



The Fiscal Decentralization Initiative  
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# Development of a Real Property Appraisal and Taxation System in Slovenia

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# Development of a Real Property Appraisal and Taxation System in Slovenia

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## 1. Introduction

Within the tax reform that is in progress in Slovenia which will bring changes to the corporate and personal income tax system, as well as definite harmonisation of the national system of indirect taxes (VAT and excise duties), a reform of the real property tax is being prepared too. This reform is very complex due to its specific features, such as: the fact that the real property tax is a municipal tax; the requirement that the real property tax system be made uniform at the national level; and the requirement that the tax base be determined based on the real property market value. For this reason, it is necessary to develop not only the system itself, but also other areas, which are under the responsibility of different ministries. Namely, various databases or registers of real property must be built and/or upgraded, as well as connected with each other. Further, the procedures for data exchange must be defined, an appraisal system (i.e., tax base determination) developed, etc. All these activities require political, technical and social consensus, if the system is to function coherently and effectively. For all these reasons, the real property tax system reform will be much slower than any other.

The bases for this reform are being prepared within the “Real Property Registration Modernisation” project, which is financed in part (50%) by a loan obtained from the IBRD in 1999, while the remaining funds should be provided by the government. The main objectives of the project are: (1) to simplify the registration process in the land register and land cadastre, (2) to reduce backlogs in the land register, (3) to build a buildings register, (4) to build a database on actual usage of agricultural land, (5) to modernise the real property legislation, (6) to develop mortgage banking, and (7) to develop a real property appraisal and taxation system. Such objectives give the persons responsible the opportunity to significantly impact

the contents and organisation of, as well as connections amongst all databases or registers of real property, to thus ensure an appropriate basis for the development of a uniform, fair, transparent and rational system.

The project value has been estimated at EUR 27.1 million, of this the Phare programme funds amount to EUR 3 million, the IBRD loan to EUR 14.1 million, and the funds provided by the government to EUR 10 million. Some EUR 1.9 million have been apportioned for the “Development of a Real Property Appraisal and Taxation System” subproject, the main objectives of which are to develop and test mass appraisal models, as well as the real property mass appraisal method based on market value. Further, to develop software to support such a system, to select the most appropriate organisational structure for the future service responsible for real property mass appraisal, and to prepare the legal basis for the system’s implementation.

Both the subproject and the project shall be completed by the end of 2004. Within the project, the basis for the implementation of a real property mass appraisal system has been developed, and a draft Real Property Tax Act and Real Property Mass Appraisal Act prepared. Both politicians and experts have agreed that the latter should enter into force in 2004, in order for the first to enter into force and be implemented in 2005 and 2006 respectively. The first real estate mass appraisal shall thus be carried out in 2005.

## 2. Real Property Tax System Development in Slovenia

### 2.1 Existing System

Today, real property in Slovenia is taxed based on the following acts:

- Civil Tax Act providing for the property tax (Official Gazette of the SRS, Nos. 36/88 and 8/89, and Official Gazette of the RS, Nos. 48/90, 8/91, 14/92, 7/93 and 18/96); and

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- Building Land Act (Official Gazette of the SRS, Nos. 18/94, 32/85 and 33/89, and Official Gazette of the RS, Nos. 24/92 and 44/97) and Construction Act (Official Gazette of the SRS, No. 110/02), providing for the compensation for the use of building land (hereinafter CUBL).

The property tax is levied on buildings, parts of buildings, apartments, garages and rooms for relaxation and/or recreation, while the CUBL is levied on both developed and undeveloped building land. In practice, the tax on developed land is calculated in relation to the residential or commercial floor area of the building, while undeveloped land is subject to the CUBL only if located within developed land areas.

Persons liable for the property tax are only natural persons – owners or beneficiaries of real property, while persons liable to the CUBL are direct users (owners, tenants, etc.) of real property, be it natural or legal persons.

Both taxes are by nature real property taxes, and represent direct revenue of municipalities. For this reason, municipalities are relatively autonomous in the definition and/or registration of taxable objects (real property registers), as well as in the definition of taxable persons, exemptions and persons entitled to exemptions. Most important, municipalities are autonomous in tax base determination: they must consider certain criteria given by the housing department, but decide the calculation method by themselves. They use a points system, introduced by the Housing Act, and fix the value of one point once a year by themselves. The property tax rates, which are progressive in respect of the real property value, are laid down in the law, and are: 0.1 – 1% for buildings, 0.2 – 1.5% for rooms for relaxation and/or recreation, and 0.15 – 1.25% for business premises. On the other hand, municipalities autonomously decide the amount of CUBL payable and each use their own points system, fixing the value of one point once a year by themselves.

In both cases, the tax base is determined in a completely administrative manner, since no market elements are taken account of. For this reason, it often happens that the tax burden is unfairly distributed among municipalities and among taxable persons.

What is more, the two systems have a completely non-coordinated approach towards exemptions and reliefs. The property tax system, for example, contains a strong social element, since it exempts apartments and individual houses of up to 160 square metres, provided

they are the permanent residence of the owner and his/her family members. In addition, taxable persons with more than three family members are entitled to a 10% reduction in the tax base for the fourth and each further family member. Further, buildings used for agricultural purposes, business premises used by taxable persons for their business activity, etc. are also exempt.

The CUBL system provides for different exemptions: real property used for public and general purposes (such as defence), further diplomatic missions and consular posts, buildings used by religious groups for their rites, etc. are all exempt. The law also provides that new or renewed apartments be exempt for a period of five years. The law has a social element too, as it provides that low-income persons be fully or partially exempt.

## 2.2 Reasons for Changing the Existing System

In view of the above described features of the existing property tax system, we can say that it is not uniform at the national level, that it is inconsistent, non-transparent, and has not been adapted to the new ownership relations. For these reasons, real property of the same type may be treated differently due to its ownership or economic status, while taxable persons may be treated unequally if not even unfairly (double taxation). This causes frequent appeals: in particular the legal basis for the CUBL assessment, i.e. municipal ordinances, is often brought before the constitutional court for annulment. Appeals against CUBL represent as much as 30% (some 6,000 a year) of all appeals filed with the Tax Authority of the RS. What is more, due to poor databases and loose provisions on exemptions, the revenue from this source is relatively small.

Table 1. in SIT millions

Revenue from property taxes	1999	2000	2001	2002
Compensation for the use of building land	17,116	18,759	21,803	23,286
Property tax	776	786	599	673
Charge for forest roads maintenance	446	427	480	520
Compensation for change in intended use of agricultural land and forest (30%)	1,302	953	613	800
<b>TOTAL</b>	<b>19,640</b>	<b>20,925</b>	<b>23,495</b>	<b>25,279</b>
<b>Share of total municipalities' revenues</b>	<b>10.3%</b>	<b>9.7%</b>	<b>9.2%</b>	<b>9.8%</b>
Transfers from state budget	40,514	47,189	46,382	49,045

Source: Ministry of Finance, Bulletin of Public Finance

### 2.3 New Real Property Tax System

The new system will replace the existing property tax and CUBL, which are by nature real property taxes, with a uniform real property tax, and thus ensure a fair, transparent and rational taxation of real property.

The principles of the new real property tax system, as agreed between the coalition parties, are:

- 1) Regardless of ownership, all real property shall be taxed.
- 2) In principle, taxable persons shall be the owners of real property.
- 3) The revenue from this source shall remain with municipalities.
- 4) Tax rates shall be such as not to change significantly the existing tax burden on a real property item – this notwithstanding, municipalities' revenue from this source shall increase moderately (see point 1), thus reducing the necessity for transfers from the state budget.
- 5) The method for tax base (i.e. market value) determination shall be uniform.
- 6) The system shall be designed in such a way to serve, through special reliefs or tax rates, as an additional instrument of the spatial policy.
- 7) Real property tax liability shall be insured and collected by means of mortgages against real property.

### 2.4 Real Property Tax Act

The Act has been prepared in accordance with the above principles, as well as on the basis of different studies, foreign experience, and results of the development project. The Real Property Mass Appraisal Act, which was drafted at the same time, has solved the majority of problems related to the registration of taxable objects and tax base determination, whereas the Real Property Tax Act has covered only the classic elements, such as taxable objects and taxable persons definitions, tax rate determination, and exemptions and reliefs. In line with the above principles, the Real Property Tax Act provides that the real property tax shall remain (almost) wholly with municipalities. Only part shall go to the state budget, to finance the maintenance of common databases or registers of real property, and to cover the costs of the Real Property Mass Appraisal Service.

**1. Taxable objects:** It has been agreed in principle that taxable objects shall be real property items, as defined in the Law of Property Code, i.e. land with associated parts. For the purposes of taxation, the associated parts have been defined as buildings – land with objects that are not buildings have been exempted from tax. The draft Real Property Tax Act defines as real property all items that can be sold/purchased separately, i.e. in the case of a building, built based on a building right, land and building are considered as separate real estate. In the case of an ownership of part of a building, just that part of the building with the right to the proportional part of the land on which the building stands, is considered as separate real estate.

In Slovenia, the definition of taxable objects is connected with the problem of real property identification, given the fact that we do not have a uniform register of real property, but various databases. In accordance with the definition of real property, as laid down in the Real Property Tax Act, this problem has been solved with the Real Property Mass Appraisal Act, which provides that for the purposes of appraisal (and taxation), real property shall be identified by means of the several mutually connected databases and registers of real property. The buildings registration procedure is partly regulated by construction regulations, and partly by the Real Property Mass Appraisal Act (individual houses), which provide that a building shall be registered – and become a taxable object – upon issuance of operating permit. Illegal buildings represent a special problem in terms of their identification. The Real Property Mass Appraisal Act provides that they shall be reported to the Service responsible for mass appraisal, and taxed accordingly.

The Real Property Tax Act further provides that for the purposes of taxation, undeveloped land shall be classified depending on its intended use, while land with buildings and parts of buildings shall be classified depending on the actual use of buildings or their parts. The Real Property Mass Appraisal Act has followed this provision.

Tax liability is therefore connected with the existence of real property, which will be established by the Real Property Mass Appraisal Service based on entries in the land and buildings registers, and the Service's own databases. It is therefore essential that such registers and databases be as comprehensive as possible, for the real property tax system to be effective.

Taxable objects are defined regardless of the ownership type, meaning that, in principle, all real property

owned by natural and legal persons, and also by local communities and the state, are liable to the real property tax.

**2. Taxable persons:** Persons liable for the real property tax are real property owners, as entered in the land register. If the actual owner shall differ from the one entered in the land register, it will be possible to tax the actual owner based on proof of ownership, such as legal transaction, inheritance, decision issued by a governmental department, the law, etc. Only exceptionally may operators of state-owned real property (mainly various administrative departments) be liable for the real property tax. In case of renting or leasing, the Act provides (the same as existing legislation) that the taxable person is the real property owner.

The Act makes no difference between owners, regardless if they are natural or legal persons, local communities or the state – but, in principle, treats them in the same way. By defining the owner as the taxable person, the Act follows the basic principle that only the owner can manage the real property in such a way to cover the tax liability, even if by renting, leasing or selling it. This principle is connected with the provision on tax liability insurance against real property – such mortgage shall be triggered when tax liability exceeds a certain pre-defined percentage of tax base.

Since the tax liability is determined on a certain date, any subsequent changes in ownership shall be taken account of only in the following year.

**3. Tax base:** Tax base has been defined as the generalised market value of real property, resulting from the real property mass appraisal. Judging by the practice of the majority of developed countries, and given the economic role of the real property tax, the market value, as a reasonable approximation of the market price (depending on the quality of appraisal methods and data available), is without doubt the most appropriate tax base. By itself, it encourages rational real property management. The generalised market value will be established by the Real Property Mass Appraisal Service in accordance with the rules laid down in a separate regulation.

**4. Tax exemptions, reliefs and other exemptions:** The provisions on tax exemptions and reliefs are similar to those in developed countries. The requests considered in their preparation were that exemptions and reliefs should be economically reasonable (that their effect should compensate for the lost tax revenue), that they

should be in line with the basic principles of spatial and real property policies, that they should be viable, i.e., that databases and registers of real property should suffice for their usage. The scope of such exemptions and reliefs should also be adapted to the desired fiscal effects of the Act.

The Act thus exempted the following real property from tax: public assets, public areas, aquatic areas and protection forests, i.e., real property, the disposal of which is restricted, or which is subject to other levies, such as concessions. In accordance with international agreements, real property owned by foreign countries and used by diplomatic or international organisations has to also be exempted from tax. The third category of real property exempted from tax is real property with a special status (cultural monuments, real property used for religious rites, for humanitarian, educational or medical activities, etc.), provided it is not used as a residence or for the performance of a profitable activity.

Further, municipalities have been allowed to exempt from tax new or renovated residential real property for a period of 5 years, provided this is in accordance with their spatial, economic and social policies, as well as real property owned by socially endangered persons (under certain conditions).

The possibility to introduce a uniform relief for socially endangered and older persons is being considered: the relief shall take the form of a mortgage or a land letter (with favourable interest rates), triggered when the owner's situation or the owner himself/herself changes.

**5. Tax rates:** Ideally, there would be a uniform tax rate applied to all types of real property. However, analysis of the existing system and simulation of the new system's effects has shown that the effective tax rates applying to different types of real property (and even to real property of the same type) differ so much among municipalities that it would be impossible to meet the requirement that the tax burden on a real property item stays more or less the same. In addition, a comparison between current effective tax rates and appraised market value of real property has shown that the first are very low – and that the basic tax rate will thus also remain low.

The current effective tax rates applying to residential real property are 0.02 - 0.4%, those applying to commercial real property are 0.02 - 1.1%, and those applying to industrial real property as much as 0.03 - 2.6%. They bear no resemblance to the stage of development of the municipality prescribing them.

Since the Act will only come into force in 2006, the new tax rates have not yet been fixed. However, it has been envisaged that the Act shall only fix the basic tax rate, and that municipalities shall be given the opportunity to multiply it by a factor prescribed in the Act, depending on the type of real property. On the one hand, municipalities would thus be given a fiscal policy instrument, while on the other hand, at least a minimal level of uniformity would be ensured through the said factors, and thus fair treatment of taxable persons and taxable objects. The possibility to allow municipalities to apply an increased tax rate to irrationally managed real property (undeveloped building land, poorly maintained or not completed buildings, overgrown agricultural land, etc.) is also being considered.

**6. Levying authority:** The body entirely responsible for the assessment and collection of real property tax shall be the Tax Authority of the RS – the same as under the existing system. However, its role will change significantly: from a simple provider of services to municipalities, it will become an autonomous body with its own powers, and a precisely defined role. The Tax Authority will obtain the data on taxable objects, tax base and taxable persons directly from the Real Property Mass Appraisal Service. This database will be “cleaned” of real property that, based on the Service’s databases, is entitled to exemption. Other exemptions and reliefs to be enforced by the taxable persons themselves will be taken account of by the Tax Authority on the basis of tax reports, or information provided by municipalities (in the case of exemptions to be verified by municipalities). The appeal procedure will also be handled by the Tax Authority, except for appeals against the tax base and data about real estate considered in the appraisal – these will be handled by the Real Property Mass Appraisal Service.

The system shall thus be rendered more transparent and uniform, but also more fair, given that the provisions on taxability and procedures will be uniform at national level.

### **3. Real Property Mass Appraisal System Development In Slovenia**

#### **3.1 Introduction**

Real property appraisal is closely connected with economic theory and can only be done under free market conditions; it is therefore utilised mainly in developed economies. The real property appraisal theory explains

methods which ensure the most realistic estimate of supply and demand variables in the real property market. The selection of an appropriate method, as well as its results, depends on information about the real property market, and on information about affected real property transactions.

The value of real property is methodologically appraised for different purposes. In this sense, we can distinguish between individual and mass appraisal. Although both approaches utilise the same information about real property and the real property market, the individual appraisal analyses the real property and its micro location in greater detail. Mass appraisal, on the other hand, is utilised to appraise the value of several real property items of the same type simultaneously, and thus analyses only the most important variables affecting the value of real property. The selection of the appropriate real property individual or mass appraisal method depends on the purpose, as well as on the quality of results required by the user. Mass appraisal is mainly used for different public purposes that necessitate that several real property items be appraised at the same time – such as taxation, statistics, spatial planning, mortgage banking, etc.

Mass appraisal methods are therefore more general, and use appraisal models which are based on empirical and statistical analysis of information about the real property market; under these methods, the value of several real property items is appraised on the same date as a rule.

The first theory of real property mass appraisal was developed in 1920 by the American John A. Zangerle, who, in order to achieve uniformity in the system, introduced costs tables. While up to 1990, the usage of mass appraisal depended on the development stage of computer science, it has since then been used by all countries that strive for an effective mass appraisal system. In 2002, an international workshop on real property mass appraisal was held in Moscow, organised by the International Federation of Surveyors (FIG). The workshop concluded, *inter alia*, that it was reasonable that the mass appraisal system be established, managed and maintained at the national level; that a market approach to mass appraisal should be adopted; that the appraised values resulting from mass appraisal were also very useful for purposes other than taxation (credit insurance, purchase of real property by municipalities to build infrastructure, etc.); and that the mass appraisal system should be effective.

In the last few years, given the rapid development of its real property market, Slovenia has introduced many international standards in the field of real property appraisal. However, this has only been done for individual appraisal, mass appraisal on a market basis has not been developed yet. This shortcoming affects the real property tax system, since tax liability is determined based on administrative criteria as defined by each municipality, thus causing an economically unfair distribution of the tax burden.

To ensure a uniform approach to tax base determination for calculating real property tax, and in order to introduce real property mass appraisal on a market basis, Slovenia added the “Development of Real Property Appraisal and Taxation System” subproject to the complex “Real Property Registration Modernisation” project.

Within the said subproject, the contractor, selected through an international tender, has, in cooperation with local subcontractors, developed a real property mass appraisal system for taxation purposes. Based on market analysis, the following has been designed: data models, appraisal models, organisational structure of the Real Property Mass Appraisal Service, information and technology elements of the mass appraisal system, etc. Although the body responsible for the subproject is the Ministry of Finance, staff working at the Surveying and Mapping Authority of the RS has participated in it most of the time. Namely, based on domestic and foreign experience, it soon became clear that it would be appropriate to establish the Real Property Mass Appraisal Service within the Surveying and Mapping Authority, thus simplifying the procedures for obtaining data and, at the same time, leveraging the Service’s existing regional organisation.

### **3.2 Legal Framework of the Real Property Mass Appraisal System**

Within the real property mass appraisal system developed for the purposes of taxation, one the two subsystems can be distinguished between: the appraisal subsystem (tax base determination), and the taxation subsystem (taxation of real property). Namely, although the two subsystems are regarded as twins in legislative terms, the first can also be used for purposes other than taxation.

In designing the legal framework of mass appraisal system, the following international experience has been considered: (i) the importance of objectivity in value appraisal, (ii) the importance of a rational organisation of the service responsible for mass appraisal, (iii) the importance of establishing of a cost effective system,

and (iv) the importance of having flexible legislation, resistant to changes in the mass appraisal system.

There have been many challenges in designing the legal framework, particularly with responsibilities, organisation, data required, etc. A brand new system is being developed, and therefore a lot of substantive, administrative and organisational problems must be solved, the system’s users and operators trained, and social consensus developed. To illustrate the point, we must mention that even in the field of individual real property appraisal, modern methods were only introduced in 2003 with the new Real Property Act. Until then, the majority of appraisers used the prescribed administrative appraisal methods. Given that the new appraisal system shall be mainly used for taxation purposes, the problems are both technically and politically sensitive.

Following coalition negotiations, the Government of the Republic of Slovenia decided that Real Property Mass Appraisal Act should enter into force in 2004, to enable implementation of the Real Property Tax Act in 2005. The draft act was discussed by various interested ministries and professional organisations. Based on their comments, the version to undergo the parliamentary procedure is now being prepared, so that the Act can be adopted in July 2004.

Following the implementation of the Act, governmental decrees and rules will have to be prepared.

### **3.3 Real Property Mass Appraisal Act**

The body responsible for the Real Property Mass Appraisal Act is the Ministry of Finance. The Act provides that mass appraisal system shall be used to determine the generalised value of real property. The Act provides the legal framework, but does not prescribe in detail the procedures and data contents – to avoid frequent amendments caused by the system’s adaptation to changes in appraisal models and in the real property market. Namely, international experience shows that the system, and consequently legislation, is subject to continuous adaptations/amendments. For this reason, elements subject to frequent changes should be regulated by governmental decrees, rules and instructions. The Real Property Mass Appraisal Act has the following chapters: (i) general provisions, (ii) real property mass appraisal, (iii) body responsible for real property mass appraisal, (iv) data required for real property mass appraisal, (v) database on real property mass appraisal, (vi) database on real property values, (vii) penal provisions, (viii) access to real property mass appraisal system’s database, and (ix) transitional and final provisions.

The “products” of the Real Property Mass Appraisal Act are:

- appraisal models for the different groups of real property of the same type,
- classification of real property based on land and buildings cadastre, in accordance with the definition of valuation object,
- database on real property values, and
- database on contractual prices and rentals by type of transactions.

The long term elements of the Act in terms of its amendments are: the definition of real property (valuation objects), the body responsible for real property mass appraisal, the registers used for mass appraisal, and the records resulting from mass appraisal. For this purpose, the Act defines the system’s elements in detail, whereas other elements are defined in implementing regulations.

### 3.4 Governmental Decrees

Appraisal models must be adapted to suit developments in the real property market. The set of variables affecting the value of real property must be constantly monitored through market analyses and simulations, and weights attached accordingly. For this reason, the Act only defines appraisal models to be used with regard to the different groups of real property, but leaves their detailed definition to governmental decrees. This allows for relatively simple and quick adaptation of appraisal models to the situation in the real property market, while, at the same time, providing the legislative framework for use of appraisal models adapted in such way.

Governmental decrees shall detail the following:

- subgroups of real property of the same type (residential, commercial, etc.),
- appraisal models (value levels, value tables with factors and coefficients, value zones),
- the method of incrementing (calculating) the value of real property,
- the method of determining and changing the value zones, and the method of calculating the value indices, and
- value indices for the different groups of real property.

It is obvious that governmental decrees shall regulate the variables of the real property mass appraisal system, to reduce bureaucracy and increase the system’s flexibility.

### 3.5 Rules

Rules, issued by the ministers in charge of the different fields, shall regulate the real property mass appraisal system’s procedures, data and technical elements, as well as the following:

- conditions for obtaining data from the system for the purpose of keeping and maintaining the database on the real property market,
- the manner of presenting the value of real property, and
- conditions for obtaining data from the system.

## 4. Organisation of the Real Property Mass Appraisal Service

The Surveying and Mapping Authority of the RS has cooperated with the Ministry of Finance to develop the real property mass appraisal system in view of its assumption of authority and responsibility over the establishment and maintenance of the system. The Act provides that, for the purposes of performing real property mass appraisal, an independent Real Property Mass Appraisal Service shall be established within the Surveying and Mapping Authority of the RS (hereinafter: Service). The Surveying and Mapping Authority of the RS has one central office, 12 regional offices, and 46 branches. The Service, too, will have one central office and 12 regional offices.

The central office will employ 12 persons, all experts in industrial, residential, commercial, agricultural and forestry real property, economics, real property law and information technology. Regional offices will employ 30 persons, all experts in the field of residential and commercial real property, with good knowledge of the local real property market.

In cooperation with contractors, the Service will perform tasks connected with mass appraisal, in particular those regarding information technology solutions, major projects, appraisal model testing, and real property database building and maintenance. Regarding organisation and staffing, the multidisciplinary nature of the system must be stressed, and significant funds and effort will have to be invested in staff training and support. Namely,

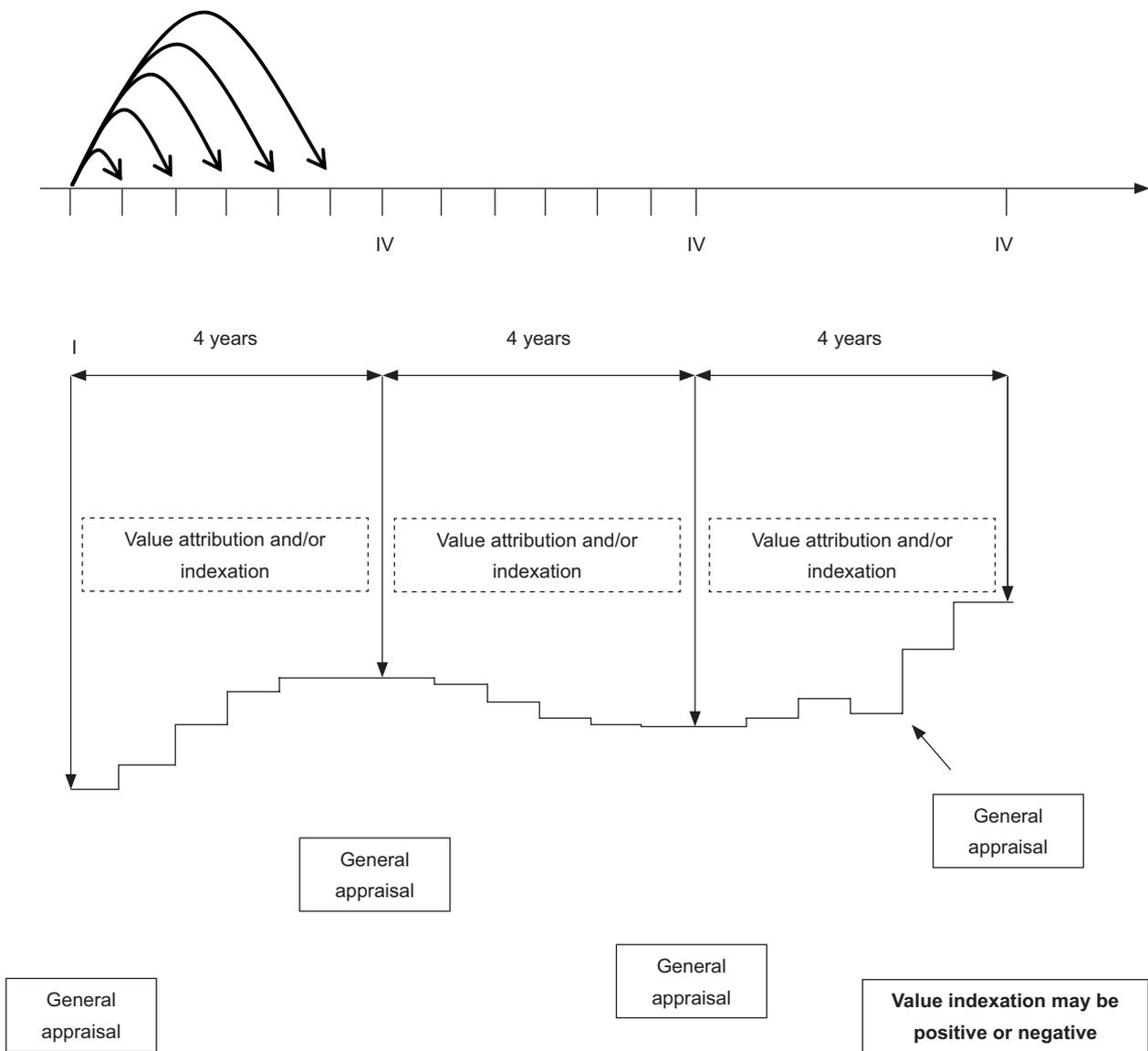
although individual real property appraisal methods are being used, the mass appraisal system requires a systemic approach.

### 5. Real Property Mass Appraisal Procedures

The real property mass appraisal system is determined by the following three basic appraisal procedures:

- general appraisal,
- interim appraisal, and
- indexation.

Figure 1.: Schematic outline of real property mass appraisal procedures



### 5.1 General Appraisal

General appraisal comprises three basic phases: appraisal model specification, appraisal model calibration, and appraisal model testing in test areas.

Appraisal model specification or developing is done based on appraisal theory and the situation in the real property market. It is thus necessary to first thoroughly analyse the market and existing data about real property, which must be recorded and maintained systemically. The characteristics of and situation in the real property market, as well as data available on real property, affects the choice of appraisal method used for a specific group of real property. By employing statistical methods, the most significant variables affecting the value of real property are then selected (e.g. location, age, quality, etc.). Both in theory and practice, location is considered to be the most significant variable. Appraisal models may be specified using different formats, such as mathematical, tabular, graphic, etc.

After appraisal model specification comes the appraisal model calibration phase, in which each variable is statistically analysed, and its effect on the value of real property pertaining to a specific group calculated. Each quantitative and/or qualitative variable is thus attached an appropriate weight, depending on its effect on the value of real property.

After appraisal model calibration, the appraisal model testing phase is carried out and the model is tested in practice on a sample basis. All three phases are carried out separately for the different groups of real property of the same type, and represent an iterative process, whereby the number of iterations is determined by quality and accuracy standards.

All three phases shall be carried out every four years for each of the different groups of real property of the same type. To meet this requirement and review appraisal models with the same frequency, a general appraisal for at least two groups of real property of the same type shall be carried out each year.

### 5.2 Interim Appraisal

Using the same appraisal models as for general appraisal, interim appraisals will be carried out each year, except for real property subject to general appraisal in the previous year, to take account of any changes in real property or the real property market.

### 5.3 Value Indexation

Value indexation shall be carried out each year, except for real property subject to general appraisal in the previous year, based on value zone-specific price indices. Value zones are the geographical areas within which real property of the same type has been affected by the same changes in the real property market in the year before value indexation.

## 6. Real Property Mass Appraisal Models

Real property mass appraisal is based on mathematical models, which illustrate how the value of real property pertaining to a specific group is calculated. Each of the different groups of real property of the same type necessitates its own appraisal model, which may assume the form of an equation, table, or graph, etc. Different countries use different appraisal models: Slovenia, for example, has developed models using value levels, value zones and value tables. Value levels represent classification of real property of the same type according to the value. Value zones represent the geographical areas within which real property of the same type has the same value. Value tables, which contain appraisal factors and coefficients, represent values of different groups of real property according to their features.

Value levels have been determined separately for each of the different appraisal models. We thus have 76 value levels altogether, and the same number of value tables. Each value table is based on a typical property, i.e. the “average” or the most frequently sold/purchased property within the group of real property of the same type. For example, as far as apartments are concerned, the typical property is a 65 square metre apartment, built in the period 1968 – 1980, averagely maintained. Value zones, which have been determined separately for each of the different appraisal models, come in a graphic form, and cover the whole national territory. The number of GIS levels in the graphic base thus corresponds to the number of models.

In Slovenia, nine appraisal models have been specified, tested and calibrated for the following groups of real property of the same type:

- agricultural real property,
- forest land,
- apartments,
- individual houses,

- garages,
- commercial real property – offices,
- commercial real property – retail,
- industrial real property, and
- undeveloped building land.

## 7. Basic Real Property Registers

The two basic real property registers that will be used within the mass appraisal system are the land and buildings cadastres. The body responsible for keeping and maintaining them is the Surveying and Mapping Authority of the RS. The land cadastre contains identification data about land such as: parcel number, cadastral municipality, area, cadastral class, cadastral culture, etc. The buildings cadastre contains identification data about buildings and parts of buildings, such as: building number, part of a building number, actual usage, floor area, number of floors, height, etc.

Such a real property appraisal system with two basic registers has been designed on purpose, since these two registers provide the minimum amount of data about real property required by different users. The system can be updated with additional data if necessary to the specific purpose.

The land and buildings cadastres are technical registers, containing technical data about real property, while the land register contains substantive data about real property, i.e., property-related rights and encumbrances against real property. In view of this, an information technology infrastructure is being developed that will allow that the three registers be directly connected. This will enable the Supreme Court, the body responsible for the land register, to obtain technical data about real property from the two cadastres, and the Surveying and Mapping Authority of the RS to obtain substantive data about real property from the land register. The land register is about to be computerised, so that an online connection can be made in 2005. From that time on, data about real property ownership for mass appraisal will be obtained directly from the land and buildings cadastres.

Besides the basic and additional data, certain other data about the actual usage of land and buildings will be directly obtainable from the two basic registers. Such data, as far as agricultural land is concerned, are for example those about long term plantations and similar, which are the responsibility of the Ministry of Agriculture, Forestry and Food.

Other data required for mass appraisal of land, such as its intended or planned usage, which is the responsibility of municipalities, will initially be obtained directly from them, and later from the legal regimes register, which is the responsibility of the Ministry of the Environment, Spatial Planning and Energy.

## 8. Other Data Required for Purposes of Real Property Mass Appraisal

### 8.1 Technical Register of Buildings

There are certain data, in particular about buildings and parts of buildings, which are used in appraisal models, but are not systemically kept or maintained within the buildings cadastre (e.g.: quality of maintenance, year of renovation, etc.). Pursuant to the law, these data will be collected and kept in the technical register of buildings. While it is very difficult if not impossible to systemically keep and maintain such data, it has nevertheless been decided that such a register be built by means of questionnaires answered directly by the owners of buildings.

### 8.2 Database on the Real Property Market

Pursuant to the law, a database on the real property market, required for mass and individual real property appraisal, as well as for market and statistical analyses, will be built.

The database will contain data about prices and rentals obtained from real property agencies, the Tax Administration of the RS, which levies tax on real property transfer, notaries, city municipalities and administrative units, which under the Housing Act, are responsible for keeping the register of rentals.

The database will primarily be used to develop appraisal models, as well as monitoring and ensuring transparency of the real property market, which is a precondition to its effective functioning. The database will be, under conditions prescribed by the law, accessible to other users, such as appraisers, owners, etc.

### 8.3 Database on Real Property Mass Appraisal

A database on real property mass appraisal will also be built and maintained. It will contain data on appraisal models, i.e. value levels, value tables, value zones and indices, separate for each different group of real property of the same type.

The database will be used for general real property appraisal, whereby the existing appraisal models are

reviewed and, if appropriate, adapted in accordance with developments in the real property market.

## 9. Conclusion

The real property mass appraisal system and determination of market value as the base for calculating real property tax requires a long term and systemic approach. At this point, it must be underlined that the biggest costs are those incurred in connection with real property data and their systemic keeping and maintenance. For this reason, the situation in the country has to be considered, and the time limit for the system's implementation set accordingly. Further, the system needs to be built in a way to allow its use for purposes other than taxation.

Any changes in the existing tax system are above all a political cost, borne by the governing party. The development and implementation of changes in the existing

tax system can be very troublesome for persons responsible. Decision makers must thus be made aware that the real property mass appraisal system for taxation purposes can not be implemented parallel to development of the existing tax system. Due to new parliamentary elections in Slovenia in autumn 2004, the political decision was taken to postpone the tax law discussion to the time after elections and to introduce a new real estate tax not sooner than in 2006. The proposed Real Estate Mass Appraisal Law did however get political support and is expected to be put into force in the middle of 2004. The decision is welcome because it enables the establishment of a proper real estate mass appraisal service and the performance of quality mass appraisal until 2006, including additional testing of valuation models and collection of missing real estate data. This is a good assurance for change to a new real estate tax system in Slovenia in 2006.

