be sure that you have all the pieces. If the boundaries of the parcels have been mapped accurately, and the parcels themselves, including their areas, have been related accurately to the independent records in the fiscal cadastre, then the property tax administrators can be assured that all relevant land parcels have accounted for.

In Novgorod this step, although logically the first step in property tax administration, was completed near the end of the pilot project. For reasons of secrecy, the work was done by the Land Committee, not the property tax department, and was done using real-world coordinates that were never seen by project personnel. Project personnel saw only the resulting maps and computer screens, which being devoid of a reference frame, conformed to the security concerns of the Russian Federation. Obviously, there were no distortions made to these data. Only relatively small areas were ever seen at one time. The Novgorod Land Committee developed its computerized base maps from 1:2000 base maps and the direct entry of geodetic survey data, using Microstation 95 software.

- **Valuation Model Development**

For the purpose of developing a valuation model, it is essential that geographic or locational data be available that are undistorted in certain respects, although, again, an absolute reference frame is not required, so they may be distorted in other respects thought to be essential for security purposes. In particular, the X-Y coordinates required for valuation purposes must not distort distances between any arbitrary set of points. Thus there can be no stretching or shrinking reflected in the map. Displacement and rotation, however, are perfectly acceptable, inasmuch as they do not distort distances.

In Novgorod, this was accomplished by means of a special algorithm implemented by the Land Committee, which transformed real-world coordinates to a set of X-Y coordinates. One coordinate pair was made available for each parcel, together with its cadastral identification number. The cadastral identification numbers were used to obtain data about the physical characteristics of the properties and the X-Y coordinates were used to locate the property in an arbitrary space. As further described in the valuation modeling reference materials, an equation relating selling prices to physical characteristics was developed, with the unexplained "residuals" being attributed to locational effects. Iterative processes and other measures were employed to minimize the extent to which the model would be biased due to specification errors. The inferred land residuals were modeled using a response-surface algorithm, to develop a smoothed relative land value map.

The response-surface derived relative land value map, in an ideal context, could then be used directly, in conjunction with X-Y coordinates stored in the fiscal cadastre, to produce land value estimates for all properties in the city. These estimates would reflect reality as accurately as possible and in particular would change more or less smoothly, from one parcel to the next, as the market-reflected preferences for adjacent locations. For this to be possible, however, the fiscal cadastre must contain X-Y coordinates for all taxable parcels according to the coordinate scheme used for valuation model development; it will not be enough to have such coordinates only for the sold parcels. If these data are not available for all taxable parcels, the valuation modelers must define zones or neighborhoods within each of which all land parcels have more or less the same relative land values per square meter. Such homogeneous land value zones are referred to as neighborhoods for the sake of convenience. Once this is done the fiscal cadastre must then include for each parcel, in lieu of an X-Y coordinate, a neighbor identifier so that the valuation model can be applied to all properties. In this case, of course, the land value estimates are absolutely uniform within each neighborhood and vary in large steps, rather than continuously, at the transition from one neighborhood to another. Such discontinuous jumps may produce differences in value estimates that are difficult to explain to affected taxpayers. This was the approach taken in Novgorod.

- **Review Appraisals, location/identification**

After the valuation modelers have completed their initial analyses, the estimates produced by their valuation algorithms must be reviewed. During this process review appraisers must field check at least a sample of the relevant kinds of properties, comparing the CAMA

estimate to their judgement of the property's value while visually inspecting it. For such purposes it is obviously necessary for the review appraiser to expeditiously locate the general environs of the property and identify the particular property being appraised. Maps showing parcel boundaries, cadastral numbers, and additional locational information such as street names and addresses, are essential for such purposes. If available, additional information such as parcel size, zoning codes, and building footprints are convenient to have printed on the map. If such optional information cannot be printed on the map, the essential elements of it can be obtained from the property description form that the review appraiser will have been provided with in addition to the map. The maps required for this purpose are generally of such a large scale and such limited geographic extent that the issue of distortions does not arise. Obviously they should not be distorted, but neither do they need any reference frame beyond the bare necessities involved in enabling a review appraiser to get to the correct site and to correctly identify the appraised object.

In Novgorod, these needs are to be met by specially prepared map extracts for review appraiser use in initial model testing. In an ideal context, the entirety of the assessment roll would be subject to review appraisals. For such purposes essentially the entirety of the jurisdiction should be covered by map extracts. It is not clear yet whether time will permit a disciplined field review of all appraisals, and if so how the Land Committee will handle the issue of preparing the map extracts necessary for the purpose.

- Appeals

In the context of both formal and informal appeals, it is generally necessary for the property tax department to present evidence to an inquiring taxpayer on how his valuation compares with other objective evidence of market values, usually in the form of sales of similar properties. Such sales, and also appraisals of benchmark properties if they are used, should be plotted on a map that can be shown to a complainant. In sophisticated systems, the map may also plot the complainant's own property for easier characterization of relative distances, and may also include coded information (or pop-up boxes if the map is a screen display rather than a paper document) that present the relevant property characteristics and market value estimates for the properties. In very sophisticated systems, only the locations of the 3-5 most comparable properties would be displayed, and the information boxes would include adjustments to the sale price of each of the comparable properties so that each would constitute an estimate of the subject property's market value. With the unwillingness of the land committee to make its data accessible to the property tax project, this kind of tool for enhancing public acceptance of the equity of the property tax valuations cannot be provided.

- Quality control and related neighborhood analyses

In the course of reviewing the quality of the market value estimates and also in the process of revising the neighborhood delineations that go into the valuation formulas, it is necessary to search for geographical patterns where there should be none. This is commonly done by plotting on a map (for each market transaction) of the property tax department's value estimate to the real price agreed to in the market. These so-called assessment/sale-price

ratios serve as the most powerful tool available to monitor the quality of the property tax department's valuations, and the geographic pattern based analyses are a crucial part of the process.

real estate information. The Card lets these organizations exchange information and work together on the fiscal cadastre.

As an administrative aid the Card is used not only to collect data on the physical characteristics of land and buildings, and information about taxpayers, but also to collect information about real estate sales. In addition, the Card will show the absolute price levels for properties as determined by an appraiser in the event that the prevailing appraisal method does not yield acceptable results. After entering data onto the Card, it could be used by a computer operator to change the contents of the fiscal cadastre in the data base. Using only one type of Card for managing various administrative functions of real estate taxation will simplify the management of the tax system.

After bringing the real estate taxation system into force, the Real Estate Data Cards can be used as documents, having legal force, for confirming information contained in the fiscal cadastre. When work on fiscal cadastre is completed, all changes in the fiscal cadastre must be entered through the Card. If allowed by regulations governing the cadastre, both the taxpayer and an authorized official may sign the Card. The administrative organ will give a certificate on the changes, which reflects data on old and new characteristics of the real estate, as well as the tax value. This certificate serves as an official document which confirms the legality of changes.

While establishing the fiscal cadastre, the Card is primarily used for transferring information about land parcels from the files of the Land Committee, information about the physical characteristics of buildings, from the technical registration certificate of the Bureau of Technical Inventory, and, if possible, information about the rights of taxpayers. It is these two organizations which bear responsibility for the precise transfer of data. Ideally, in order to work consistently with data, this Card must also be used for collecting information about real estate sales for the purpose of developing models for mass appraisal of real estate.

While developing a fiscal cadastre, the Land Committee and BTI input data onto Cards separately from one another. Nevertheless, the BTI requires information from the Land Committee to accurately correlate information about buildings, commercial space, and

apartments for each particular land parcel. The Land Committee must supply the BTI with section maps, showing land parcels and their corresponding Cadastre Numbers. Without these maps the BTI simply cannot work effectively.

Aside from the characteristics of land parcels, buildings, apartments or commercial space, the Card must contain information about the appropriate taxpayer and his rights. In many cases there exists real estate with shared forms of ownership, or real estate with more than one owner/user. Therefore, the Real Estate Data Card consists of several parts. One Real Estate Data Card contains information about the land parcel. Another Real Estate Data Card contains information about buildings, and a third information about apartments and commercial space. Yet another Real Estate Data Card contains information only about the tax-payer and his rights. This Card will be used in case additional information on the owner/renter and his rights is needed for the land, building, apartment or commercial space.

Information about the properties of each land parcel will be entered on a separate Real Estate Data Card at the Land Committee. Each Real Estate Data Card has a space for information about two persons and their corresponding rights. When there are more than two persons or rights, a separate Data Card about the owner (person) of the real estate property and his rights shall be used. In the BTI the characteristics of buildings are entered on a Building Data Card, which has space for information about two persons and their corresponding rights. Information about apartments and commercial space is entered on a separate Card. All Cards which pertain to the same land parcel will have the same land Cadastre Number.

After the Land Committee assigns a Cadastre Number, the section map with Cadastre Numbers is turned over to the BTI. The BTI records the Cadastre Number of a land parcel, the Cadastre Number of buildings, the number of apartments or commercial space, and characteristics of the building, apartment or commercial space on the appropriate Real Estate Data Card.

A table is given below which illustrates the working regimens in the Land Committee and the BTI.

Steps for entering information onto the Real Estate Data Card.

Land Committee:

- Step 1. Give a Cadastre Number to land parcels on a section map
- Step 2. Copy the section map and deliver a copy to the BTI.
- Step 3. Give the completed section map to the Card preparer.
- Step 4. Transfer information from the Land Committee on a Real Estate Data Card.
- Step 5. Group together the completed Cards by section.
- Step 6. Check the group of Cards and deliver them for data entry.
- Step 7. Enter the data into the computer.
- Step 8. Create a file for completed Real Estate Data Cards.

Bureau of Technical Inventory

- Step 1. Receive the section map from the Land Committee.
- Step 2. Obtain the technical registration certificate (files) from the BTI for the appropriate section map.
- Step 3. Assign a Building Cadastre Number to the property and record that number onto the Real Estate Data Cards.
- Step 4. Transfer information from the BTI file to the Real Estate Data Cards.
- Step 5. Group the cards together.
- Step 6. Check the group of cards and transfer them for data entry into the computer.
- Step 7. Enter the data into the computer.
- Step 8. Create a file of completed Real Estate Data Cards.

The amount of cards for each land parcel, and buildings and commercial space on that parcel, is determined by the number of persons and rights connected with the parcel, building(s) and commercial space(s).

The packet of Real Estate Data Cards contains four separate Cards. For each category of taxable property one Card has been created. For example, one Card for the land parcel, one Card for the

building, and one Card for the commercial space including apartments. Additionally, a separate Card has been created which contains information about the persons and rights. The back side of each Card has a space for entering two individual taxpayers, who can have various real estate rights.

Each space on the Real Estate Data Card is described below.

Land Parcel Data Card

This card is completed in the Land Committee.

IDENTIFICATION

Card Number

This number is assigned after the Cards have been grouped together.

Type of Operation

Create: Mark this cell if the card is used for adding information about a new land parcel or building, or if it refers to a new structure on an existing land parcel.

Change: Mark this cell if the card is used to update (change) information about an existing land parcel or building/structure on the parcel.

Remove: Mark this cell for removing information about existing real estate from the data base. Rules for using the function to remove information are given in the manual for data entry.

Cadastre Number for a Land Parcel (primary entry)

Enter the Cadastre Number for the land parcel assigned by the Land Committee.

LOCATION OF THE LAND PARCEL

In the even that information in a space designated as mandatory is incomplete and inexact, the Card is set aside.

Street Name (mandatory)

Enter the street name where the real estate is located. If there is no information of the street name, enter “unknown”.

Building Name or Other Spatial Information (optional) Enter any other information which may be used to identify the real estate property.

(SIDE 1)

CHARACTERISTICS OF THE LAND PARCEL

Data in the section “Characteristics of the Land Parcel” is completed only by the Land Committee.

Quantity of Taxpayers Enter the number of taxpayers who pertain to the given land parcel. Complete information about each taxpayer on the Card “Taxpayers and their Rights”.

Primary Use of the Land Parcel

Mark the cell which indicates the use of the land. When there is more than one user, mark the cell describing the largest percentage of land use. Choose from the following: 1)Individual residential building; 2) Apartment building; 3)Parking/Garage; 4)Non Government offices; 5) Services; 6) Trade; 7) Warehouses; 8) Small-scale industry; 9) Large-scale industry; 10)Transportation enterprises; 11) Agriculture; 12) Government/military establishments; 13) Education/culture/medicine/sports; 14) Hotels; 15) Cafes/restaurants/food services; 16) Kiosks; 17) Others.

Category of Land Use

Mark the appropriate cell. Choose from the following: 1) Agricultural uses; 2) Municipal; 3) Industry, transportation; 4) Nature conservation; 5) Forest preserve; 6) Water preserves; 7) Reserves.

Type of Land Use

Mark the appropriate cell. Choose from the following: 1) Farm; 2) Individual structure; 3) Gardening; 4) Garages; 5) Cottage construction; 6) Raising live stock; 7) Business enterprise; 8) Agricultural use; 9) municipal lands; 10) Forestry; 11) Land reserve; 12) Water management; 13) Homestead plots.

Construction on the Land Parcel

Mark this cell, if there is unfinished construction (buildings not yet inhabited) on the parcel.

Area of the Land Parcel (m²)

Enter the area of the land parcel within an accuracy of 1 square meter.

The area of the land parcel is one of the most important factors of real estate appraisal.

Therefore, this data must be entered with special attention.

Economic Zone Code

Enter information on the economic zone code used for assessing taxes on the land.

Amount of Annual Tax on Land (in rubles)

If the amount of annual tax on land (in rubles) is known, enter this into the cell.

Amount of Annual Rent on Land (in rubles)

Enter the amount of annual rental payments in rubles.

Source of Information

Mark the cell which indicates the data source used for completion of this Card. Choose from the following: 1) Technical record; 2) Plan for the Land Parcel; 3) Deed creating the borders of the parcel; or 4) Certificate. Enter the name of the document, series and date issued.

INFORMATION ON THE REAL ESTATE SALES

This section is for use in the future. The section is used only for transactions at "Market Price."

There are two type of prices entered in this section:

- 1) Value set by the appraiser, which prevails over the assessment modeled on a computer.
- 2) Actual market value, based on an actual real estate transaction.

Selection of these values is determined by the "Source of Information."

Source of information about Sales

Mark the source of information. Choose from the following: 1) Government institution; 2) Notary office; 3) Real estate agency; 4) Brokerage company; or 5) Other.

Selling Price (in rubles)

Input the actual price of the sale.

Month and Year of Sale Input the date of the sale (transaction)

INFORMATION ABOUT THE CARD PREPARER AND DATA INPUT OPERATOR

Code of the Card Preparer

Input the Card preparer's identification number.

Full Name of the Preparer (clearly)

Type in the full name of the Card preparer.

Date the Card was Completed

Input the date when the Card was signed and completed.

Signature of the Card Preparer

The Card is signed by the Card preparer.

Data Input Operator's Code

Input the identification number for the data input operator. For faster data collection each data input operator can issue a rubber stamp to print their name and identification number.

Full Name of the Operator (clearly)

Type in the full name of the data input operator.

Date Data Input was Completed

Enter the date when the Data Cards were entered into the computer.

Signature of the Data Input Operator

The Card is signed by the data input operator.

(Side 2)

Possessor/Owner

Cadastre Number of the Land Parcel (Secondary entry)

Enter the Cadastre Number of the land parcel again into this cell.

INFORMATION ABOUT TAXPAYERS AND RIGHTS

The taxpayer may be the owner of the real estate or a renter. If he is a renter, write in the last name of the person responsible.

Last name/Name of Organization 1

ATTENTION: A section on the taxpayer and rights must be completed for each legal entity/individual, who has a right to the real estate.

Enter the last name of the taxpayer, if the taxpayer is an “individual.”

If the taxpayer is a “legal entity,” enter the name of the Organization in this space. If there is not enough space to enter the full name of the organization, you may continue onto the line for “Name of Organization 2”.

First Name/Name of Organization 2

Enter the first name of the taxpayer in this space, if the taxpayer is an “individual.” If the taxpayer is a “legal entity,” you may continue entering the name of the organization in this space. This space can also be used for an organization’s short name.

Patronymic/ Name of Organization 3

Enter the last name of the taxpayer, if the taxpayer is an “individual.” If the taxpayer is a “legal entity,” you may continue entering the name of the organization in this space. This space can also be used for an organization’s short name.

Date of Birth/ Registration Certificate

Enter the date of birth, if the taxpayer is an “individual;” if a “legal entity,” enter the issue date of the registration certificate.

District/City

Enter the name of the district or city, where the taxpayer lives or is permanently situated.

If the taxpayer lives or is situated at the same address as the real estate property, this space can be left blank.

Street Name

Enter the street name, where the taxpayer lives or is permanently situated.

If the taxpayer lives or is situated at the same address as the real estate property, this space can be left blank.

Postal Code

Enter the postal code where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Apartment Number

Enter the number of the apartment or commercial space, where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Individual House Number

Enter the house number where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Building Number

Enter the building number, as needed.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Building Name or Other Spatial Information

Enter any additional information, which helps identify the location of the real estate property.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Rights of the Person

ATTENTION: There are three sections for information on the rights of the person. One section determines the type of ownership, the second section specifies the form of rights, and the third specifies the type of rights. The selection should be indicated for each section.

Section I: Type of Ownership

Mark the appropriate cell: 1) Federal property; 2) District property; 3) Municipal property; 4) Private property

Section II: Form of Ownership Rights

Mark the appropriate cell: 1) Shared (divided) ownership; 2) Joint (undivided) ownership; 3) Private ownership; 4) Joint/shared ownership.

Share:

Enter the share of ownership as it is shown in the files of the BTI or the Land Committee. The share can be expressed as a percentage or as a fraction of the total area.

Joint Ownership Code:

ATTENTION: This code will be used when there are joint ownership rights to the real estate property. Information on the person and rights must be entered for each participant in joint ownership. Each participant has an equal share. Each participant entered in the joint ownership document, must have the same code.

Enter code "A" for all persons registered in the first joint ownership document. Enter code "B" for all persons registered in the second joint ownership document, and so on.

Section III: Type of Ownership Rights

Mark the appropriate cell: 1) Lifetime inherited ownership; 2) Full economic authority ; 3) Operational management; 4) Permanent use; 5) Rent; 6) Private ownership.

Type of a Document Establishing Rights

From the list given below, select one document establishing rights and mark the appropriate cell:

1)Certificate; 2)Government Deed; 3)Contract; 4)Regulation; 5)Registration Certificate; 6) Resolution; 7) Decree; 8)Certification.

Document Description

Enter the exact name of the document in this space.

Document Number

Indicate the official document number assigned by the organization which issued this document.

Document Date of Issue

Indicate the document issue date. (day/month/year)

Building Data Card (primary property)

The Card containing the basic characteristics of the building, which describe the “outer shell” of the building, without the individual commercial spaces and apartments. For the building it is necessary to complete only one Building Data Card (primary property). All Cards on apartments and commercial space are attached to this Card.

Section “Identification”

Card Number

This number is assigned after the Cards are grouped together.

Type of Operation

Create: Mark this cell if the card is used for adding information about a new land parcel or building, or if it refers to a new structure on an existing land parcel.

Change: Mark this cell if the card is used to update (change) information about an existing land parcel or building/structure on the parcel.

Remove: Mark this cell for removing information about existing real estate from the data base ISUNN. Rules for using the function to remove information are given in the manual for data entry.

Cadastral Number for a Land Parcel (primary entry)

Enter the Cadastral Number for the land parcel assigned by the Land Committee.

Cadastral Number of the Building

If there are any buildings on the land parcel, input the numbers and letters of the technical registration certificate (file) of these buildings from the BTI.

Cadastral Number of the Property (apartments or commercial space)

If the property is an apartment, enter the apartment number; if it is a commercial space, enter the commercial space number.

Section "Building Location"

In the event that information in a space designated as mandatory is incomplete or inexact, the Card is set aside.

Street Name (mandatory)

Enter the street name, where the real estate property is located. If you do not know, enter "unknown".

Building Number

Enter the building number according to the record in the BTI technical registration certificate files.

Number of Apartment/Commercial Space

Enter the apartment number into this space, if the real estate property is an apartment. If the real estate property is a non-residential commercial space in the building, the number of the commercial space should be recorded in this space. Otherwise, leave the space blank.

Individual House Number

Enter the house number in accordance with the location of the real estate property.

Building Name or Other Spatial Information (optional)

Enter any other spatial information which may be used for identify the real estate property.

CHARACTERISTICS OF THE BUILDING

Number of Taxpayers

Enter the number of taxpayers for the given building. Complete information for each taxpayer in the Card "Taxpayers and Rights."

Primary Use of the Building

Select one of the following: 1)Individual residential house; 2)Apartment building; 3)Parking lot/garage; 4)Non-government establishments; 5)Services; 6)Trade; 7)Warehouse; 8)Small-scale industry; 9) Large-scale industry; 10)Transportation; 11)Agriculture; 12)Government/military establishment; 13)Education/culture/medicine/sports; 14)Hotel; 15)Cafe/Restaurant/Food services; 16)Kiosks; 17)Others.

As a rule, the primary use of the building reflects more than 50% of its use. If a store is located on the ground floor of a 10-story apartment building, the primary use of the building is "apartments". In the case of 50/50 use, both of the building's uses are correct.

Total Area of the Building (m²)

Enter the total of all floor area of the building, including all apartments and commercial space.

Average Height of the Ceiling (cm)

The average height of the ceiling is the height of the building from ground level in centimeters, divided by the total number of above-ground floors in the building, rounded off to a centimeter.

Number of Floors

Enter the total number of floors, including the basement (if one exists).

Buildings Area at Ground Level (m²)

Building area at ground level is approximately equal to the total area of the first floor of the building, rounded off to a square meter.

Number of Elevators

Enter the number of elevators in the building.

Year Constructed

Enter the year the building was constructed.

Year of the Major Reconstruction

Enter the year of major reconstruction (main reconstruction).

Inventory Date

Enter the date of the last inventory of characteristics of the building.

Percentage of Depreciation

Enter the effective percentage of depreciation of the entire building.

BTI Appraisal

Enter the value of the building according to the BTI technical registration certificate for the building.

Type of Outer Walls

Mark the type of material of the outer walls: Panels; Bricks; Ferro-concrete blocks; Wood; Glass and Steel; Metal; Other; Absent.

Services and Amenities

Mark the appropriate cells: 1)Electricity; 2)Cold water; 3)Central heating; 4)Hot water; 5)Telephone; 6)Garage.

Information Source

Mark the cell which indicates the source of data used for completing this Card. Choose from the following: 1)Technical registration certificate of the BTI; 2)Other source. Enter the document name, serial number and the issue date.

INFORMATION ON REAL ESTATE SALES

This section is for use in the future. The section is used only for transactions at “market price.”

There are two types of prices entered in this section:

1)Price determined by the appraiser, which prevails over the value modeled on a computer.

2)Actual market price, based on an actual real estate transaction. Selection of these prices is determined by the “Source of Information”.

Source of Information on the Sales

The source of information must be verified. Choose from the following: 1)Government institution; 2)Notary office; 3)Real estate agency; 4)Brokerage company; or 5)Other.

Sale Price (in rubles)

Input the actual price of the sale.

Month and Year of Sale

Input the date of the sale (transaction)

INFORMATION ABOUT THE CARD PREPARER AND DATA INPUT OPERATOR

Input the Card preparer’s identification number.

Full Name of the Preparer (clearly)

Type in the full name of the Card preparer.

Card Completion Date

Input the date when the Card was signed and completed.

Signature of Card Preparer

The Card is signed by the Card preparer.

Data Input Operator's Code

Input the identification number for the data input operator.

Full Name of Operator (clearly)

Type in the full name of the data input operator.

Data Input Completion Date

Enter the date when the Data Cards were entered into the computer.

Signature of the Data Input Operator

The Card is signed by the data input operator.

(Side 2)

POSSESSOR/OWNER

Cadastre Number of the Land Parcel (Secondary entry)

Enter the Cadastre Number of the land parcel again into this cell.

INFORMATION ABOUT TAXPAYERS AND RIGHTS

The taxpayer may be the owner of the real estate or a renter. If he is a renter, write in the last name of the person responsible.

Last name/Name of Organization 1

ATTENTION: A section on the taxpayer and rights must be completed for each legal entity/individual, who has a right to the real estate.

Enter the last name of the taxpayer, if the taxpayer is an “individual.”

If the taxpayer is a “legal entity,” enter the name of the Organization in this space. If there is not enough space to enter the full name of the organization, you may continue onto the line for “Name of Organization 2”.

First Name/Name of Organization 2

Enter the first name of the taxpayer in this space, if the taxpayer is an “individual.” If the taxpayer is a “legal entity,” you may continue entering the name of the organization in this space. This space can also be used for an organization’s short name.

Patronymic/ Name of Organization 3

Enter the last name of the taxpayer, if the taxpayer is an “individual.” If the taxpayer is a “legal entity,” you may continue entering the name of the organization in this space. This space can also be used for an organization’s short name.

Date of Birth/ Registration Certificate

Enter the date of birth, if the taxpayer is an “individual;” if a “legal entity,” enter the issue date of the registration certificate.

District/City

Enter the name of the district or city, where the taxpayer lives or is permanently situated.

If the taxpayer lives or is situated at the same address as the real estate property, this space can be left blank.

Street Name

Enter the street name, where the taxpayer lives or is permanently situated.

If the taxpayer lives or is situated at the same address as the real estate property, this space can be left blank.

Postal Code

Enter the postal code where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Apartment Number

Enter the number of the apartment or commercial space, where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Individual House Number

Enter the house number where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Building Number

Enter the building number, as needed.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Building Name or Other Spatial Information

Enter any additional information, which helps identify the location of the real estate property.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space can be left blank.

Rights of the Person

ATTENTION: There are three sections for information on the rights of the person. One section determines the type of ownership, the second section specifies the form of rights, and the third specifies the type of rights. The selection should be indicated for each section.

Section I: Type of Ownership

Mark the appropriate cell: 1) Federal property; 2) District property; 3) Municipal property; 4) Private property

Section II: Form of Ownership Rights

Mark the appropriate cell: 1) Shared (divided) ownership; 2) Joint (undivided) ownership; 3) Private ownership; 4) Joint/shared ownership.

Share:

Enter the share of ownership as it is shown in the files of the BTI or the Land Committee. The share can be expressed as a percentage or as a fraction of the total area.

Joint Ownership Code:

ATTENTION: This code will be used when there are joint ownership rights to the real estate property. Information on the person and rights must be entered for each participant in joint ownership. Each participant has an equal share. Each participant entered in the joint ownership document, must have the same code.

Enter code "A" for all persons registered in the first joint ownership document. Enter code "B" for all persons registered in the second joint ownership document, and so on.

Section III: Type of Ownership Rights

Mark the appropriate cell: 1)Lifetime inherited ownership; 2)Full economic authority ;
3)Operational management; 4)Permanent use; 5)Rent; 6)Private ownership.

Type of a Document Establishing Rights

From the list given below, select one document establishing rights and mark the appropriate cell:
1)Certificate; 2)Government Deed; 3)Contract; 4)Regulation; 5)Registration Certificate; 6)
Resolution; 7) Decree; 8)Certification.

Document Description

Enter the exact name of the document in this space.

Document Number

Indicate the official document number assigned by the organization which issued this document.

Document Date of Issue

Indicate the document issue date. (day/month/year)

Commercial Space Data Card (secondary property)

Commercial space and apartments (secondary property) are properties which are inside a building. For every apartment or commercial space a separate Card is filled out.

IDENTIFICATION

Card Number

This number is assigned after the Cards have been grouped together.

Type of Operation

Create: Mark this cell if the card is used for adding information about a new land parcel or building, or if it refers to a new structure on an existing land parcel.

Change: Mark this cell if the card is used to update (change) information about an existing land parcel or building/structure on the parcel.

Remove: Mark this cell for removing information about existing real estate from the data base. Rules for using the function to remove information are given in the manual for data entry.

Cadastral Number for a Land Parcel (primary entry)

Enter the Cadastral Number for the land parcel assigned by the Land Committee.

Cadastral Number of the Building

If there are any buildings on the land parcel, input the numbers and letters of the technical registration certificate (file) of these buildings from the BTI.

Cadastral Number of the Property (apartments or commercial space)

If the property is an apartment, enter the apartment number; if it is a commercial space, enter the commercial space number.

BUILDING LOCATION

In the event that information in a space designated as mandatory is incomplete or inexact, the Card is set aside.

Street Name (mandatory)

Enter the street name, where the real estate property is located. If you do not know, enter "unknown".

Building Number

Enter the building number according to the record in the BTI technical registration certificate files.

Number of Apartment/Commercial Space

Enter the apartment number into this space, if the real estate property is an apartment. If the real estate property is a non-residential commercial space in the building, the number of the commercial space should be recorded in this space. Otherwise, leave the space blank.

Individual House Number

Enter the house number in accordance with the location of the real estate property.

Building Name or Other Spatial Information (optional)

Enter any other spatial information which may be used for identify the real estate property.

CHARACTERISTICS OF THE APARTMENT/COMMERCIAL SPACE

Number of Taxpayers

Enter the number of taxpayers for the given building. Complete information for each taxpayer in the Card "Taxpayers and Rights."

Primary Use of the Building

Select one of the following: 1)Individual residential house; 2)Apartment building; 3)Parking lot/garage; 4)Non-government establishments; 5)Services; 6)Trade; 7)Warehouse; 8)Small-scale industry; 9) Large-scale industry; 10)Transportation; 11)Agriculture; 12)Government/military establishment; 13)Education/culture/medicine/sports; 14)Hotel; 15)Cafe/Restaurant/Food services; 16)Kiosks; 17)Others.

As a rule, the primary use of the building reflects more than 50% of its use. If a store is located on the ground floor of a 10-story apartment building, the primary use of the building is "apartments". In the case of 50/50 use, both of the building's uses are correct.

Total Area of the Building (m²)

Enter the total of all floor area of the building, including all apartments and commercial space.

Inhabited Area (m²)

Enter the inhabited area of the apartment/commercial space up to an accuracy of one square meter. If the area is not inhabited, this line does not have to be completed.

Kitchen Area (m²)

Size of the kitchen is only important for inhabited real estate properties. If the area is not inhabited, this line does not have to be completed.

Number of Rooms

Individual: Enter the number of individual rooms.

Passageways: Enter the number of rooms which are connected by only one wall and have no entrance onto the hallway. Entry into one of these rooms can only be through another room.

Number of Balconies

A balcony is described as a property having only one wall. Enter the number of balconies for the apartment or commercial space.

Number of Lodges

A lodge is described as a structure which has at least two walls. Enter the number of lodges for an apartment or commercial space.

Number of Telephone Lines

Enter the number of telephone lines inside the property.

Floor Number

Enter the property's floor number.

BTI Appraisal

Enter the price according to the BTI appraisal.

Inventory Date

Enter the date of the last inventory of characteristics of the property.

Information Source

Mark the appropriate cell, which shows the source of information used to complete this Card.

Choose from the following: 1) Technical registration certificate of the BTI; 2) Other source. Enter the name of the document, serial number and the issue date.

INFORMATION ON REAL ESTATE SALES

This section is for use in the future. The section is used only for transactions at “market price.”

There are two types of prices entered in this section:

1) Price determined by the appraiser, which prevails over the value modeled on a computer.

2) Actual market price, based on an actual real estate transaction. Selection of these prices is determined by the “Source of Information”.

Source of Information on the Sales

The source of information must be verified. Choose from the following: 1) Government institution; 2) Notary office; 3) Real estate agency; 4) Brokerage company; or 5) Other.

Sale Price (in rubles)

Input the actual price of the sale.

Month and Year of Sale

Input the date of the sale (transaction)

Section “Information about the Card preparer and data input operator”

Input the Card preparer’s identification number.

Full Name of the Preparer (clearly)

Type in the full name of the Card preparer.

Card Completion Date

Input the date when the Card was signed and completed.

Signature of Card Preparer

The Card is signed by the Card preparer.

Data Input Operator's Code

Input the identification number for the data input operator.

Full Name of Operator (clearly)

Type in the full name of the data input operator.

Data Input Completion Date

Enter the date when the Data Cards were entered into the computer.

Signature of the Data Input Operator

The Card is signed by the data input operator.

(Side 2)

Proprietor/Owner

Cadastre Number of the Land Parcel (Secondary entry)

Enter the Cadastre Number of the land parcel again into this cell.

INFORMATION ABOUT TAXPAYERS AND RIGHTS

The taxpayer can be the owner of the real estate or a renter. If he is a renter, enter the owner's last name.

Last Name/Name of Organization 1

ATTENTION: the section about taxpayers and rights must be completed for each legal entity/individual, who has a right to the real estate. Enter the last name of the taxpayer, if the taxpayer is an "individual." If the taxpayer is a "legal entity," enter the name of the organization in this space. If there is not enough space to enter the full name of the organization, you may continue on the line "Name of Organization 2."

First Name/ Name of Organization 2

Enter the first name of the taxpayer, if the taxpayer is an "individual." If the taxpayer is a "legal entity," you may continue entering the name of the organization in this space. This space can also be used for an organization's short name.

Patronymic/ Name of Organization 3

Enter the first name of the taxpayer, if the taxpayer is an "individual." If the taxpayer is a "legal entity," you may continue entering the name of the organization in this space. This space can also be used for an organization's short name.

Date of Birth/ Registration Certificate

Enter the date of birth if the taxpayers is an "individual." If a "legal entity," enter the issue date of the registration certificate.

District/City

Enter the name of the district or city, where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space may be left blank.

Street Name

Enter the street name where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space may be left blank.

Postal Code

Enter the postal code where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space may be left blank.

Apartment Number

Enter the apartment number where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space may be left blank.

Individual House Number

Enter the house number where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space may be left blank.

Building Number

Enter the building number where the taxpayer lives or is permanently situated.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space may be left blank.

Building Name or Other Spatial Information

Enter any additional information which helps identify the location of the real estate property.

If the taxpayer lives or is permanently situated at the same address as the real estate property, this space may be left blank.

Subject's Rights

ATTENTION: There are three sections for information about a person's rights. One section determines the ownership type, the second section indicates the form of the rights, and the third indicates the type of rights. A selection must be chosen for each section.

Section I: Property Type

Mark the appropriate cell: 1)Federal ownership; 2)District ownership; 3)Municipal ownership; 4)Private ownership.

Section II: Property right form

Mark the corresponding cell: 1)Shared (divided) ownership; 2)Joint (undivided) ownership; 3)Private ownership; 4)Joint/shared ownership.

Share:

Enter the share of the property owned as indicated in the BTI files or the Land Committee. The share can be indicated in percentage or as a fraction of total area.

Joint Property Code:

ATTENTION: This code will be used if there are joint rights to real estate. Information on each person and right must be entered for each participant in the joint property. Every participant has an equal share. Every participant entered on the joint property document must have the same code.

Enter code "A" for each person registered in the first joint property document. Enter code "B" for all persons registered in the second joint property document, and so on.

Section III: Types of Ownership Rights

Mark the appropriate cell: 1)Lifetime inherited ownership; 2)Full economic authority;
3)Operational maintenance; 4)Permanent use; 5)Rent; 6)Private ownership.

Type of Document Establishing Rights

From the list given below, select one document establishing rights, and mark the appropriate cell: 1)Certificate; 2)Government Deed; 3)Contract; 4)Regulation; 5)Registration certificate; 6) Resolution; 7) Decree; 8)Certification.

Document Description

Enter the exact name of the document in this space.

Document Number

Indicate the official document number assigned by the organization which issued this document.

Document Date of Issue

Indicate the document issue date. (day/month/year)

APPENDIX III
SAMPLE DATA FORM: LAND

LAND LOT Card # ___

Land lot's cadastre # ___ Create _____ Change County City Zone District Block
Lot ___ Remove

_____ Street House Building

Additional Information _____

Number Of Rightful Owners _____

Check one

Main usage of the land parcel __1 Individual residential house __7 Storehouse __13 Education, Sport, Medicine, Agriculture __2
Condominium __8 Small Industry __14 Hotel

__3 Parking, garage __9 Large-scale industry __15 Restaurant, Cafe

__4 Non-government establishment __10 Transport __16 Kiosk

__5 Service __11 Agriculture __17 Other

__6 Trade __12 Government Military establishment

Check one

Land Category __1 Agriculture __3 Industry __5 Forest fund __7 Reserve __2 City __4 Nature Preservation __6 Water Fund

Check one

Land Usage __1 Farm __2 Ind. Resident. Construct. __3 Gardening __4 Garage __5 Cottage building __6 Live-stock Farming. __7
Enterprise __8 Agriculture __9 City Lands __10 Forestry __11 Land reserve __12 Water Economy __13 Personal Parcel __14 __15
__ Under Construction

_____ Area (M²) Zone Code Amount of year's
taxes Amount of year's rent

__ Technical Account __ Lot's Plan __ Act of Borders __ Certificate

Check one

Information Source Document _____ Series _____ # _____ Date given out _____

Check one

Source of information about the sale _____ / _____ Price buy-sell Month year of sale __1 Gov't (Municipal) __2
Notary __3 Realtor __4 Broker __5 Other establishment

Patronymic of Preparer Date Signature

Compiler's Code Last Name First Name

Patronymic of Preparer Date Signature

Operator's Code Last Name First Name

Right holder Card # _____

Commercial space Cadastre Number 60 : 27 : _____ : _____ County City Zone District Block
Lot

_____ **Date of birth or creation** _____ **Last name or the name of Organization**
_____ **First name or the name of Organization(cont.) City Zip Code**
_____ **Patronymic or the name of Organization(cont.)**

Street House # Apt #

Additional Information _____ 1 Passport 2 Registration
Certificate 3 Other

Check one

Document _____ **series** _____ **#** _____ **date given out** _____

Check one

Property type 1 Federal 2 Region 3 Municipal 4 Private _____

Check one

Form of property right 1 Individual 2 Share-holding 3 Joint 4 Joint-sharing **Share** _____ / _____ **Joint**

Property Code _____ 1 Private property 2 Lifetime inherited ownership 3 Permanent usage

Check one

Right type 4 Complete Economic management 5 Operational control 6 Rent 1 Contract 4 Order NOTARY 2 Gov't Act 5
Reg. Cert. 1 Vahremeev 2 Kondratova 3 Nikolaeva

Check one

Document 3 Reference 6 Certificate 1 Dokuchaeva 2 Liskaetz 3 Semenova 4 Efimova 5 Mironova 6 Tzareva

Document Description _____ **#** _____ **Date** _____ **Registration date and #** _____

_____ **Date of birth or creation** _____ **Last name or the name of Organization**
_____ **First name or the name of Organization(cont.) City Zip Code**
_____ **Patronymic or the name of Organization(cont.)**

Street House # Apt #

Additional Information _____ 1 Passport 2 Registration
Certificate 3 Other

Check one

Document _____ series _____ # _____ date given out _____

Check one

Property type property right __1 Federal __2 Region __3 Municipal __4 Private

Check one

Form of Right type __1 Individual __2 Share-holding __3 Joint __4 Joint-sharing Share _____ Joint Property

Code _____ __1 Private property __2 Lifetime inherited ownership __3 Permanent usage Check one __4 Complete Economic management __5 Operational control __6 Rent __1 Contract __4 Order NOTARY __2 Gov't Act __5 Reg. Cert. __Vahremeev
__Kondratova __Nikolaeva

Check one

Document __3 Reference __6 Certificate __Dokuchaeva __Liskaetz __Semenova __Efimova __Mironova __Tzareva

Document Description _____ # _____ Date _____ Registration date and # _____

APPENDIX IV
SAMPLE DATA FORM: BUILDING

ЗДАНИЕ (первичный объект)

карточка №

Кадастровый номер здания

6 0 : 2 7 : : : :

Область Город Зона Массив Квартал Участок Дело БТИ Литера

-
- Создание
-
-
- Изменение
-
-
- Удаление

 Улица
Дополнительная информация
 Дом № Строение Типовая серия № Количество правообладателей Основное использование здания, сооружения

- | | | |
|--|--|--|
| <input type="checkbox"/> 1 Инд. жилой дом | <input type="checkbox"/> 7 Склады | <input type="checkbox"/> 13 Образование, Спорт
Медицина, Культура |
| <input type="checkbox"/> 2 Многоквартирный дом | <input type="checkbox"/> 8 Малая промышленность | <input type="checkbox"/> 14 Гостиница |
| <input type="checkbox"/> 3 Стоянка, гараж | <input type="checkbox"/> 9 Крупная промышленность | <input type="checkbox"/> 15 Ресторан, кафе |
| <input type="checkbox"/> 4 Негосудар. учреждение | <input type="checkbox"/> 10 Транспорт | <input type="checkbox"/> 16 Киоск |
| <input type="checkbox"/> 5 Сервис | <input type="checkbox"/> 11 Сельхозяйство | <input type="checkbox"/> 17 Другие |
| <input type="checkbox"/> 6 Торговля | <input type="checkbox"/> 12 Государств., военное
учреждение | |

 Общая площадь здания (М²) Ср. высота потолка (СМ) Кол-во этажей Площадь под зданием (М²) Кол-во лифтов Год постройки Год рек/кап. рем. Год инвент. % износа. Стоимость по данным БТИ (руб.) Тип стен 1 Панельные 3 Блочные 5 Стекло+Сталь 7 Другие
 2 Кирпич 4 Деревянные 6 Металл 8 Нет Благоустройство Электроосв. Центр. отопл. Водопровод Гор. вода Телефон Гараж Источник информации Технический паспорт БТИ Другой
Документ _____ серия _____ № _____ Дата выдачи _____ Источник информации о продаже /
Цена купли-продажи (руб.) _____ месяц и год продажи _____
 1 гос. (мун.) учреждение 2 Нотариус 3 Риэлтор 4 Брокер 5 Другие Код составителя Ф.И.О. составителя (разборчиво) Дата Подпись Код оператора Ф.И.О. оператора (разборчиво) Дата Подпись

ПРАВООБЛАДАТЕЛЬ

карточка №

Кадастровый номер здания

: : : :

Область Город Зона Массив Квартал Участок Дело БТИ Литера

Фамилия или Название организации

Имя или продолжение названия организации

Отчество или продолжение названия организации

Дата рождения
или создания (ч.м.г)

Город Индекс

Улица

Дом № Квартира №

Доп. информация

Документ Паспорт Рег. свидетельство Другой
серия № Дата выдачи

Тип собственности 1 Федеральная 2 Областная 3 Муниципальная 4 Частная

Форма права собственности 1 Индивидуальная 2 Долевая 3 Совместная 4 Совместно-долевая
Доля / Код совм.собств.

Тип права 1 Частная собств. 2 Пожизненное насл. владение 3 Постоянное пользование
 4 Полное хоз.ведение 5 Оперативное управление 6 Аренда

Документ 1 Договор 4 Распоряжение **Нотариус:**
 2 Гос. акт 5 Рег. удостовер. Вахромеева Кондратова Николаева
 3 Справка 6 Свидетельство Докучаева Лыскавец Семенова
 Ефимова Миронова Царева

Описание документа № Дата Дата и №
регр.

Фамилия или Название организации

Имя или продолжение названия организации

Отчество или продолжение названия организации

Дата рождения
или создания (ч.м.г)

Город Индекс

Улица

Дом № Квартира №

Доп. информация

Документ Паспорт Рег. свидетельство Другой
серия № Дата выдачи

Тип собственности 1 Федеральная 2 Областная 3 Муниципальная 4 Частная

Форма права собственности 1 Индивидуальная 2 Долевая 3 Совместная 4 Совместно-долевая
Доля / Код совм.собств.

Тип права 1 Частная собств. 2 Пожизненное насл. владение 3 Постоянное пользование
 4 Полное хоз.ведение 5 Оперативное управление 6 Аренда

Документ 1 Договор 4 Распоряжение **Нотариус:**
 2 Гос. акт 5 Рег. удостовер. Вахромеева Кондратова Николаева
 3 Справка 6 Свидетельство Докучаева Лыскавец Семенова
 Ефимова Миронова Царева

Описание документа № Дата Дата и №
регр.

Building (Primary Property) Card # _____

Building Cadastre Number **Create** _____ **Change County City Zone**
District Block Lot **Remove**

_____ **Street House Building**

Additional Information _____

Number Of Lawful Owners _____

Check one

Main usage of the building, construction 1 Individual residential house 7 Warehouse Education, Sports, Medicine,
Agriculture Apartment building Small-scale Industry Hotel

Parking, garage Large-scale industry Restaurant, Cafe

Non-government enterprise Transportation Kiosk

Service Agriculture Other

Trade Government/Military establishment

_____ **TOTAL Area of Building(m²) Avg. Height of**
Ceiling Number of Floors Area at ground level(m²) # of elevators

_____ **Year built Year of remodel Year of inventory % of wear Cost using BTI information**

Check one

Wall Type 1 Panel 3 Block 5 Glass-steel 7 Other 2 Brick 4 Wooden 6 Metal

Check one

Services and Amenities Electricity Central heating Cold water Hot Water Telephone Garage

Check one

Information Source Document _____ Series _____ # _____ Date given out _____ Technical Passport Other

Check one

Source of information about the sale _____ / _____ Price buy-sell _____ Month year of sale 1 Gov't (Municipal) 2
Notary 3 Realtor 4 Broker 5 Other _____ establishment

Compiler's Code Last Name First Name

Patronymic of Preparer Date Signature

Operator's Code Last Name First Name

Patronymic of Preparer Date Signature

Right holder Card # _____

Commercial space Cadastre Number 60 : 27 : _____ : _____ : _____ County City Zone

District Block Lot BTI case Letter

_____ Date of birth or creation _____ Last name or the name of Organization

_____ First name or the name of Organization(cont.) City Zip Code

_____ Patronymic or the name of Organization(cont.)

Street House # Apt #

Additional Information _____ 1

Check one

Document _____ series _____ # _____ date given out Passport 2 Registration Certificate 3 Other _____

Check one

Property type 1 Federal 2 Region 3 Municipal 4 Private

Check one

Form of property right 1 Individual 2 Share-holding 3 Joint 4 Joint-sharing Share _____ / _____ Joint

Property Code _____

1 Private property 2 Lifetime inherited ownership 3 Permanent usage

Check one

Right type 4 Complete Economic management 5 Operational control 6 Rent 1 Contract 4 Order NOTARY 2 Gov't Act 5

Reg. Cert. 1 Vahremeev 2 Kondratova 3 Nikolaeva

Check one

Document 3 Reference 6 Certificate 1 Dokuchaeva 2 Liskaetz 3 Semenova 4 Efimova 5 Mironova 6 Tzareva

Document Description _____ # _____ Date _____ Registration date and # _____

_____ Date of birth or creation _____ Last name or the name of Organization

_____ First name or the name of Organization(cont.) City Zip Code

_____ Patronymic or the name of Organization(cont.)

Street House # Apt #

Additional Information _____ 1 Passport __2 Registration
Certificate __3 Other

Check one

Document _____ series _____ # _____ date given out _____

Check one

Property type __1 Federal __2 Region __3 Municipal __4 Private _____

Check one

Form of property right __1 Individual __2 Share-holding __3 Joint __4 Joint-sharing Share _____ / _____ Joint

Property Code _____ __1 Private property __2 Lifetime inherited ownership __3 Permanent usage

Check one

Right type __4 Complete Economic management __5 Operational control __6 Rent __1 Contract __4 Order NOTARY __2 Gov't Act __5
Reg. Cert. __Vahremeev __Kondratova __Nikolaeva

Check one

Document __3 Reference __6 Certificate __Dokuchaeva __Liskaetz __Semenova __Efimova __Mironova __Tzareva

Document Description _____ # _____ Date _____ Registration date and # _____

APPENDIX V

SAMPLE DATA FORM: COMMERCIAL SPACE

Commercial space (Secondary Property) Card # _____

Commercial space Cadastre Number Create 60 : 27 : _____ : _____ : _____

Change County City Zone District Block Lot BTI case Letter Build. Space __ Remove

_____ Street House Building

Additional Information _____

Number Of Rightful Owners _____

Check one **Type of space usage** __1 Individual residential house __7 Storehouse __13 Education, Sport, Medicine, Agriculture __2

Apartment __8 Small Industry __14 Hotel

__3 Parking, garage __9 Large-scale industry __15 Restaurant, Cafe

__4 Non-government establishment __10 Transport __16 Kiosk

__5 Service __11 Agriculture __17 Other

__6 Store, retail trade __12 Government Military establishment

_____ # of rooms _____ Total Area (M²) Residential Area(M²)

Kitchen Area(M²) Separate Intercommunicating _____ Balcony

Lodges Telephones # of Floor Cost Using BTI Data (Rubles) Year of appraisal

Check one

Equipping with services __Electric supply __Central heat __Water supply __Hot Water and utilities __Telephone __Garbage chute

Check one

Information Source __Technical Passport BTI __Other Document _____ Series # _____ Date given out _____

Check one

Source of information about the sale _____ / _____ Price buy-sell _____ Month year of sale __1 Gov't (Municipal) __2

Notary __3 Realtor __4 Broker __5 Other _____ establishment

_____ Compiler's Code Last Name First Name

Patronymic of Preparer Date Signature

_____ Operator's Code Last Name First

Name Patronymic of Preparer Date Signature

Right holder Card # _____

Commercial space Cadastre Number 60 : 27 : _____ : _____ : _____ County City

Zone District Block Lot BTI case Letter Commercial space

_____ **Date of birth or creation** _____ **Last name or the name of Organization**

_____ **First name or the name of Organization(cont.) City Zip Code**

_____ **Patronymic or the name of Organization(cont.)**

Street House # Apt #

Additional Information _____ **1 Passport** **2 Registration Certificate** **3 Other**

Check one

Document _____ **series** _____ **#** _____ **date given out** _____

Check one

Property type **1 Federal** **2 Region** **3 Municipal** **4 Private** _____

Check one

Form of property right **1 Individual** **2 Share-holding** **3 Joint** **4 Joint-sharing** **Share** _____ / _____ **Joint**

Property Code _____ **1 Private property** **2 Lifetime inherited ownership** **3 Permanent usage**

Check one

Right type **4 Complete Economic management** **5 Operational control** **6 Rent** **1 Contract** **4 Order NOTARY** **2 Gov't Act** **5 Reg. Cert.** **Vahremeev** **Kondratova** **Nikolaeva**

Check one

Document **3 Reference** **6 Certificate** **Dokuchaeva** **Liskaetz** **Semenova** **Efimova** **Mironova** **Tzareva**

Document Description _____ **#** _____ **Date** _____ **Registration date and #** _____

_____ **Date of birth or creation** _____ **Last name or the name of Organization**

_____ **First name or the name of Organization(cont.) City Zip Code**

_____ **Patronymic or the name of Organization(cont.)**

Street House # Apt #

Additional Information _____ **1 Passport** **2 Registration Certificate** **3 Other**

Check one

Document _____ series _____ # _____ date given out _____

Check one

Property type __1 Federal __2 Region __3 Municipal __4 Private _____

Check one

Form of property right __1 Individual __2 Share-holding __3 Joint __4 Joint-sharing Share _____ / _____ Joint

Property Code _____ __1 Private property __2 Lifetime inherited ownership __3 Permanent usage

Check one

Right type __4 Complete Economic management __5 Operational control __6 Rent __1 Contract __4 Order NOTARY __2 Gov't Act __5

Reg. Cert. __Vahremeev __Kondratova __Nikolaeva

Check one

Document __3 Reference __6 Certificate __Dokuchaeva __Liskaetz __Semenova __Efimova __Mironova __Tzareva

Document Description _____ # _____ Date _____ Registration date and # _____

APPENDIX VI
SAMPLE DATA FORM: RIGHT HOLDER (ADDITIONAL CARD)

ПРАВООБЛАДАТЕЛЬ

дополнительная карточка №

Кадастровый номер участка (здания, помещения)

6 0 : 2 7 : : : :

Область Город Зона Массив Квартал Участок Дело БТИ Литера Помещение

Фамилия или Название организации

Имя или продолжение названия организации

Отчество или продолжение названия организации

Дата рождения
или создания (ч.м.г)

Город

Индекс

Улица

Дом №

Квартира №

Доп. информация

Документ Паспорт Рег. свидетельство Другой
серия № Дата выдачи

Тип собственности 1 Федеральная 2 Областная 3 Муниципальная 4 Частная

Форма права собственности 1 Индивидуальная 2 Долевая 3 Совместная 4 Совместно-долевая
Доля / Код совм.собств.

Тип права 1 Частная собств. 2 Пожизненное насл. владение 3 Постоянное пользование
 4 Полное хоз.ведение 5 Оперативное управление 6 Аренда

Документ 1 Договор 4 Распоряжение
 2 Гос. акт 5 Рег. удостовер. 3 Справка 6 Свидетельство

Нотариус:

Вахромеева Кондратова Николаева
 Докучаева Лыскавец Семенова
 Ефимова Миронова Царева

Описание документа № Дата регистра.

Фамилия или Название организации

Имя или продолжение названия организации

Отчество или продолжение названия организации

Дата рождения
или создания (ч.м.г)

Город

Индекс

Улица

Дом №

Квартира №

Доп. информация

Документ Паспорт Рег. свидетельство Другой
серия № Дата выдачи

Тип собственности 1 Федеральная 2 Областная 3 Муниципальная 4 Частная

Форма права собственности 1 Индивидуальная 2 Долевая 3 Совместная 4 Совместно-долевая
Доля / Код совм.собств.

Тип права 1 Частная собств. 2 Пожизненное насл. владение 3 Постоянное пользование
 4 Полное хоз.ведение 5 Оперативное управление 6 Аренда

Документ 1 Договор 4 Распоряжение
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Нотариус:

Вахромеева Кондратова Николаева
 Докучаева Лыскавец Семенова
 Ефимова Миронова Царева

Описание документа № Дата регистра.

Right holder Additional Card # _____

Land Parcel's Cadastre Number(building, commercial space) 60 : 27 : _____ : _____ : _____
_____ : _____ County City Zone District Block Lot BTI case Letter Commercial space

_____ **Date of birth or creation** _____ **Last name or the name of Organization**
_____ **First name or the name of Organization(cont.) City Zip Code**

_____ **Patronymic or the name of Organization(cont.)**
Street House # Apt #

Additional Information _____ **1 Passport** **2 Registration**
Certificate **3 Other**

Check one
Document _____ **series** _____ **#** _____ **date given out** _____

Check one
Property type **1 Federal** **2 Region** **3 Municipal** **4 Private** _____

Check one
Form of property right **1 Individual** **2 Share-holding** **3 Joint** **4 Joint-sharing** **Share** _____ / _____ **Joint**
Property Code _____ **1 Private property** **2 Lifetime inherited ownership** **3 Permanent usage**

Check one
Right type **4 Complete Economic management** **5 Operational control** **6 Rent** **1 Contract** **4 Order NOTARY** **2 Gov't Act** **5**
Reg. Cert. **Vahremeev** **Kondratova** **Nikolaeva**

Check one
Document **3 Reference** **6 Certificate** **Dokuchaeva** **Liskaetz** **Semenova** **Efimova** **Mironova** **Tzareva**

Document Description _____ **#** _____ **Date** _____ **Registration date and #** _____

_____ **Date of birth or creation** _____ **Last name or the name of Organization**
_____ **First name or the name of Organization(cont.) City Zip Code**

_____ **Patronymic or the name of Organization(cont.)**
Street House # Apt #

Additional Information _____ **1 Passport** **2 Registration**
Certificate **3 Other**

Check one

Document _____ series _____ # _____ date given out _____

Check one

Property type 1 Federal 2 Region 3 Municipal 4 Private _____

Check one

Form of property right 1 Individual 2 Share-holding 3 Joint 4 Joint-sharing Share _____ / _____ Joint

Property Code _____ 1 Private property 2 Lifetime inherited ownership 3 Permanent usage

Check one

Right type 4 Complete Economic management 5 Operational control 6 Rent 1 Contract 4 Order NOTARY 2 Gov't Act 5

Reg. Cert. Vahremeev Kondratova Nikolaeva

Check one

Document 3 Reference 6 Certificate Dokuchaeva Liskaetz Semenova Efimova Mironova Tzareva

Document Description _____ # _____ Date _____ Registration date and # _____

_____ Date of birth or creation _____ Last name or the name of Organization

_____ First name or the name of Organization(cont.) City Zip Code

_____ Patronymic or the name of Organization(cont.)

Street House # Apt #

Additional Information _____ 1 Passport 2 Registration

Certificate 3 Other

Check one

Document _____ series _____ # _____ date given out _____

Check one

Property type 1 Federal 2 Region 3 Municipal 4 Private _____

Check one

Form of property right 1 Individual 2 Share-holding 3 Joint 4 Joint-sharing Share _____ / _____ Joint

Property Code _____ 1 Private property 2 Lifetime inherited ownership 3 Permanent usage

Check one

Right type 4 Complete Economic management 5 Operational control 6 Rent 1 Contract 4 Order NOTARY 2 Gov't Act 5

Reg. Cert. Vahremeev Kondratova Nikolaeva

Check one

Document 3 Reference 6 Certificate Dokuchaeva Liskaetz Semenova Efimova Mironova Tzareva

Document Description _____ # _____ Date _____ Registration date and # _____

_____ Date of birth or creation _____ Last name or the name of Organization
_____ First name or the name of Organization(cont.) City Zip Code

_____ Patronymic or the name of Organization(cont.)

Street House # Apt #

Additional Information _____ 1 Passport 2 Registration
Certificate 3 Other

Check one

Document _____ series _____ # _____ date given out _____

Check one

Property type 1 Federal 2 Region 3 Municipal 4 Private _____

Check one

Form of property right 1 Individual 2 Share-holding 3 Joint 4 Joint-sharing Share _____ / _____ Joint

Property Code _____ 1 Private property 2 Lifetime inherited ownership 3 Permanent usage

Check one

Right type 4 Complete Economic management 5 Operational control 6 Rent 1 Contract 4 Order NOTARY 2 Gov't Act 5
Reg. Cert. Vahremeev Kondratova Nikolaeva

Check one

Document 3 Reference 6 Certificate Dokuchaeva Liskaetz Semenova Efimova Mironova Tzareva

Document Description _____ # _____ Date _____ Registration date and # _____

_____ Compiler's Code Last Name First
Name Patronymic of Preparer Date Signature

_____ Operator's Code Last Name First Name
Patronymic of Preparer Date Signature

CHAPTER VI
APPENDICES

APPENDIX I
TAX IMPACT ESTIMATE

Revenue Requirements (E6)		Tax Only	Tax and Rent						
	Asset Tax	17,900	17,900		<i>First-Draft Tax Base Estimates -- For Discussion Purposes Only, For Borovichi -- From a Talk April 24, 1998</i>				
	Land Tax	1,274	1,274						
	Phys Persons Property	327	327						
	Land Rent		3,069						
	Non-Residential Property Rent		1,094						
	NAIM		42						
	TOTAL	19,501	23,706						
		(Using Mid Ranges)			Unit Values (R/m^2)		Base Estimate Extremes		
	Tax (& Tax+Rent) Base Estimates (E6)			m^2	Min	Max	Min	Max	
	Apartments (owned)	658	658	526,541	900	1600	474	842	
	Individual Houses	385	385	334,908	300	2000	100	670	
	Commercial property	52	52	32,358	700	2500	23	81	
	Dachas	76	76	94,649	400	1200	38	114	
	Garages	51	51	119,831	250	600	30	72	
	Industrial property	202	202	269,436	200	1300	54	350	
	Land in pvt ownership & inherited	922	922	12,050,000	19	134	229	1,615	
	Leased & Rented Com'l ppty		3	28,961	30	150	1	4	
	Rented Land		10,268	10,970,000	288	1584	3,159	17,376	
	Apartments (municipal)		541	432,634	900	1600	389	692	
	TOTAL	2,346	13,157				4,497	21,817	
	Tax (or Tax+Rent) Rate Necessary	831%	180%				527%	109%	

Revenue Requirements (E6)		Tax Only	Tax and Rent					
	Asset Tax	5,441	5,441		<i>First-Draft Tax Base Estimates -- For Discussion Purposes Only, For Staraya Russa -- From a Talk April 24, 1998</i>			
	Land Tax							
	Phys Persons Property	176	176					
	Land Rent							
	Non-Residential Property Rent		486					
	NAIM							
	TOTAL	5,617	6,103					
		(Using Mid Ranges)			Unit Values (R/m^2)		Base Estimate Extremes	
	Tax (& Tax+Rent) Base Estimates (E6)			m^2	Min	Max	Min	Max
	Apartments (owned)	410	410	327,600	900	1600	295	524
	Individual Houses	279	279	242,800	300	2000	73	486
	Commercial property	-	-		700	2500	-	-
	Dachas	-	-		400	1200	-	-
	Garages	-	-		250	600	-	-
	Industrial property	-	-		200	1300	-	-
	Land in pvt ownrship & inherited	606	606	7,920,000	19	134	150	1,061
	Leased & Rented Com'l ppty		-		30	150	-	-
	Rented Land		-		288	1584	-	-
	Apartments (municipal)		-		900	1600	-	-
	TOTAL	1,295	1,295		<i>Note: These rates are for Borovichi, Not Staraya Russa</i>		518	2,071
	Tax (or Tax+Rent) Rate Necessary	<u>434%</u>	<u>471%</u>				<u>1178%</u>	<u>295%</u>

Требования Дохода (Е6)		Налог Только	Налог и Арендная плата					
	Актив Налог	17,900	17,900		<i>First-Draft Tax Base Estimates -- For Discussion Purposes Only, For Borovichi -- From a Talk April 24, 1998</i>			
	Земля Налог	1,274	1,274					
	Phys Собственность Людей	327	327					
	Земля Арендная плата		3,069					
	Не связанный с постоянным проживанием Собственность Арендная плата		1,094					
	NAIM		42					
	ОБЩЕЕ КОЛИЧЕСТВО	19,501	23,706					
		(Using Mid Ranges)			Unit Values (R/m²)		Base Estimate Extremes	
Налог (и Tax+Rent) Оценки Основы (Е6)				m²	Min	Max	Min	Max
	Квартиры (находящийся в собственности)	658	658	526,541	900	1600	474	842
	Индивидуальные Здания	385	385	334,908	300	2000	100	670
	Коммерческая собственность	52	52	32,358	700	2500	23	81
	Дачи	76	76	94,649	400	1200	38	114
	Гаражи	51	51	119,831	250	600	30	72
	Индустриальная собственность	202	202	269,436	200	1300	54	350
	Земля в pvt ownership и унаследованный	922	922	12,050,000	19	134	229	1,615
	Арендным и Аренданный Com'l ppty		3	28,961	30	150	1	4
	Арендная Земля		10,268	10,970,000	288	1584	3,159	17,376
	Квартиры (муниципальный)		541	432,634	900	1600	389	692
	ОБЩЕЕ КОЛИЧЕСТВО	2,346	13,157				4,497	21,817
Налог (или Tax+Rent) Норма(разряд) Необходимый		831%	180%				527%	109%

APPENDIX II

PTIMS TVER DATABASE STATUS

PTIMS Tver DataBase Status

PTIMS - PROPERTY TAX INFORMATION MANAGEMENT SYSTEM
 ИСУНН - ИНФОРМАЦИОННАЯ СИСТЕМА УПРАВЛЕНИЯ НАЛОГООБЛОЖЕНИЕМ НЕДВИЖИМОСТИ

 = STATISTICS RETRIEVAL MODULE =
 = (STATSH00 - SUMMARY TAXABLE PROPERTIES INFORMATION) =
 =

= МОДУЛЬ ВЫБОРКИ СТАТИСТИЧЕСКОЙ ИНФОРМАЦИИ =
 = (STATSH00 - СУММАРНЫЕ ХАРАКТЕРИСТИКИ НАЛОГООБЛАГАЕМЫХ ОБЪЕКТОВ НЕДВИЖИМОСТИ) =
 =

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Внимание! Налог считается здесь, а не берется из базы данных !

WHOLE CITY : SUMMARY

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
653 682	0 5000	31 132	5 130 770	8 922 995	640 371	57 233 349	65 368 242	
684 065	5001 10000	19 498	2 010 207	11 935 212	601 848	156 474 198	168 406 476	1
828 214	10001 25000	112 532	7 114 982	115 132 543	5 746 316	1 567 871 125	1 682 821 420	16
527 880	25001 50000	11 866	7 775 950	148 077 702	861 056	204 774 128	352 788 041	3
321 688	50001 100000	4 648	7 011 144	126 715 718	451 687	105 469 031	232 168 776	2
648 999	100001 500000	2 884	19 421 757	120 043 176	1 396 207	244 856 771	364 899 948	3
878 621	500001 and more...	830	38 571 599	374 835 307	4 904 050	813 026 743	1 187 862 051	11
543 150	TOTAL:	183 390	87 036 409	905 662 653	14 601 535	3 149 705 345	4 054 314 954	40

WHOLE CITY : RES.(SINGLE)

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
--------------------------	-----------	--------------	-----------	------------	------------	-------------	---------------	-----

7 460	0	5000	484	121 779	698 355	12 180	47 640	745 996	
18 053	5001	10000	420	179 134	1 502 622	3 971	302 713	1 805 335	
420 585	10001	25000	3 839	1 260 628	28 276 310	86 486	13 782 173	42 058 483	
256 192	25001	50000	7 368	4 738 206	134 195 116	323 208	91 424 042	225 619 158	2
860 590	50001	100000	3 485	2 736 552	113 619 811	263 687	72 439 152	186 058 963	1
060 211	100001	500000	697	1 950 179	67 589 265	196 530	38 431 833	106 021 098	1
026 425	500001	and more...	88	794 300	37 524 338	482 817	65 118 120	102 642 459	1

649 515	TOTAL:		16 381	11 780 778	383 405 817	1 368 879	281 545 673	664 951 492	6

WHOLE CITY : RES.(MULTI)
 DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
0	5000	499	21 733	108 631	11 877	1 084 494	1 193 125	
11 931								
5001	10000	18 452	234 287	7 655 395	585 396	154 603 678	162 259 072	1
622 591								
10001	25000	107 723	2 258 579	79 597 639	5 588 150	1 545 895 317	1 625 492 956	16
254 930								
25001	50000	3 894	179 275	6 626 911	437 580	100 398 206	107 025 117	1
070 251								
50001	100000	882	203 768	5 433 193	115 059	22 844 058	28 277 251	
282 773								
100001	500000	1 429	661 505	24 445 504	364 650	84 461 045	108 906 549	1
089 065								
500001	and more...	309	465 222	277 532 249	221 923	43 843 442	321 375 690	3
213 757								
TOTAL:		133 188	4 024 369	401 399 522	7 324 635	1 953 130 240	2 354 529 760	23
545 298								

WHOLE CITY : PARK., GARAGE
 DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
0	5000	24 366	1 248 490	2 661 513	585 365	55 913 198	57 786 609	
577 866								
5001	10000	119	81 111	131 809	6 226	644 920	773 795	
7 738								
10001	25000	107	114 912	368 333	19 808	1 735 023	1 921 108	
19 211								
25001	50000	205	114 571	243 502	66 669	6 630 310	6 810 022	
68 100								
50001	100000	29	216 116	376 572	10 171	835 083	1 195 683	
11 957								
100001	500000	18	212 192	376 206	17 688	2 553 719	2 929 924	
29 299								
500001	and more...	17	364 583	580 755	155 450	23 844 246	24 425 001	
244 250								
TOTAL:		24 861	2 351 975	4 738 690	861 377	92 156 499	95 842 142	
958 421								

WHOLE CITY : OFFICE

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
900	0 5000	58	42 036	86 305	5 154	3 696	90 001	
656	5001 10000	11	29 202	53 150	97	12 434	65 584	
1 440	10001 25000	8	15 799	58 929	601	85 079	144 008	
5 428	25001 50000	16	37 163	117 396	2 769	425 358	542 753	
5 166	50001 100000	9	10 940	21 618	3 746	494 983	516 601	
136 214	100001 500000	56	659 745	874 969	64 762	12 746 383	13 621 352	
810 815	500001 and more...	52	598 610	1 131 141	444 292	79 950 353	81 081 493	
960 618	TOTAL:	210	1 393 495	2 343 508	521 421	93 718 286	96 061 792	

WHOLE CITY : SERVICE
DATE: 23.06.97

VALUE RANGE	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
389	0 5000	33	26 762	38 885	0	0	38 885	
377	5001 10000	7	16 348	25 942	116	11 717	37 659	
1 359	10001 25000	10	37 604	81 139	325	54 759	135 898	
2 361	25001 50000	8	3 967	12 062	910	224 009	236 071	
2 786	50001 100000	4	3 057	6 726	1 245	271 905	278 631	
34 293	100001 500000	18	58 883	114 657	17 172	3 314 682	3 429 339	
171 184	500001 and more...	13	113 752	207 877	79 684	16 910 531	17 118 408	
212 749	TOTAL:	93	260 373	487 288	99 452	20 787 603	21 274 891	

WHOLE CITY : STORY
DATE: 23.06.97

VALUE RANGE	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
1 640	0 5000	105	60 250	123 953	2 116	40 053	164 006	
3 982	5001 10000	48	18 156	72 348	1 356	325 870	398 219	
41 376	10001 25000	269	83 431	779 802	15 663	3 357 789	4 137 591	
32 755	25001 50000	88	36 676	1 607 040	7 201	1 668 493	3 275 533	
22 931	50001 100000	35	38 431	716 459	7 665	1 576 684	2 293 143	
55 911	100001 500000	30	84 865	666 438	17 877	4 924 672	5 591 110	
132 494	500001 and more...	9	35 232	84 368	46 988	13 165 027	13 249 394	
291 090	TOTAL:	584	357 041	4 050 408	98 866	25 058 588	29 108 996	

WHOLE CITY : WAREHOUSE

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
225	0 5000	16	11 282	19 442	2 141	3 102	22 544	
740	5001 10000	11	24 798	51 598	273	22 394	73 992	
2 960	10001 25000	17	116 255	201 803	4 645	94 170	295 974	
2 742	25001 50000	8	124 915	199 251	679	74 949	274 200	
10 095	50001 100000	14	171 813	318 990	6 620	690 494	1 009 484	
53 436	100001 500000	24	351 939	550 302	35 967	4 793 322	5 343 624	
340 657	500001 and more...	18	759 752	1 433 367	230 764	32 632 375	34 065 742	
410 856	TOTAL:	108	1 560 754	2 774 753	281 089	38 310 806	41 085 560	

WHOLE CITY : SM.INDUSTRY

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
5 518	0 5000	1 193	296 322	494 998	722	56 775	551 773	
5 341	5001 10000	74	126 210	210 016	2 558	324 045	534 062	
20 713	10001 25000	139	499 364	939 555	5 519	1 131 751	2 071 306	
20 369	25001 50000	64	382 333	847 657	7 659	1 189 275	2 036 931	
20 867	50001 100000	31	140 545	272 310	12 131	1 814 406	2 086 716	
192 034	100001 500000	85	662 267	1 069 350	130 136	18 134 082	19 203 432	
554 623	500001 and more...	82	1 502 613	2 802 539	853 904	152 659 740	155 462 280	1
TOTAL:		1 668	3 609 654	6 636 425	1 012 629	175 310 074	181 946 500	1

WHOLE CITY : LAR.INDUSTRY

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
49	0 5000	2	3 057	4 900	0	0	4 900	
94	5001 10000	1	6 852	9 428	0	0	9 428	
195	10001 25000	2	121	264	75	19 206	19 470	
1 380	25001 50000	3	72 911	94 576	208	43 462	138 039	
7 094	50001 100000	11	458 837	663 366	356	46 008	709 374	
80 792	100001 500000	38	2 607 988	4 178 893	32 505	3 900 291	8 079 184	
164 053	500001 and more...	61	8 678 520	15 460 664	1 416 209	200 944 592	216 405 256	2
TOTAL:		118	11 828 286	20 412 091	1 449 353	204 953 559	225 365 651	2

WHOLE CITY : TRANSPORT

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
577	0 5000	39	36 024	57 709	0	0	57 709	
1 013	5001 10000	17	66 744	101 297	0	0	101 297	
2 227	10001 25000	15	146 442	196 140	107	26 602	222 741	
4 237	25001 50000	11	200 539	359 633	286	64 100	423 732	
6 912	50001 100000	10	189 245	308 887	3 053	382 273	691 161	
37 189	100001 500000	16	780 325	1 504 594	13 416	2 214 272	3 718 866	
305 912	500001 and more...	19	677 129	1 237 136	180 277	29 354 093	30 591 229	
358 067	TOTAL:	127	2 096 448	3 765 396	197 139	32 041 340	35 806 735	

WHOLE CITY : OTHER
 DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
18 527	0 5000	1 196	1 180 252	1 831 470	229	21 260	1 852 729	
18 425	5001 10000	261	1 028 316	1 740 032	753	102 420	1 842 452	
41 848	10001 25000	270	2 068 624	3 460 647	3 258	724 165	4 184 812	
36 139	25001 50000	106	1 474 935	2 676 958	4 253	936 979	3 613 937	
49 315	50001 100000	72	2 360 507	4 149 851	4 110	781 618	4 931 469	
190 899	100001 500000	103	8 737 307	13 157 028	32 129	5 932 903	19 089 931	
445 771	500001 and more...	27	21 904 284	31 392 150	60 693	13 184 930	44 577 080	
800 924	TOTAL:	2 035	38 754 225	58 408 136	105 425	21 684 275	80 092 410	

WHOLE CITY : CU.,SP.,REL.
 DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
2 325	0 5000	130	88 788	175 733	17 366	56 742	232 475	
4 476	5001 10000	66	161 717	323 585	1 102	124 007	447 592	
19 726	10001 25000	119	442 113	1 044 083	21 456	928 521	1 972 604	
27 614	25001 50000	86	409 658	1 096 746	9 588	1 664 695	2 761 441	
36 386	50001 100000	57	287 059	581 143	22 006	3 057 474	3 638 617	
529 910	100001 500000	233	2 492 157	4 643 047	340 286	48 347 988	52 991 035	
361 359	500001 and more...	127	2 517 436	5 208 283	687 621	130 927 591	136 135 874	1
981 796	TOTAL:	818	6 398 928	13 072 620	1 099 425	185 107 018	198 179 638	1

WHOLE CITY : HOTEL

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
29	0 5000	2	907	2 937	0	0	2 937	
0	5001 10000	0	0	0	0	0	0	0
0	10001 25000	0	0	0	0	0	0	0
0	25001 50000	0	0	0	0	0	0	0
0	50001 100000	0	0	0	0	0	0	0
0	100001 500000	0	0	0	0	0	0	0
107 321	500001 and more...	7	160 166	240 439	43 429	10 491 705	10 732 143	
107 351	TOTAL:	9	161 073	243 376	43 429	10 491 705	10 735 080	

WHOLE CITY : KIOSK
 DATE: 23.06.97

VALUE RANGE	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
0	5000	10	1 482	3 084	19	2 643	5 727	
57	5001	10000	0	0	0	0	0	0
0	10001	25000	0	0	0	0	0	0
0	25001	50000	0	0	0	0	0	0
0	50001	100000	0	0	0	0	0	0
0	100001	500000	0	0	0	0	0	0
0	500001	and more...	0	0	0	0	0	0
TOTAL:		10	1 482	3 084	19	2 643	5 727	

WHOLE CITY : PUB.CATERING
 DATE: 23.06.97

VALUE RANGE	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
0	5000	19	24 567	30 793	3 177	1 281	32 074	
321	5001	10000	4	8 626	20 625	0	20 625	
206	10001	25000	2	388	14 742	157	15 713	30 455
305	25001	50000	1	801	853	47	30 252	31 105
311	50001	100000	1	2 569	2 736	333	49 129	51 865
519	100001	500000	4	3 785	5 307	4 088	775 981	781 288
7 813	500001	and more...	0	0	0	0	0	0
TOTAL:		31	40 736	75 056	7 802	872 356	947 412	

WHOLE CITY : ORCHARDS

DATE: 23.06.97

VALUE RANGE LIABILITY	(from-to)	OBJECT COUNT	LAND AREA	LAND VALUE	BUILD AREA	BUILD VALUE	TAXABLE VALUE	TAX
25 868	0 5000	2 980	1 967 040	2 584 287	24	2 464	2 586 751	
374	5001 10000	7	28 706	37 365	0	0	37 365	
1 340	10001 25000	12	70 723	113 158	64	20 857	134 015	
0	25001 50000	8	0	0	0	0	0	
4 298	50001 100000	8	191 707	244 056	1 506	185 763	429 818	
151 932	100001 500000	133	158 620	867 616	129 002	14 325 598	15 193 215	
0	500001 and more...	1	0	0	0	0	0	
183 812	TOTAL:	3 149	2 416 796	3 846 482	130 596	14 534 682	18 381 164	

APPENDIX III

TVER TAX IMPACT ANALYSIS -- PRELIMINARY

<u>Tver Interactive Tax Rate and Assessment Ratio Worksheet,</u>				
<u>1997 Tax Year</u>				
Required Levy:		\$(Millions of 19.49 \$US)		
Estimated Net Tax Base				
Tax Base Category	Millions of \$ US	Object Count	Share	
Residential	\$ 583.63	46,955		
Commercial	\$ 231.49	4,566		
Industrial	\$ 850.41	2,822		
Other	\$ 57.31	494		
Total	\$ 1,722.84	54,837		
Estimated Tax Receipts				
1--Uniform Ratios				
Maximum effective tax rate:		1.13%		
	Total Millions \$US for this Category	Wtd Average per taxpayer (\$US)	Assmt Ratio	
Residential	\$ 6.60	\$ 140.61	100%	
Commercial	\$ 2.62	\$ 55.77	100%	
Industrial	\$ 9.62	\$ 204.89	100%	
Other	\$ 0.65	\$ 13.81	100%	
Total	\$ 19.49	\$ 415.08		

2--Variable Ratios						
Nominal & maximum effective tax rate:		4.72%				
		Estimated Tax Receipts				
		Total Millions \$US for this Category	Wtd Average per taxpayer (\$US)	Assmt Ratio	<-	
Residential	\$	0.28	\$ 5.86	1%	<-	
Commercial	\$	10.92	\$ 232.58	100%	<-	
Industrial	\$	8.02	\$ 170.88	20%	<-	
Other	\$	0.27	\$ 5.76	10%	<-	
Total	\$	19.49	\$ 415.08			

Tver, 1997 Planned Budget & Preliminary Property Tax Rate Estimates				5760							
Budget Item	Category	Subcategory	1997 Total Budget (\$US)E6	1997 Budgets in Millions of Rubles				1997 Budget Sharing Allocations			
	Percentage	Percentage		Total	City	Oblast	Federal	City	Oblast	Federal	
Grand Total	100%		19.49	111,959	56,479	22,132	33,348	50%	20%	30%	
				-							
Buildings Tax Individuals	1%		0.16	900	900	-	-	100%	0%	0%	
Assets Tax	66%		12.94	74,400	37,200	14,880	22,320	50%	20%	30%	
on Buildings		45%	5.82	33,480	16,740	6,696	10,044	50%	20%	30%	
on Other Assets		55%	7.12	40,920	20,460	8,184	12,276	50%	20%	30%	
Land Tax	23%		4.41	25,290	12,695	4,978	7,617	50%	20%	30%	
on Enterprises		97%	4.28	24,528	12,314	4,826	7,388	50%	20%	30%	
on Individuals		3%	0.13	762	381	152	229	50%	20%	30%	
Land Rent	10%		1.98	11,369	5,684	2,274	3,411	50%	20%	30%	
on Enterprises		95%	1.88	10,800	5,400	2,160	3,240	50%	20%	30%	
on Individuals		5%	0.10	569	284	114	171	50%	20%	30%	

Cadastre Summary, as of 2/6/97				Adjustments Based on Percentage Complete		Assumptions of (weighted average)		Estimated Net Tax Base	
	FC Object count	Calculated Tax Base (\$US)E6	Estimate d Pctg complete	Object Count	Adjusted Gross Tax Base (\$US)E6	Collecti on rate	Percentag e Exempt	Object Count	Millions of (\$US)
Residential	140,865	\$ 2,918.13	105%	134,157	\$ 2,779.17	60%	65%	46,955	\$ 583.63
Commercial	761	\$ 45.39	15%	5,073	\$ 302.60	85%	10%	4,566	\$ 231.49
Industrial	1,660	\$ 588.52	50%	3,320	\$ 1,177.04	85%	15%	2,822	\$ 850.41
Agricultural	94	\$ 5.55	100%	94	\$ 5.55	50%	100%	-	\$ -
Government	697	\$ 56.17	100%	697	\$ 56.17	70%	100%	-	\$ -
Culture, sports, Religious	627	\$ 51.69	100%	627	\$ 51.69	40%	100%	-	\$ -
Other	1,813	\$ 350.22	110%	1,648	\$ 318.38	60%	70%	494	\$ 57.31
Total	146,517	\$ 4,015.67		145,617	\$ 4,690.60			54,837	\$ 1,722.84

APPENDIX IV

NOVGOROD TAX IMPACT ANALYSIS – DRAFT

Novgorod Interactive Tax Rate and Assessment Ratio Worksheet, 1998 Tax Year

Required Levy: \$ 19.24 (Millions of \$US)

Estimated Net Tax Base

Tax Base Category	Millions of \$ US	Object Count
Residential, Private House	\$ 9.70	12,576
Residential, Apartments	\$ 0.73	19,892
Parking and Garages	\$ 7.72	14,083
Office	\$ 19.12	420
Service	\$ 1.39	59
Stores	\$ 4.77	220
Warehouses	\$ 14.48	516
Small Industry	\$ 27.16	705
Large Industry	\$ 122.80	334
Transportation	\$ 23.41	77
Culture, sports, Religious	\$ 0.03	0
Hotel	\$ 2.00	13
Kiosk	\$ 0.44	501
Catering	\$ 1.37	46
Other	\$.	.
Tax-equivalent Land-Rent Base	\$ 812.53	
Total Revenue Base (Adj)	\$ 1,047.65	49,440
Tax-Only Total	\$ 235.12	

Estimated Tax Receipts

1--Uniform Ratios

Uniform effective tax rate:	Total Millions \$US for this Category	Wtd Average per taxable object (\$US)	Assmt Ratio
		1.84%	
Residential, Private House	\$ 0.18	\$ 14.16	100%
Residential, Apartments	\$ 0.01	\$ 0.68	100%
Parking and Garages	\$ 0.14	\$ 10.07	100%
Office	\$ 0.35	\$ 835.62	100%
Service	\$ 0.03	\$ 437.48	100%
Stores	\$ 0.09	\$ 399.07	100%
Warehouses	\$ 0.27	\$ 515.73	100%
Small Industry	\$ 0.50	\$ 707.94	100%
Large Industry	\$ 2.26	\$ 6,752.58	100%
Transportation	\$ 0.43	\$ 5,621.02	100%
Culture, sports, Religious	\$ 0.00	\$ 983.75	100%
Hotel	\$ 0.04	\$ 2,909.29	100%
Kiosk	\$ 0.01	\$ 16.18	100%
Catering	\$ 0.03	\$ 549.55	100%
Other	\$.	#DIV/0!	100%
Total Tax	\$ 4.32	\$ 87.36	
Land rental revenues	\$ 14.93		100%
Total Revenues	\$ 19.24		

Estimated Tax Receipts

2--Variable Ratios

Maximum differentiated effective tax rate:	2.06%
Rental rate on non-privatized, non-residential land	3.09%
Premium or parity of land-rent rates relative to tax rates	150% < PLEASE

Novgorod Tax Impact Draft 33, Based on NK971201, with Land Tax and Lease Separate

	Total Millions \$US for this Category	Wtd Average per Taxable Object (\$US)	Assmt Ratio	NOTE:	Effective Tax Rate	Effective Lease Rate	Total Lease Amt to be billed	Wtd Average Lease Amt to be billed
Residential, Private House	\$ 0.02	\$ 1.59	10%	<	0.21%	3.09%	\$ 58,306	\$ 601
Residential, Apartments	\$ 0.00	\$ 0.08	10%	< Change	0.21%	3.09%	\$ 1,178,468	\$ 523
Parking and Garages	\$ 0.16	\$ 11.31	100%	<	2.06%	3.09%	\$ 597,101	\$ 1,252
Office	\$ 0.39	\$ 938.03	100%	< this	2.06%	3.09%	\$ 626,660	\$ 827
Service	\$ 0.03	\$ 491.10	100%	<	2.06%	3.09%	\$ 206,655	\$ 1,351
Stores	\$ 0.10	\$ 447.99	100%	< column	2.06%	3.09%	\$ 284,624	\$ 523
Warehouses	\$ 0.30	\$ 578.94	100%	<	2.06%	3.09%	\$ 2,797,227	\$ 4,303
Small Industry	\$ 0.17	\$ 238.41	30%	< only.	0.62%	3.09%	\$ 1,791,062	\$ 1,588
Large Industry	\$ 0.76	\$ 2,274.06	30%	<	0.62%	3.09%	\$ 5,970,386	\$ 15,670
Transportation	\$ 0.48	\$ 6,309.95	100%	< only..	2.06%	3.09%	\$ 987,544	\$ 13,528
Culture, sports, Religious	\$ 0.00	\$ 110.43	10%	<	0.21%	3.09%	\$ 1,952,523	\$ 6,140
Hotel	\$ 0.04	\$ 3,265.86	100%	< only...	2.06%	3.09%	\$ 237,842	\$ 3,049
Kiosk	\$ 0.01	\$ 18.17	100%	<	2.06%	3.09%	\$ 12,746	\$ 10
Catering	\$ 0.03	\$ 616.90	100%	< only....	2.06%	3.09%	\$ 53,171	\$ 369
Other	\$ -	#DIV/0!	100%	<	2.06%	3.09%	\$ -	\$ -
Total Tax	\$ 2.49	\$ 50.36					\$ 16,754,315	\$ 2,004
Land rental revenues	\$ 16.75			100% (Do Not Change)				
Total Revenues	\$ 19.24							

Novgorod, 1998 Planned Budget & Preliminary Property Tax Rate Estimates 5820

Budget Item	Category Percentage	Subcategory Percentage	Budget (\$US)E6	1997 Budgets in Millions of Rubles			1997 Budget Sharing Allocations			
				Total	City	Oblast	Federal	City	Oblast	Federal
Grand Total	100%		19.24	112,000	69,750	34,964	7,286	62%	31%	7%
Buildings Tax Individuals	0%		0.05	303	303	-	-	100%	0%	0%
Assets Tax	78%		15.02	87,411	52,447	34,964	-	60%	40%	0%
on Buildings		0%			-	-	-	60%	40%	0%
on Other Assets		0%			-	-	-	60%	40%	0%
Land Tax	0%		0.00		-	-	-	70%	0%	30%
on Enterprises		#DIV/0!			-	-	-	70%	0%	30%
on Individuals		#DIV/0!			-	-	-	70%	0%	30%
Land Rent	0%		0.00		-	-	-	70%	0%	30%
on Enterprises		#DIV/0!			-	-	-	70%	0%	30%
on Individuals		#DIV/0!			-	-	-	70%	0%	30%
Land Combined			4.17	24,286	17,000	-	7,286	70%	0%	30%
Other			0.00							

These are results of the summary results needed to Bob Denne.

Revision of these data from Volodia 10/28/97

Differences between the two versions

 VALUATION DATE: 24.10 1

Any contacts: Vladimír Ivanov (Tver) (082 2) 426-437 Emails: ivkv@usa.net OR cfediv@dol.ru

1. Classified by OVERALL_USE (if or all non-residential objects ONLY WITH RIGHT OWNERS !!!)

NUM	OVERALL_USE	BVALUE	LVALUE_1	LVALUE_2		NUM	OVERALL_USE	BVALUE	LVALUE_1	LVALUE_2	BVALUE	LVALUE_1	LVALUE_2
417	3	7,084,729	628,705	12,528,480	Parking and Garages	417	3	7,084,729	602,399	12,187,012	-	(26,306)	(341,468)
772	4	31,108,802	1,461,620	9,350,171	Office	772	4	31,108,802	1,305,467	8,193,661	-	(156,153)	(1,156,510)
200	5	2,446,182	237,794	2,085,294	Service	200	5	2,446,182	237,794	2,085,294	-	-	-
408	6	7,222,795	633,588	6,216,211	Stores	408	6	7,222,795	633,514	6,216,169	-	(74)	(42)
816	7	22,932,382	1,290,388	33,581,193	Warehouses	816	7	22,932,382	1,262,622	33,142,016	-	(27,766)	(439,177)
1,110	8	37,412,510	1,347,547	26,994,567	Small Industry	1,110	8	37,412,510	1,188,115	22,745,535	-	(159,432)	(4,249,032)
398	9	7,630,042	4,360,582	//////////	Large Industry	398	9	7,630,042	3,201,170	184,094,571	-	(1,159,412)	(135,011,681)
95	10	5,771,436	189,508	7,390,147	Transportation	95	10	5,771,436	116,436	4,178,055	-	(73,072)	(3,212,092)
706	13	18,405,228	2,431,792	51,604,790	Culture, sports, Religious	706	13	18,405,228	1,883,013	41,385,900	-	(548,779)	(10,218,890)
1	14	6,203	-	-	Other	1	14	6,203	-	-	-	-	-
27	15	3,984,573	291,585	3,409,670	Hotel	27	15	3,984,573	291,585	3,409,670	-	-	-
633	16	352,903	63,647	69,301	Kiosk	633	16	352,903	63,417	69,199	-	(230)	(102)
89	17	2,831,506	76,645	455,409	Catering	89	17	2,831,506	76,645	455,409	-	-	-
5,672	Total	//////////	13,013,401	//////////		5,672	Total	147,189,291	10,862,177	318,162,491	-	(2,151,224)	(154,628,994)

13 rows selected.

13 rows selected.

2. Classified by OVERALL_USE (if or all non-residential objects and WITH PRIVATIZED LAND!)

2. Classified by OVERALL_USE (if or all non-residential objects and WITH PRIVATIZED LAND!)

NUM	OVERALL_USE	BVALUE	LVALUE_1	LVALUE_2		NUM	OVERALL_USE	BVALUE	LVALUE_1	LVALUE_2	BVALUE	LVALUE_1	LVALUE_2
417	3	7,084,729	-	-		417	3	7,084,729	-	-	-	-	-
772	4	31,108,802	20,300	117,887	Parking and Garages	772	4	31,108,802	11,117	60,872	-	(9,183)	(57,015)
200	5	2,446,182	10,579	112,786	Office	200	5	2,446,182	10,579	112,786	-	-	-
408	6	7,222,795	777	2,506	Service	408	6	7,222,795	777	2,506	-	-	-
816	7	22,932,382	35,218	554,685	Stores	816	7	22,932,382	21,183	329,524	-	(14,035)	(225,161)
1,110	8	37,412,510	101,182	2,110,344	Warehouses	1,110	8	37,412,510	95,256	2,057,354	-	(5,926)	(52,990)
398	9	7,630,042	715,001	55,561,077	Small Industry	398	9	7,630,042	614,922	52,362,782	-	(100,079)	(3,198,295)
95	10	5,771,436	-	-	Large Industry	95	10	5,771,436	-	-	-	-	-
706	13	18,405,228	50,500	670,231	Transportation	706	13	18,405,228	25,451	307,003	-	(25,049)	(363,228)
1	14	6,203	-	-	Culture, sports, Religious	1	14	6,203	-	-	-	-	-
27	15	3,984,573	-	-	Other	27	15	3,984,573	-	-	-	-	-
633	16	352,903	2,822	2,609	Hotel	633	16	352,903	2,656	2,521	-	(166)	(88)
89	17	2,831,506	1,809	5,468	Kiosk	89	17	2,831,506	1,809	5,468	-	-	-
5,672	Total	//////////	938,188	59,137,593	Catering	5,672	Total	147,189,291	783,750	55,240,816	-	(154,438)	(3,896,777)

13 rows selected.

3. Classified by DVER ALL_USE (if or all non -residenti al objects and WITH LEASED LANDI)
The legal entities ri ghts took from DATA ASE

NUM (Not ref)	OVERALL_USE	BVALUE	LVALUE_1	LVALUE_2	Pct Total	
417	3	7,084,729	544,433	11,603,262	Parking and Garages	7%
772	4	31,108,802	1,073,148	8,615,021	Office	4%
200	5	2,446,182	227,216	1,972,508	Service	1%
408	6	7,222,795	632,713	8,213,649	Stores	4%
816	7	22,932,382	1,178,003	31,779,024	Warehouses	19%
1,110	8	37,412,510	895,508	16,343,312	Small Industry	10%
398	9	7,630,042	1,922,482	62,539,941	Large Industry	38%
95	10	5,771,436	43,363	965,963	Transportation	1%
706	13	18,405,228	807,180	22,301,859	Culture, sports, Religious	14%
1	14	8,203	-	-	Other	-
27	15	3,984,573	291,585	3,409,670	Hotel	2%
633	16	352,903	60,698	66,664	Kiosk	0%
89	17	2,831,508	74,570	449,687	Catering	0%
5,672	Total	147,189,291	7,750,899	164,260,560		1

13 rows selected.

13 rows selected.

3. Classified by OVER ALL_USE (if or all non -residenti al objects and WITH LEASED LANDI)
The legal entities ri ghts took from DATAB ASE

NUM	OVERALL_USE	BVALUE	LVALUE_1	LVALUE_2	BVALUE	LVALUE_1	LVALUE_2
417	3	7,084,729	544,433	11,603,262	-	-	-
772	4	31,108,802	1,073,148	8,615,021	-	-	-
200	5	2,446,182	227,216	1,972,508	-	-	-
408	6	7,222,795	632,713	8,213,649	-	-	-
816	7	22,932,382	1,178,003	31,779,024	-	-	-
1,110	8	37,412,510	895,508	16,343,312	-	-	-
398	9	7,630,042	1,922,482	62,539,941	-	-	-
95	10	5,771,436	43,363	965,963	-	-	-
706	13	18,405,228	807,180	22,301,859	-	-	-
1	14	8,203	-	-	-	-	-
27	15	3,984,573	291,585	3,409,670	-	-	-
633	16	352,903	60,698	66,664	-	-	-
89	17	2,831,508	74,570	449,687	-	-	-
5,672	Total	147,189,291	7,750,899	164,260,560	-	-	-

13 rows selected.

4. Classified by DVER ALL_USE (if or all non -residenti al objects and WITH PRIVATIZED/LEASED LANDI)
The all legal entitie s rights t ook from P APER Title s

NUM	OVERALL_USE	BVALUE	LVALUE_1	LVALUE_2	
17	3	374,773	1,228	2,249	Parking and Garages
35	4	1,381,553	3,335	11,889	Office
3	5	78,351	10,579	112,786	Service
8	6	31,233	3,494	13,999	Stores
60	7	3,030,276	35,218	554,685	Warehouses
93	8	6,372,477	91,639	2,051,669	Small Industry
200	9	2,940,513	1,462,144	881,479	Large Industry
7	10	26,432	4,613	53,862	Transportation
16	13	388,119	136,121	3,426,280	Culture, sports, Religious
3	15	-	33,691	221,252	Other
10	16	21,705	2,034	2,098	Hotel
11	17	98,550	18,068	107,260	Kiosk
463	Total	14,741,982	1,802,164	90,540,078	Catering

12 rows selected.

4. Classified by DVER ALL_USE (if or all non -residenti al objects and WITH PRIVATIZED/LEASED LANDI)
The all legal entitie s rights t ook from P APER Title s

NUM	OVERALL_USE	BVALUE	LVALUE_1	LVALUE_2	BVALUE	LVALUE_1	LVALUE_2
17	3	374,773	1,228	2,249	-	(55)	(74)
35	4	1,381,553	3,335	11,889	-	(1,363)	(5,377)
3	5	78,351	10,579	112,786	-	-	-
8	6	31,233	3,494	13,999	-	-	-
60	7	3,030,276	35,218	554,685	-	(14,035)	(225,161)
93	8	6,372,477	91,639	2,051,669	-	(8,631)	(124,414)
200	9	2,940,513	1,462,144	881,479	-	(600,665)	(68,115,825)
7	10	26,432	4,613	53,862	-	-	-
16	13	388,119	136,121	3,426,280	-	-	-
3	15	-	33,691	221,252	-	-	-
10	16	21,705	2,034	2,098	-	(63)	(14)
11	17	98,550	18,068	107,260	-	-	-
463	Total	14,741,982	1,802,164	90,540,078	-	(624,812)	(68,470,865)

12 rows selected.

Novgorod Tax Impact Draft 33, Based on NK971201, with Land Tax and Lease Separate

Novgorod Summary, application of NK971201 with separation of Tax and Lease base

	Adjustments Based on Percentage Complete													
	Complete			Assumptions of (weighted average)				Estimated Net Tax Base			Land Rent Assumptions			
	FC Object count	Calculated Tax Base (\$US)E6	Estimated Pctg complete	Object Count	Tax Base (\$US)E6	Collection rate	Exempt Percentage	Object Count	Millions of (\$US)	Collection rate	Exempt Percentage	Millions of (\$US)		
Residential, Private House	29,246	37.59	100%	29,246	\$ 37.59	60%	57%	12,576	\$ 9.70	85%	15%	\$ 1.89		
Residential, Apartments	46,260	2.85	100%	46,260	\$ 2.85	60%	57%	19,892	\$ 0.73	85%	15%	\$ 38.10		
Parking and Garages	14,083	15.45	100%	14,083	\$ 15.45	50%	0%	14,083	\$ 7.72	85%	15%	\$ 19.30		
Office	467	35.41	100%	467	\$ 35.41	60%	10%	420	\$ 19.12	85%	15%	\$ 20.26		
Service	65	2.58	100%	65	\$ 2.58	60%	10%	59	\$ 1.39	85%	15%	\$ 6.68		
Stores	244	8.84	100%	244	\$ 8.84	60%	10%	220	\$ 4.77	85%	15%	\$ 9.20		
Warehouses	573	26.81	100%	573	\$ 26.81	60%	10%	516	\$ 14.48	85%	15%	\$ 90.44		
Small Industry	829	53.25	100%	829	\$ 53.25	60%	15%	705	\$ 27.18	85%	15%	\$ 57.91		
Large Industry	393	240.79	100%	393	\$ 240.79	60%	15%	334	\$ 122.80	85%	15%	\$ 193.03		
Transportation	90	45.90	100%	90	\$ 45.90	60%	15%	77	\$ 23.41	85%	15%	\$ 31.93		
Culture, sports, Religious	482	64.53	100%	482	\$ 64.53	40%	100%	0	\$ 0.03	85%	15%	\$ 63.13		
Hotel	14	3.70	100%	14	\$ 3.70	60%	10%	13	\$ 2.00	85%	15%	\$ 7.69		
Kiosk	557	0.82	100%	557	\$ 0.82	60%	10%	501	\$ 0.44	85%	15%	\$ 0.41		
Catering	51	2.54	100%	51	\$ 2.54	60%	10%	46	\$ 1.37	85%	15%	\$ 1.72		
Other	-	-	100%	-	\$ -	60%	70%	-	\$ -	85%	15%	\$ -		
Total	93,354	541.05		93,354	\$ 541.05			49,440	\$ 235.12			\$ 541.68		
Tax-Equivalence of Land Rent		1,124.60										Equivalent to Tax Base with premium: \$ 812.53		

Novgorod Summary, application of NK971201 with separation of Tax and Lease base

	Total Tax Base		Taxable Land		Leased Land		Non-Land, Taxable		Total, Tax and Lease			
	Count	Estim Mkt Value	Count	Estimated Market Value	Count	Estimated Market Value	Count	Estim Mkt Value	Count	Estim Mkt Value		
				Econ	Resid		Econ	Resid				
Summary, reported												
1 Residential, Private House	29,246	\$ 37,587,748	3,807	\$ 7,898,197	\$ 29,689,552	97	\$ 423,323	\$ 2,185,796	25,439	29,343	\$ 40,196,867	
2 Residential, Apartments	46,260	\$ 2,846,333	43	\$ 450,584	\$ 2,395,749	2,253	\$ 9,844,643	\$ 42,890,458	46,217	48,513	\$ 55,581,434	
3 Parking and Garages	14,083	\$ 15,448,963	10,651	\$ 2,145,180	\$ 2,929,894	477	\$ 2,476,663	\$ 24,242,936	3,432	10,371,888	\$ 42,166,562	
4 Office	467	\$ 35,407,468	35	\$ 492,991	\$ 2,178,580	758	\$ 5,544,717	\$ 22,497,595	432	32,735,895	\$ 63,449,778	
5 Service	65	\$ 2,580,134	3	\$ 26,048	\$ 153,221	153	\$ 1,222,172	\$ 8,025,396	62	2,400,868	\$ 11,827,702	
6 Stores	244	\$ 8,835,138				544	\$ 1,999,885	\$ 10,736,710	244	8,835,138	\$ 21,571,733	
7 Warehouses	573	\$ 26,812,995	20	\$ 133,613	\$ 1,374,164	650	\$ 6,390,092	\$ 118,782,627	553	25,305,217	\$ 151,985,714	
8 Small Industry	829	\$ 53,250,414	143	\$ 1,010,377	\$ 17,377,647	1,128	\$ 5,954,166	\$ 74,193,840	688	34,862,389	\$ 133,398,420	
9 Large Industry	393	\$ 240,786,849	44	\$ 4,717,705	\$ 219,628,973	381	\$ 10,401,817	\$ 256,766,214	349	18,440,171	\$ 507,954,880	
10 Transportation	90	\$ 45,901,824	16	\$ 1,390,718	\$ 38,974,418	73	\$ 1,463,554	\$ 42,727,938	74	5,538,490	\$ 90,093,116	
13 Culture, sports, Religious	482	\$ 64,534,935	146	\$ 2,284,821	\$ 30,545,833	318	\$ 4,039,186	\$ 83,334,026	336	31,724,281	\$ 151,908,147	
15 Hotel	14	\$ 3,695,603				78	\$ 1,246,175	\$ 9,396,973	14	3,695,603	\$ 14,338,751	
16 Kiosk	557	\$ 817,856	1	\$ 46,546	\$ 218,096	1,307	\$ 357,857	\$ 212,500	556	553,214	\$ 1,388,213	
17 Catering	51	\$ 2,542,986				144	\$ 461,384	\$ 1,917,975	51	2,542,986	\$ 4,922,345	
Other	0	\$ -									\$ 0	
Total of detail	93,354	\$ 541,047,044	14,909	\$ 20,576,778	\$ 345,466,127	8,361	\$ 51,825,634	\$ 697,910,984	78,445	\$ 175,004,139	101,715	\$ 1,290,783,662

Total of Land-Rental Base 749,736,618
 Tax-base equivalent of value with rental premium relative to parity@ 150% (see page 1): 1,124,604,927

CHAPTER IX

APPENDICES

APPENDIX I

YOUR CHANGING PROPERTY TAXES¹²

WHAT YOU NEED TO KNOW ABOUT THE PROPERTY TAX REFORM EXPERIMENT IN THE RUSSIAN FEDERATION

1. INTRODUCTION

The poor collection rate of the many different taxes imposed on enterprises and households of Russia has become one of the most critical problems in running the country's economy. Almost everybody agrees that something needs to be done with the existing tax system to make it more effective and to help avoid economic collapse.

In the fall of 1996, the citizens of Russian cities elected their first self-governments, with the hope of making their cities more livable and affordable as soon as possible. Their local governments need a reliable system for financing their operations and for stimulating further development of their cities.

In response to these needs, Novgorod and Tver have become the first cities in Russia allowed by the Federal Duma¹³ to reform their local tax systems related to land and buildings belonging to enterprises and households. The property tax reform experiment is aiming to move the two cities toward a rational system of property taxation, which is the financial base of most cities in market economy countries. In Novgorod Oblast, two municipalities, Borovichi and Staraya Russa, are part of the property tax reform experiment as well.

¹² Booklet for "active" taxpayers prepared by Renata Frenzen and W. Jan Brzeski of the UrbanInstitute/NERA/CREA Consortium. "Active" taxpayers are people interested in tax reforms beyond their individual tax situation and who may become "champions" of the reform. The active taxpayers will most likely be government officials, tax officers, independent experts, managers, researchers and finance and economic specialists.

¹³ In July 1997, the Federal Duma passed new legislation "On the Execution of the Experiment on Real Property Taxation in the Cities of Novgorod and Tver."

2. FLASH POINTS ON THE PROPERTY TAX REFORM EXPERIMENT

2.1 **The essence, purpose, principles.** The essence of the reform is to replace the three existing and very complicated taxes¹⁴ with a single tax on “real property”. The new consolidated property tax will become a major revenue instrument in the hands of local self-governments. Revenues from real property taxes will continue to be spent on further improvements in local services and infrastructure. The basic principle of the new consolidated real property tax is to make the tax amount closely related to the estimated market value of real properties owned or used by enterprises and households. The use of estimated market values assures more equitable distribution of the necessary tax burden according to the principle of tax solidarity and in relation to real money prices reflected in estimated market values. At the same time those who happen to have difficulties in meeting their tax responsibilities may be granted relief by their local self-governments.

3. ADVANTAGES TO TAXPAYERS

3.1 **Direct link between local taxes and local services.** We as local residents have elected our own self-governments for our municipalities. The local self-government understands well what kind of services and infrastructure the population wants to have first given the modest financial resources of the local budget. In order for our government to deliver these services and infrastructure the enterprises and households of our municipality pay local taxes, even though nobody likes paying them. If we want our government to deliver more and better services and infrastructures, more taxes have to be raised locally. If we want our government to reduce taxes the government has to reduce services and infrastructure. If the government wants to be reelected it has to respond to our preferences about taxes and services. There is a direct relationship between the two. We are the ones who tell the government about the level of taxes and services. If the local government does not listen to our preferences it loses its power in the next local election.

To illustrate this point, examples of the improvement in local services as well as new ones created after the property tax reform are provided:

- One example is the maintenance of residential buildings. Many citizens complain about common areas in residential buildings (entrances, staircases, corridors) being very run-down, dingy, smelly and generally unsafe. This affects the quality of housing in a very negative way. The city would like to improve regular maintenance of these areas and make some renovations, but the local city budget does not have any additional funds for increased expenditures for these purposes. If the city is now allowed by its citizens to increase property tax revenue, it will be allowed by the new law to keep all the additional funds and spend them for improved services.
- Other examples relates to improved street lighting, less domestic pests such as rats in residential areas through more frequent garbage removal. It may be better public transportation such as newer buses or street cars, better roads, better and safer schools or a more reliable supply of hot water.
- Every time the city needs to fund better services requested by local citizens, it can increase the tax rate and spread the burden of increased costs equitably among the citizens. This way, no money leaves the city borders but it is reused directly for necessary services as requested by citizens through their representatives in the city council. It may also be that citizens think the property tax is too high and needs to be lowered. This would require the local government to decide which services need to be reduced. Again, the priorities of the local citizens will help to make that choice and reduce the least important services. The taxpayers must tell the city government what their priorities are by talking and writing to their elected representatives on the city council. This is what is meant by the direct link between local taxes and local services. The money is raised and spent within the city's jurisdiction.

3.2 **Equitable distribution of the necessary tax burden**. Citizens need to pay taxes to their local self-governments, but the question is how to distribute this necessary burden equitably among enterprises and households. The underlying principle behind equitable distribution is that those who own or possess more are to pay more. So if some enterprises or households own or possess (i.e. enjoy) highly valuable land and buildings (which can be rented

¹⁴ These are: (1) the real property tax on objects of physical persons; (2) the tax on land of physical persons and legal entities; and (3) the tax on assets of enterprises.

or sold for high prices) they should pay higher real property tax. Using values as the principle for setting a tax amount is the way to ensure the equitable distribution of the necessary tax burden.

3.3 Helping enterprises and counteracting unemployment. Currently, the local municipal revenues from taxes rely almost exclusively on enterprises for revenues. The amount of the tax borne by households is very small and many households do not pay this tax. This excessive burden on our enterprises makes them less efficient, which reduces their competitive position in the economy and results in financial problems leading to increasing unemployment. The property tax that is based only on the value of land and improvements will not tax plant and machinery and other financial assets. This will reduce the taxes on enterprises. Improvement of the economic situation of our enterprises means improvement in our employment situation and hence in our salaries and wages.

The current excessive tax burden on local enterprises increases their costs and makes them less efficient. This reduces their competitive position in the economy and results in financial problems leading to increasing unemployment or even to shut downs. The new property tax in is supposed to help local enterprises reduce their costs by lowering their tax burden on plant, machinery and financial assets. At the same, those enterprises that own highly valuable building assets will be taxed higher on the premise that they can sublease at high rents and, in the long-term, sell and relocate to cheaper locations. Reducing taxes and improving its distribution among enterprises will help reduce costs and increase profits. This will improve the economic situation of enterprises and allow them to increase employment as well as, in time, wages and salaries.

These effects will not happen overnight and will not solve the problems of unemployment overall. But they will contribute in an incremental way to a better economic situation for enterprises. The improvement in enterprises will be faster if more of the property tax burden is shifted to commercial sector firms (various services) and to individuals owning highly valuable real estate.

4. ADVANTAGES FOR ECONOMIC AND URBAN DEVELOPMENT OF MUNICIPALITIES

4.1 Provide stable tax base to finance operations and development. The new municipal self-governments that the people elected in the fall of 1996 needs to have a stable financial situation in order to ensure the cities operations (efficient and effective local services) and stimulate economic development. Real property tax is a stable financial source because it is imposed on land and buildings which cannot disappear from day to day. It is also relatively easy to collect these taxes since the land and buildings are immovable. Examples of changes in income of local budgets for selected countries are provided below.

In Estonia, a land property tax was introduced in 1993 and it currently constitutes up to 25% of local budget revenues in some localities. In Poland, a property tax was introduced in 1990 and imposed on both land and buildings and it now constitutes on average almost 20% of local government revenues. Consequently, the property taxes in Poland are equivalent to 2% of the consolidated government budget (both local and central). When Poland switches its property tax base from area to value, the property tax will increase in importance even more. Other countries in Central Europe are entering into various stages of property tax reforms as well. In Western countries, property taxes constitute from 30-80% of local government revenues (Please see the information in Appendix 1).

4.2 Promote land investment and stimulating economic development through more efficient land use. Many users of land do not utilize that valuable resource efficiently. This means a lost opportunity for better economic development. If more productive users of our land resources can be found and matched with the land the economy of our city will improve. The property tax reform encourages less productive users to make their land (or parts of it) available to more productive users. This should stimulate economic development, lower unemployment and increase our incomes

Thus, economic development of the city will take place in a more efficient way when existing enterprises and investors will start development of vacant land so that productive uses may be established there. It is important that the most valuable land be developed as quickly as possible because its high market value depends on its high productivity. The real property tax reform is to encourage such investments by establishing high taxes on vacant land which is

valuable. In other words, the reform will discourage land speculation by those who hold the land and do not develop it by waiting for even higher land values. If they do not have funds for investing, they should make this land available to other investors through sale or rent. The proceeds from the sale or rent can then be invested in other productive activities or deposited in the bank.

To illustrate this point, the following example of effective land use by enterprises is provided:

One can imagine an enterprise which is having economic problems. This enterprise occupies a valuable location with a building that could be used for office purposes. Consequently, in accordance with the new property tax, the enterprise has to pay a high tax because of the high value of its land and buildings. Looking for ways to pay the higher tax burden, the enterprise discovers that part of the building can be subleased to private companies that are looking for well located office space. Since there is less economic activity, the enterprise can make more rooms available to other users. Furthermore, the enterprise discovers that one of its storage buildings, which is currently not being used, can be rented to another firm looking for warehousing space. Finally, the enterprise discovers that part of the land can be developed with yet another new office building. If the enterprise controls the land, it can enter into a joint venture arrangement with a developer or it can simply sell the land if it is the owner of the land. The net result is that the higher property tax has stimulated a more intensive use of the valuable land and buildings. The enterprise is now paying higher taxes and probably has extra funds to improve its economic performance. The buildings and the land are also being used by office tenants, a warehousing company and by occupants of the new building.

In short, the enterprise could not pay its taxes so they changed their activities, their profit increased and they used land more effectively. The economy of the city improves through a more economic use of existing land and buildings. At the same time, higher property taxes means that the city now has funds to provide better local services such as street lighting, building maintenance, schools, health services and local transportation.

5. OTHER BENEFITS OF THE PROPERTY TAX INCLUDING INFORMATION ON THE REAL ESTATE MARKET

The computerized registry of real properties (real estate/fiscal cadastre) in the municipalities will create an information base of real property values and about market activities. This information may be used for a variety of other purposes (not only property taxes) and can be made available to investors and other market participants, who can improve their activities thanks to this information. This will help generate more economic activity and help with development.

Better information about real estate and its market makes it easier for investors to make investments. More investors will become interested in this sector and some will shift their funds from the stock market to the real estate market. Increased investor interest will raise the price they are willing to pay for real estate. This will, in turn, increase taxable values of real estate assets which will increase local government tax revenues. The more active the real estate market, the higher values it usually produces and the higher the local government revenues.

But the local government will also want to stimulate economic development in general and stimulate the real estate market to provide better land and buildings to productive users who can be even more productive if they gain access to a good location and efficient buildings. It is therefore in the interest of local governments to stimulate real estate development and activity. A provision of this is a good real estate information system which is the sound foundation for real estate market development and more building activity.

5.1 Winners and losers of the new property tax reform. Are there winners and losers in the new property tax reform? Overall, the whole city is the winner because the local budget becomes stronger and more reliable while the tax burden is distributed more equitably. Those who will need to pay a higher tax (supposedly the “losers”) are those who should be able to pay it because they own valuable assets capable of producing good income. If the taxpayer happens to be disadvantaged economically, such as a pensioner, he/she will, as a rule, qualify for tax privileges anyway. Those who pay a lower tax (the supposed “winners”) are those taxpayers, including enterprises, who own less valuable assets not capable of producing a good income. The new tax reform simply introduces a better correlation between ability to pay (income of taxpayer or their real estate asset) and the amount of tax reflecting real estate value.

NOTE: Results of the tax impact analysis, when available, could be inserted here.

8. WHERE TO GET MORE INFORMATION

The information you have just read in this booklet is intended to answer some of the questions you may have regarding property tax reform experiment. Should you have any other questions, be sure to speak with an employee of the property tax department or other designated department in your city. Please contact:

Telephone: _____ Fax: _____

Address: _____

APPENDIX 1

The Property Tax As A Revenue Source For Cities

The value-related (ad valorem) property tax is the most widely used autonomous source of municipal revenues in most of the world's market economy cities. For example, as the table below illustrates, the property tax constitutes as much as 95% of all local tax revenues in The Netherlands, 81% in Canada, and 52% in France. Although the average in the United States is at 26%, the actual range of the tax in local finance varies greatly (from 10% to 70%) from local government to local government throughout the country. The World Bank reports that property taxation in some developing countries represents 40% to 80% of local government finance.

COMPARISONS OF PROPERTY TAX REVENUE IN SELECTED COUNTRIES				
Country	Property Tax as a Percentage of:			
	Local Tax Revenues	All Local Revenues	Government Revenues	GDP
The Netherlands*	95.0	4.2	2.2	N/A
Canada*	81.0	30.2	6.9	2.84
USA*	75.3	26.4	14.6	2.96
		average range		
		10%-70%		
France (1992)*	52.0	24.1	8.6	2.2
Israel	66.0	N/A	N/A	N/A
Poland	20.0	N/A	2.0	N/A

**Source: "An International Survey of Taxes on Land and Buildings," Joan Youngman, Jane Malme, 1994.*

The value-related property tax is attractive because it works simultaneously toward the attainment of two goals: an efficient local finance that allows city governments to function better and provide better services, and a higher urban productivity that stimulates markets to perform their function more effectively.

These two goals are interconnected through physical and economic planning. Planning creates real property values by defining allowable types and densities of land use. Value-related taxes create pressures to implement these plans. High values result in higher property taxes, causing owners to intensify land use and generate more income to pay the taxes.

Consolidation of real property-related taxes should help to improve their administration. The tax base created by real estate is convenient because of its immovable nature. There is also a relatively transparent linkage between taxes and their use for municipal services and investment. Property owners who pay taxes can see that their tax money is invested to provide tangible services, which quite often improve the value of local land-based assets. Taxpayers are also aware that a significant element of the value of their properties is generated by actions within the public sector.

The need to strengthen local government revenues does not only come from the need to pay for various services. Most cities also face increasing pressures to rehabilitate and upgrade infrastructure, both primary and secondary. Without infrastructure improvements, cities will find it difficult to increase their productivity. To finance the necessary investments, cities will have to mobilize capital by borrowing from banks or issuing municipal bonds. Cities will be unable to raise sufficient capital if their sources of revenue are unstable or unreliable. The property tax provides cities with the legitimacy they need to credibly approach capital markets (lenders). Increases in the value of some properties, indicating increases in wealth, translate quickly into higher tax revenue for the city.

In short, a trend is developing throughout the world in which responsibility for public services is being decentralized to the local level of government. With central governments restricting their subsidies, local governments must secure new sources of funding to provide essential services. As local governments move to increase their tax base, improved capital value property taxation will be among the most attractive options open to policy makers. The value-

related property taxation provides a stable and elastic source of revenue for local governments, and encourages efficient urban land use and development.

APPENDIX II

EXPERIMENTAL IMPLEMENTATION OF MARKET VALUE BASED REAL PROPERTY TAXATION IN BOROVICHI EXAMPLE OF THE ONE-PAGE BROCHURE¹⁵

¹⁵ Example of brochure for “passive” taxpayers prepared by Renata Frenzen and Jan Brzeski of the Urban Institute/NERA/CREA Consortium. Passive taxpayers are characterized as those with little substantive understanding and desire to learn the technical aspects of the property tax reform.

THE NEED OF TAX REFORM

Existing land and building taxes are not economically efficient:

- local tax revenues are unstable
- economic development is inhibited
- land and buildings are often not well used

Existing land and building taxes are not equitable:

- economic uses bear over 90% of tax
- wealthy physical persons are undertaxed
- high value locations undertaxed
- low value locations are overtaxed
- tax privileges do not always help the poor

ADVANTAGES OF THE REFORM

- better city services for population
- stronger local economy and more jobs
- better use of land and buildings
- better local real estate market
- less of unproductive land speculation
- less bureaucracy for corporate taxpayers
- tax amounts related to amount of wealth
- tax privileges for the neediest taxpayers

BENEFITS TO BOROVICHI

- stable and predictable tax revenues
- computerized fiscal cadastre
- improved tax administration
- market-based values of real properties
- taxpayer education and training programs
- skills in evaluating alternative tax policies
- positive image among investors

PRINCIPLES OF THE NEW TAX

New tax replaces the three existing taxes:

- tax on enterprise assets
- land tax payable by individuals and enterprises
- physical persons' property tax

The new tax is exclusively a tax revenue of Borovichi, so that it can be used for improving local services and infrastructure.

The new tax is levied on the property's value, which is more closely related to market levels than the book value (of enterprise assets).

Legal and physical persons get equal treatment of their commercial and industrial properties.

No significant increases of residential taxes are taking place except that some new taxpayers begin to pay the real property tax (put here what the City Duma will decide). Tax bills for owners of principal residence do not exceed the levels of occupancy fees on similar housing.

TAX OBJECTS AND TAXPAYERS

Objects of the reformed property tax are:

- land parcels;
- buildings;
- structures;
- other specified real property.

Unfinished buildings and structures are also be objects of property taxation.

Taxpayers of the reformed real property tax include:

- physical and legal persons possessing ownership rights to private real property

- physical and legal persons possessing rights to state and/or municipal property

TAX BASE, TAX RATE AND TAX AMOUNT

Real property's tax base is its "assessed value" which is multiplied by a tax rate in order to calculate the tax amount.

Property tax rates are determined by the Duma of Borovichi. They are uniformly applied to property types, user categories and other groups according to selected criteria.

The following tax rates have been adopted by the local Duma:

- residential properties ... %
- commercial properties ... %
- industrial properties ... %
- social/cultural properties ... %
- %

TAX PRIVILEGES

Properties owned by foreign countries and international organizations.

The Duma of Borovichi has decided to grant the following property tax privileges:

- total exemption
- total exemption
-% exemption
- % exemption

Tax amounts paid by legal persons can be added to their costs, which should lower their effective tax payments.

The possibility of income tax deductions for the property tax amounts paid by physical persons is being considered by Ministry of Finance ???

ESTIMATION OF PROPERTY VALUES

City of Borovichi has adopted a new market valuation methodology for residential, commercial and industrial properties.

Valuation methodology is based on relatively cheap computer assisted mass appraisal methods based on market derived formulas.

Market valuation formula takes into account only those characteristics of land and building that influence market prices. As markets develop and change the valuation formulas will change accordingly.

Valuation models will estimate market-based values for both land and buildings.

For real properties which have not been subject of market sales, location values can still be derived which contribute to the productivity of a store, an apartment or a warehouse and can be measured as "land value factor".

RIGHTS TO TAX APPEAL

Taxpayers have the right to appeal their tax assessments if they disagree with value estimates. Disagreements may be settled through a special appeals committee, but taxpayers retain the right to civil court procedures.

PROPERTY TAX CALENDAR FOR 199?

- 199? - tax notices sent to taxpayers
- ... 199? - feedback from taxpayers
- Jan. 1, 199? - effective date of the tax
- 199? - tax bills sent to taxpayers
- 199? - deadline for appeals
- ... 199? - deadline for first tax payments
- ... 199? - deadline for 2nd installment

MORE INFORMATION

For more information please visit or call Borovichi [name of department responsible for property tax] Department. They will be glad to talk to you.

Tel: Fax:

Address:

BOROVICHI

Basic Information about Reformed Real Estate Taxation in Borovichi

Experimental Implementation of Market-Value Based Real Property Taxation in BOROVICHI

[emblem of Borovichi]

APPENDIX III

EXPERIMENTAL IMPLEMENTATION OF MARKET VALUE BASED REAL PROPERTY TAXATION IN STARAYA RUSSA EXAMPLE OF THE ONE-PAGE BROCHURE¹⁶

¹⁶ Example of brochure for “passive” taxpayers prepared by Renata Frenzen and Jan Brzeski of the Urban Institute/NERA/CREA Consortium. Passive taxpayers are characterized as those with little substantive understanding and desire to learn the technical aspects of the property tax reform.

Existing land and building taxes are not economically efficient:

- local tax revenues are unstable
- economic development is inhibited
- land and buildings are often not well used

Existing land and building taxes are not equitable:

- economic uses bear over 90% of tax
- wealthy physical persons are undertaxed
- high value locations undertaxed
- low value locations are overtaxed
- tax privileges do not always help the poor

ADVANTAGES OF THE REFORM

- better city services for population
- stronger local economy and more jobs
- better use of land and buildings
- better local real estate market
- less of unproductive land speculation
- less bureaucracy for corporate taxpayers
- tax amounts related to amount of wealth
- tax privileges for the neediest taxpayers

BENEFITS TO BOROVICHI

- stable and predictable tax revenues
- computerized fiscal cadastre
- improved tax administration
- market-based values of real properties
- taxpayer education and training programs
- skills in evaluating alternative tax policies
- positive image among investors

PRINCIPLES OF THE NEW TAX

BEST AVAILABLE COPY

- tax on enterprise assets
- land tax payable by individuals and enterprises
- physical persons' property tax

The new tax is exclusively a tax revenue of Borovichi, so that it can be used for improving local services and infrastructure.

The new tax is levied on the property's value, which is more closely related to market levels than the book value (of enterprise assets).

Legal and physical persons get equal treatment of their commercial and industrial properties.

No significant increases of residential taxes are taking place except that some new taxpayers begin to pay the real property tax (put here what the City Duma will decide). Tax bills for owners of principal residence do not exceed the levels of occupancy fees on similar housing.

TAX OBJECTS AND TAXPAYERS

Objects of the reformed property tax are:

- land parcels;
- buildings;
- structures;
- other specified real property.

Unfinished buildings and structures are also be objects of property taxation.

Taxpayers of the reformed real property tax include:

- physical and legal persons possessing ownership rights to private real property

- physical and legal persons possessing rights to state and/or municipal property

TAX BASE, TAX RATE AND TAX AMOUNT

Real property's tax base is its „assessed value” which is multiplied by a tax rate in order to calculate the tax amount.

Property tax rates are determined by the Duma of Staraya Russa. They are uniformly applied to property types, user categories and other groups according to selected criteria.

The following tax rates have been adopted by the local Duma:

- residential properties ... %
- commercial properties ... %
- industrial properties ... %
- social/cultural properties ... %
- %

TAX PRIVILEGES

Properties owned by foreign countries and international organizations.

The Duma of Staraya Russa has decided to grant the following property tax privileges:

- total exemption
- total exemption
-% exemption
- % exemption

Tax amounts paid by legal persons can be added to their costs, which should lower their effective tax payments.

**Basic Information about
Reformed Real Estate Taxation
in Staraya Russa**

**Experimental Implementation
of Market-Value Based
Real Property Taxation
in
STARAYA RUSSA**

[emblem of Staraya Russa]

PROPERTY TAX CALENDAR FOR 199?

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MORE INFORMATION

For more information please visit or call Staraya Russa [name of department responsible for property tax] Department. They will be glad to talk to you.

Tel: Fax:
Address:

The possibility of income tax deductions for the property tax amounts paid by physical persons is being considered by Ministry of Finance ???

ESTIMATION OF PROPERTY VALUES

City of Staraya Russa has adopted a new market valuation methodology for residential, commercial and industrial properties.

Valuation methodology is based on relatively cheap computer assisted mass appraisal methods based on market derived formulas.

Market valuation formula takes into account only those characteristics of land and building that influence market prices. As markets develop and change the valuation formulas will change accordingly.

Valuation models will estimate market-based values for both land and buildings.

For real properties which have not been subject of market sales, location values can still be derived which contribute to the productivity of a store, an apartment or a warehouse and can be measured as „land value factor”.

RIGHTS TO TAX APPEAL

Taxpayers have the right to appeal their tax assessments if they disagree with value estimates. Disagreements may be settled through a special appeals committee, but taxpayers retain the right to civil court procedures.

APPENDIX IV

QUESTIONS AND ANSWERS ABOUT THE PROPERTY TAX EXPERIMENT IN THE RUSSIAN FEDERATION

BRIEF OVERVIEW OF THE PROPERTY TAX EXPERIMENT IN THE RUSSIAN FEDERATION

The citizens of the Russian Federation have elected their first local self-governments, with the hope of making their cities more livable and affordable as soon as possible. The local governments need a reliable system to finance their operations and deliver various services to their citizens.

In response to these needs, Novgorod and Tver have become the first cities in the Russian Federation allowed by the Federal Duma to reform their local tax systems related to land and buildings belonging to enterprises and individuals. In July of this year, the Federal Duma passed new legislation “On The Execution Of The Experiment On Real Property Taxation In The Cities Of Novgorod And Tver.” The reform is aiming to move the two cities toward a rational system of property taxation, which is the financial base of most cities in market economy countries.

The essence of the reform is to replace the three existing and very complicated taxes¹⁷ with a single tax on “real property.” The basic principle of the new consolidated real property tax is to make the tax amount closely related to the estimated market value of real properties owned or used by enterprises and individuals. The use of estimated market values assures more equitable distribution of the necessary tax burden. At the same time those who happen to have difficulties in meeting their tax responsibilities may be granted relief by their local governments. The new consolidated real property tax will become a major revenue instrument in the hands of local governments. Revenues from real property taxes will continue to be spent on further improvements in local services and infrastructure.

Other advantages of the consolidated real property tax are that it:

¹⁷ These are: (1) the real property tax on objects of physical persons; (2) the tax on land of physical persons and legal entities; and (3) the tax on assets of enterprises.

1. stimulates economic development by shifting the tax burden to wealth from excessive taxes on profit;
2. encourages efficient use of resources, primarily on urban land, because the tax on land will now be based on its quality and location;
3. decreases tax avoidance because real property is visible and tangible;
4. helps legitimize the real estate market because the information base needed to implement the tax is the same information that investors need to have in order to make rational decisions about real estate purchases.

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The following pages present potential questions and prepared answers to these questions.

QUESTIONS AND ANSWERS

QUESTIONS AND ANSWERS CONCERNING LEGAL ENTITIES (ENTERPRISES)

1. QUESTION: If one of the enterprises' property is rented, will the enterprise pay the tax for this property?

ANSWER: This will depend on the local laws and the lease agreement. If the renter is registered with the local property tax department and land registry as a rights owner of some type, then the tenant will be billed directly for the taxes. If the renter is not required to register and retains only the limited right of use during the time of the lease, then the property tax bill will be sent to the enterprise. It is the responsibility of the enterprise to insure that the lease designates that rent will include a payment of an agreed upon percentage of the taxes for the space that is leased.

2. QUESTION: If buildings of an enterprise are located beyond the city boundaries whereas its administrative building is located in the city, what property will be taxable - the entire property (in the city and beyond the city boundaries) or just the administrative building?

ANSWER: Enterprises, like all taxpayers should pay taxes only for property within the tax jurisdiction of the city which by agreement may be larger than the municipal limits of the city. Eventually, all land will be in one or another tax jurisdiction, so that all land and improvements will someday be subject to property taxation either at the city, Oblast or federal level. Property outside of the current property tax authorities should continue to pay the existing taxes.¹⁸

3. QUESTION: If an enterprise is currently enjoying asset and land tax benefits, will these benefits be preserved after the real property tax is introduced?

ANSWER: Asset and land tax benefits were a part of the old system. The new property tax system should not be burdened with these exemptions. The new property tax authority, including the Mayor and City Duma should consider new exemptions. These exemptions should be based on need or cost benefit analysis for new improvement. The poor and elderly should receive homestead exemption for a fixed level of assessment so that wealthy pensioners do not get a greater benefit than poor pensioners. Old enterprises will be assessed at appropriate amounts for the market value of their real estate. Enterprises that modernize and increase the capacity of the real estate that leads to added employment and increased wages can be given a limited tax exemption. Possible enterprise exemptions could be for five years of property tax on new buildings or additions.

4. QUESTION: In Russia, small enterprises currently pay a single tax that replaced all the taxes. Will the small enterprises have to pay a new real property tax once it is introduced, in addition to the current one?

¹⁸ There are complex "local arrangements" governing the distribution of the tax base. In Novgorod, for example, Akron is outside the boundaries of the city proper, but by agreement with the enterprise and oblast it is considered a tax fiefdom of the city rather than of the oblast or any suburban area.

ANSWER: Small enterprises should pay a property tax just as larger industries and individual home owners and renters. All property except government administrative property and military bases used to defend the local area should be listed in the property tax department and pay a tax. The payment of income taxes or local fees for services is a political decision for the governing authorities to determine.

5. **QUESTION:** What valuation approach will be used to value incomplete construction properties?

ANSWER: The cost approach is usually the best method of valuing all new properties, including incomplete properties. Once the property is 70 or 80% complete, then the property tax department should consider the market/income approaches as well as the cost approach. The market and income approaches may cause an adjustment in the value based on the cost approach. In some cases the actual cost of an improvement will not be completely transferred to the market value. Old buildings that are undergoing extensive remodeling or adding an addition, will not always see an increase in market value to correspond to the cost of the improvement.

6. **QUESTION:** In the valuation model, are the underground structures, fences, asphalt topping, etc., taken into account?

ANSWER: In the current market valuation models no information about these items was available. Therefore the model does not consider the added value for these items. In the future as these additional site items become available to the property tax department, they can be incorporated into the model.

7. **QUESTION:** What are the disadvantages of the experiment to the enterprises (financial, property related, etc.)?

ANSWER: The property tax is based on an estimate of value prepared by the local property tax department from the best available information about market value. Enterprises should take the time and rely on local appraisal experts to be sure that assessed value truly represents the enterprise's real estate value. Enterprises should also compare their assessed values to their competition in the jurisdiction. The main disadvantage is that the enterprises must take on the responsibility to understand the property tax system and the equity of their tax bill. Enterprises must understand that the right to appeal an over assessment can be exercised. Enterprises must be good corporate citizens, be aware of the local government's budget needs and the quality of the assessment system. This active participation is different from the former passive relationship where enterprises had little or no control over taxes.

8. **QUESTION:** What are the benefits that the experiment gives to enterprises?

ANSWER: Property tax is a local tax for local services. The enterprise should be able to see tangible results for their property taxes as it will affect both the enterprise and its workers. The enterprises have the right to appeal their assessments if they are too high in relation to

market value. As good corporate citizens, enterprises will have an influence on local government decisions and therefore can impact local budgets and taxes.

9. QUESTION: What is the legal framework for the experiment?

ANSWER: The legal framework for the experiment is the law passed by the federal government¹⁹, local Oblast Duma and city Duma.

10. QUESTION: What parameters should be used to measure the wealth of a real property owner?

ANSWER: Real property wealth is measured by its market value. Market value is determined by three internationally accepted valuation approaches - Cost Approach, Market Approach and Income Approach. All three approaches have existed in appraisal practice worldwide for over 60 years and explain the transactions of buyer/sellers and owners/tenants in the real estate market place.

11. QUESTION: Under the new tax system, will the zoning system be changed?

ANSWER: Zoning is linked to property taxation. It affects the taxation of property by influencing values subsequently used in assessment (zoning maps can be used as a basis for value maps for use in property taxation). On the other hand, ad valorem property taxation influences physical planning and the zoning process.

12. QUESTION: What are the basic principles of valuation methodology?

ANSWER: Valuation methodology is based on a cost-effective Computer Assisted Mass Appraisal (CAMA) model which, itself, is based on a market derived formula. The market derived formula takes into account only those characteristics that influence market prices. As markets develop and change, the valuation formulas will change accordingly. Valuation models will estimate market-based values for both land and improvements (buildings and structures). For real estate that has not participated in market sales, location values can still be derived which contribute to the productivity of a store, and apartment, or a warehouse and can be measured as land value factors.

13. QUESTION: How is industrial property valued?

ANSWER: Industrial property is valued like all other property by a market value approach. The market approach is based on known sale of industrial property and supported by individual appraisals of industrial property by professional appraisers. This information is then analyzed with a statistical software to determine the unit price value and location adjustments for the properties in the test sample. Once the valuation experts complete their

¹⁹ The Russian Federation Federal Law on the Execution of the Experiment on Real Property Taxation in the Cities of Novgorod and Tver was passed by the State Duma on June 11, 1997 and approved by the Council of the Federation on July 4, 1997. The law was signed by President Yeltsin on July 20, 1997. Thus, the experimental implementation of the property tax has been authorized in the pilot cities.

statistical analysis, the statistical analysts and appraisers review the property value on site. This is repeated several times until the best assessment calculations are determined to arrive at market value for all property. Then the computer is used to calculate the value for all properties in the fiscal cadastre.

The alternative approaches, Cost and Income, can be used to support the assessment or be used by the enterprise to appeal an assessment. As the real property tax system expands, the Cost and Income approaches will take a more active role in the development of assessments.

14. QUESTION: How is commercial property valued?

ANSWER: Commercial property is valued like all other property by a market value approach. The market approach is based on known sale of commercial property and supported by individual appraisals of commercial property by professional appraisers. This information is then analyzed with a statistical software to determine the unit price value and location adjustments for the properties in the test sample. Once the valuation experts complete their statistical analysis, the statistical analysts and appraisers review the property value on site. This is repeated several times until the best assessment calculations are determined to arrive at market value for all property. Then the computer is used to calculate the value for all properties in the fiscal cadastre.

The alternative approaches Cost and Income can be used to support the assessment or be used by the enterprise to appeal an assessment. As the real property tax system expands the Cost and Income approaches will take a more active role in the development of assessments.

15. QUESTION: How is residential property valued?

ANSWER: Residential property is valued like all other property by a market value approach. The market approach is based on known sales of residential property and supported by individual appraisals of residential property by professional appraisers. This information is then analyzed with a statistical software to determine the unit price value and location adjustments for the properties in the test sample. Once the valuation experts complete their statistical analysis, the statistical analysts and appraisers review the property value on site. This procedure is repeated several times until the best assessment calculations are determined to arrive at market value for all property. Then the computer is used to calculate the value for all properties in the fiscal cadastre.

The alternative approaches Cost and Income can be used to support the assessment or be used by the enterprise to appeal an assessment. As the real property tax system expands the Cost and Income approaches will take a more active role in the development of assessments.

16. QUESTION: What should be done if managers of an enterprise find the appraised value too high? Can they use the services of independent appraisers?

ANSWER: Taxpayers (managers) have the right to appeal their tax assessments if they disagree with value estimates. Disagreements may be settled through a special appeals

committee, but taxpayers retain the right to civil court procedures. Taxpayers also have the right to use the services of independent appraisers.

17. QUESTION: How will the tax burden on enterprises change? Will it be increased or decreased?

ANSWER: The property tax is based only on the value of the land and improvements and will not tax plant and machinery and other financial assets. This will reduce the taxes on enterprises.

QUESTIONS AND ANSWERS CONCERNING PHYSICAL PERSONS

18. QUESTION: Won't the experiment put low income people in an even more difficult financial situation?

ANSWER: The real property tax will be imposed on market based value. If somebody owns or possesses a highly valuable property, he/she cannot call themselves low-income.

19. QUESTION: Don't you think that the experiment will make rich people pay taxes for poor people?

ANSWER: The tax is based on the value of the real estate you own. If you own more real estate, you pay more tax. The tax is not based on income, but taxpayers with low income may qualify for tax exemptions no matter how much real estate they own.

20. QUESTION: Many pensioners live in high-value city locations. Does the experiment imply that they will have to move to less prestigious locations?

ANSWER: That will depend partly on how much space they occupy. If they use more than normative size dwellings, the part over the above normative size will be taxed in a normal way. For the normative size they will be able to claim privileges due to their status as pensioners, but nobody else will be able to use these privileges after them. The same refers to pensioners sub-renting to others.

21. QUESTION: Will the experiment decrease the unemployment level?

ANSWER: Yes. One outcome of the property tax reform will be to reduce the undue tax burden on productive assets and this may help economic development, which should produce more jobs in the cities. Also, the anti-speculative nature of the tax should help encourage new investments in land by attracting capital from other sectors in the economy (commercial sector, car industry, etc).

22. QUESTION: How is the tax to be calculated?

ANSWER: The city property tax department will have a list of estimated market values for each real property being taxed. These estimated market values will be reduced by the city

depending on the type of property, and these reduced values will be called the tax base. The City Duma will set a tax rate (in %) in order to calculate tax amount (% times the tax base).



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