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PRIVATE MAINTENANCE FOR MOSCOW'S MUNICIPAL HOUSING STOCK: DOES IT WORK?

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Executive Summary

Since the housing stock in Russia is still predominantly State owned, reform of the State rental sector is fundamental to reform of the housing sector in general. Privatization of the state rental stock is proceeding with surprising speed, but little has been done on the Federal level to improve the maintenance services for State housing assets including buildings in which substantial privatization has occurred. Data from a December 1992 survey of 2,000 State rental housing units in Moscow confirm that the quality of maintenance provided by State maintenance companies (REUs) is extraordinarily poor.

Officials in the City of Moscow recognized this need and, in March 1992, signed an agreement with the U.S. Agency for International Development. In March 1993 2,000 municipal units in packages of about 650 units, were placed under contracts for maintenance with three private firms. Another 5,000 units were placed under contract in September 1993. This paper presents the results of the evaluation of the effectiveness of this program.

The private firms, selected through a formal bid solicitation process, are responsible for maintenance tasks for the buildings placed under them but not for other tasks, mostly of a social service nature, which are typically done by the REUs. Funding for the project, provided from the city's overall budget for housing maintenance, included funds for routine maintenance but not for any rehabilitation.

The evaluation is based on two types of data: a city-wide survey of 2,000 dwellings and interviews with a random sample of tenants in the buildings included in the pilot project about the conditions in their buildings before and after the introduction of the new firms.

The results of the first part of our analysis indicate that, prior to the start of the demonstration, the "March" buildings included in the demonstration could not be considered better maintained than the average municipal building, but the "September" buildings, which were built for Party elite and high officials, are definitely superior.

Results from the "before and after" analysis evidenced a substantial, overall improvement in maintenance. Also, the private firms generally did a better job in setting a concrete time for making repairs than the REUs and they did a better job of keeping their promises. Finally, our analysis shows that the private firms are not costing the city more than the REU would cost to handle equivalent tasks.

On the other hand, the data show a clear reduction in the quality of work done by the private firms maintaining the March buildings between the initial survey data

for May and the second survey data for November. The fall off appears to be related to disincentives to good work from the city agencies at the local level who act as the "owner:" payments to the firms were substantially delayed and the owner did little on the way of on-site inspections to document problems. These problems with the owner call into question the real viability of introducing private maintenance firms and suggests that further institutional changes within the city government will be necessary. Moreover, if city agencies do a poor job fulfilling the responsibilities of the owner, a new strategy, involving greater tenant involvement may be necessary.

1. Introduction

At the beginning of the intense period of Russia's transition away from a centrally planned economy, the State rental sector was of overwhelming importance in Russia's housing stock. In 1990, nationally two-thirds of all housing was State rental; in cities, the share was 79 percent; in Moscow, 90 percent. The dominance of State rentals sets Russia sharply apart from other countries of Eastern Europe. For example, in Hungary the state sector accounted for only 20 percent of the housing stock in 1989; Bulgaria, 9 percent; Poland 34 percent (possibly plus 14 percent of units that were in rental cooperatives).[1]

Given its importance, reform of the State rental sector—housing owned both by municipalities and by enterprises and government agencies (departmental housing)—is fundamental to reform of the sector. The system under the old regime can be characterized as follows:

- Allocation was through bureaucratic procedures in which favoritism plays a large role, with connections and Party status being more important than money income in obtaining high quality housing;[2]

- The prices charged for housing bear no relationship to the costs of producing the services, not to mention market prices; fees for maintenance had not been raised since 1928;[3] in Moscow in the fall of 1992, tenant payments for maintenance and communal services accounted for about 3.5 percent of full costs;

- The consequences were that the system embodies massive on- and off-budget subsidies; moreover, because of the extraordinarily low rents, households once allocated a unit had no incentive to shift to a smaller unit as family size or income declines;

- Maintenance of the stock was poor; incentives for good maintenance were weak, as state maintenance firms enjoyed a monopoly in the district where

[1] Baross and Struyk (1993), Table 1.

[2] Distribution procedures are summarized in Alexeev (1988) and references therein. For an analysis of the distribution of housing quality with income and other attributes see Daniell, Puzanov, and Struyk (1993).

[3] In April 1992 local soviets were given the power to increase rents but few did so. As noted later in the text, the major housing reform law, passed in December 1992, now requires that rents be increased on a step-by-step basis to cover full operating costs at a minimum.

they provide services; their budgets are administratively set, with little concern for the true cost of good maintenance.

The Russian Federation has adopted a two-track strategy for effecting the changes needed in the sector: a maximum effort at privatizing this stock and reform of the pricing and delivery of services in those units that remain in the public inventory. The rate of privatization has been impressive, with over eight million units privatized by the end of 1993– then about 26 percent of all eligible units. Similarly, the Law on Fundamentals of Housing Reform passed in December 1992 mandates an increase in rental payments to cover full operating costs by the end of a five year period and the introduction of housing allowances to protect poor families living in state rental housing, implementation began in January 1994.[4]

Housing Maintenance Reform

Little progress, however, has been made in improving maintenance services. The need for such improvement is evident to even a casual observer and is confirmed by newly available data. A December 1992 survey of 2,002 Moscow units that were state rentals at the start of the year provides the most detailed, systematic information to date on the conditions under which Muscovites live (Daniell et al., 1993). The survey generated data on two types of outcome: (a) building conditions and interruptions in services (e.g., heat), and (b) the experience of tenants when they requested help from the responsible state maintenance company (REU), which typically provides services to about 7,000 municipal units, or departmental maintenance companies which maintain housing belonging to enterprises. Obviously, the outcomes are the product of both the treatment by tenants of public spaces and their apartments and the quality of maintenance provided, i.e., all problems cannot be attributed unequivocally to the REUs or departmental maintenance staff. Still, the general patterns suggest extraordinarily poor quality of services provided by the these companies:

- Both interviewers' observations and tenants' opinions agreed that the entryways in 14 percent of the buildings were in such bad conditions as to require full rehabilitation; about another one-third need some rehabilitation. Combined, nearly one-half of the entryways in state rental housing are so beaten up as to need at least partial rehabilitation.

- For the previous two months, lights were reported not working in the public spaces most of the time in most of the buildings; fully 40 percent of respondents reported lights were off for the whole month. The situation is

[4] Those living in state rentals must be eligible to participate but local governments can make other groups eligible if they wish.

even worse for security systems (numeric code systems or a concierge to watch the door): three-fourths of all systems were simply not working.

- 30 percent of respondents report rubbish in the halls or stairways frequently, and about the same share report frequent breakdowns in lift services, i.e., either the whole month or, during the past two months, 3 or more breakdowns or for more than 1-2 weeks at a time.

- 10 percent of tenants reported that their heat was off frequently in the preceding two months–3 percent were without heat for a whole month. Similarly, 9 percent reported that their toilets leaked most of the time.

- Fully a quarter of all respondents who reported having a problem that should have been corrected by the maintenance company said they had not even bothered to report it.

- Looking at all the cases in which tenants asked for assistance from the maintenance company, the repair was eventually made in 55 percent of the cases (35 percent of the time the repair was made more or less on the schedule promised by the maintenance company).

Given these conditions, improving maintenance is critical for two reasons: to improve the quality of life of the average citizen and to make payment of higher rents acceptable to the population. Without improvement, the overall reform program could founder.

Action at the Federation Level. The federal agency responsible in 1992-93 for improving services has not shown much initiative. The Committee on Municipal Services of the Russian Federation limited its action to recommendations to municipalities to change their relationship with the state maintenance companies to a contractual one. The contract would specify terms and conditions, including penalties for poor performance. However, the Committee suggested nothing to break the monopolies enjoyed by the state companies, and thus these reforms ring hollow at best.[5] Indeed, the Committee has expended considerable energy trying to prevent the REUs from losing their favored position.[6]

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[5] Committee on Municipal Economy of the Russian Federation and the Institute of Economics of Housing and Communal Services: "Regulations for the Procedure of Formation of Contractual Relations in the Municipal Economy," and "Model Regulations for the "Customer's Service" in Housing ad Communal Services in the System of Local Soviets of People's Deputies," 1993.

[6] For example, the committee in drafting the amendments to the December 1992 privatization law inserted language making impossible for condominium associations to use a management company other than the REU for the building proper, although they permitted owners to engage private firms for their individual units.

The abolition of the Committee in January 1994 is symbolic of the positive changes underway. First, the 1994 plan for enterprise privatization requires that municipal maintenance companies (REUs and similar organizations) be privatized during 1994.[7] Second, the Government regulation on rent increases and housing allowances mandates shift in the relation between owners of departmental and municipal housing, on the one hand, and maintenance firms, on the other, to a contractual basis in which performance standards are specified, as are financial penalties for not meeting them. Of course, the Soviet maintenance system was replete with norms that were never followed and the impact of this new arrangement is suspect.

An Experiment with Private Firms. In March 1992 the City of Moscow and the U.S. Agency for International Development signed an agreement for a cooperation program in housing reform. At the top of the list of joint work to be undertaken were activities to improve the maintenance of the municipally-owned housing stock.[8] The agreement specified that experiments with private maintenance would be undertaken with U.S. assistance, beginning in the West Administrative District.[9] On behalf of the City the agreement was signed by then-premier (now Mayor) Yuri Luzhkov and was confirmed by the Chairmen of the Department of Municipal Housing and the Department of Engineering and Communal Services (which is responsible for building maintenance) and the Prefect of the West Administrative District. Work began in earnest during the summer of 1992 on developing a pilot project to place maintenance of municipal housing under private contractors.

By March 1993, maintenance of 2,000 municipal units were under private contract, in three packages of about 650 units each. In September the City signed contracts for private firms to maintain 5,000 more units—this time in buildings that had been transferred to the municipality from national government ownership. For both sets of buildings the new maintenance contractors were selected in a formal competitive process.

This Report

This report presents the findings of the evaluation of the effectiveness of private maintenance. This is a reading of experience using data collected just before private

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[7] Presidential Decree, "On the State Program of State and Municipal Enterprises Privatization in the Russian Federation," N.2284, December 24, 1993.

[8] USAID signed a similar agreement with the city of Novosibirsk about the same time to carry out a similar housing management demonstration program. This program placed about 5,000 units under private management in 1993.

[9] Moscow is divided into ten prefectures, each with a population of about one million.

firms took over maintenance and then after the firms had been working for varying period of time from two and a half to eight months.

The balance of this document consists of six parts. The first gives an additional description of the pilot program. The second presents our expectations on the performance of private firms based on economic theory. The third part outlines the method used in the evaluation. The fourth examines the characteristics and condition of the buildings included in the pilot program before new management took over. The fifth section presents data on changes in building conditions as perceived by the tenants and interviewers. The final part states our conclusions.

2. The Maintenance Pilot Program[10]

The primary goal of the pilot program is to demonstrate the feasibility of providing competitive, high quality private maintenance to municipally-owned housing. Additional objectives are to reduce operating costs and to enhance the tenants' quality of life through improved maintenance.

General Description

As noted, two groups of buildings are under contract with private firms. In this article we refer to them as the "March buildings" and the "September buildings," based on when the contracts were signed. The March buildings consist of 2,000 units in the West Administrative District: 600 in the Kutusovsky Sub-Prefecture, and 1,400 in the Fili-Davidkova Sub-Prefecture. The Kutusovsky units are in central Moscow, and the Fili units are in the suburban part of the City. The units vary in terms of age, construction type, and building type (high-rise versus mid-rise).[11] The 4,000 September buildings are even more heterogeneous but of consistently high quality. Until they were transferred to the City of Moscow in 1992, these buildings were belonged to the U.S.S.R. (later Russian Federation) government and housed some of the nation's elite. They were managed by the Department of High Rise Buildings which had its own maintenance organization.

The "Board of the Unified Customer" (or DEZ), an office at the municipal district or sub-prefecture level acts as the owner for the purpose of the pilot for the March buildings.[12] There is one DEZ for each Sub-Prefecture, and the chiefs of the DEZ signed the contracts for the municipality. In contrast, the Department of High Rise Buildings acts as the owner for the pilot, but for the balance of its units it combines both the owner and agent roles—potentially producing conflicts of interest. As part of the AID-financed technical assistance program, personnel from the DEZs, Prefectures, and Department of High Rise Buildings were trained in real estate management and maintenance techniques.

The pilot program is specific to maintenance tasks; it excludes other tasks with which the REUs were encumbered, such as passport control, communal services charges calculations (these include heat, gas, and water), follow-up of rent delinquencies, draft registration, and related aspects of tenant relations. This speci-

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[10] A detailed description of the development of the pilot program is in Olson (1993).

[11] Detailed information on the characteristics of these units compared with the municipal stock in general is presented in the Section 4.

[12] There are about twelve municipal districts in each prefecture or administrative district.

ficity was to allow the private managers to concentrate on the areas of greatest need, such as routine and emergency maintenance response times, rubbish and snow removal, cleanliness of the common areas, removal of hazardous conditions, and preventive maintenance.

The procurement of the contractor services was patterned after a U.S. style "Request For Proposals" (RFP). To solicit bids, advertisements were placed in Moscow newspapers of wide circulation and some trade publications. Press conferences held by the head of the Department of Engineering and Communal Services to generate interest. Bidders' conferences were held and potential bidders were given a walk-through of the buildings. Bidders could make proposals on one or more "packages" of buildings in a solicitation. For the March buildings 23 expressions of interest were received, and eleven formal proposals; for the September buildings the corresponding figures were 16 and 5, respectively. Proposals were formally scored by a committee established to conduct the competition, and all firms in the competitive range were interviewed by the committee. One year contracts with the three winning firms for the March buildings (one "package" each) and two firms (two packages each) for the September buildings. Contracts are renewable by mutual agreement.

The choice of multiple winning firms, rather than one, was deliberate. There is some evidence that private firms perform better when they are responsible for maintaining 400 to 600 state-owned units rather than thousands of units (Clapham, 1992). At least as important in this case, however, was the desire to maximize the number of firms obtaining the relevant experience in order to begin forming a group of firms that could manage more properties in the future. Furthermore, program managers thought it wise to diversify their risk by having several firms rather than a single firm.[13] However, as the program expands, it will be necessary to contract for larger packages in order to bring a significant share of Moscow's 2.7 million state units under private maintenance in a fairly short time period.

Meetings were held by city officials with the tenants at each site prior to the competition to explain the program and to reassure them that this was not the opening phase of a program to sell their units to investors. These meetings had mixed results, and local officials were not always successful in allaying fears. At one complex, Olympic Village, the tenants—largely composed of nomenklatura and former party officials—were openly hostile. Although private management was introduced at the site, the new team was never accepted by the tenants; and the firm was withdrawn after several months of operation. This project and its 1,000 units are not included in the evaluation.

[13] In the parallel program in Novosibirsk the opposite decision was made and all 2,200 units in the first phase were placed under contract with a single firm.

Contract Costs

As part of the competitive process firms stated their proposed price for undertaking the work. The bidders proposed a price for providing services in the first month of the contract, with the contract stating that adjustments would be made over the year for inflation. More information on costs is presented in Section 5.

The decision was made not to increase rents at the pilot buildings to cover the additional costs, if private firms were found to be more expensive. Rather, the funds were to be provided from the city's overall budget for housing maintenance. This policy reflects the strong view of city officials that increasing rents would produce vigorous resistance to the introduction of the new management system. Rather than special rent increases for the sites, rents would be raised for these units as part of the across-the-board increases initiated in early 1994.

It is worth underscoring at this point that the funding provided was for routine maintenance, not improvement of significant deficiencies existing at the time the private firms took over. Thus, no "big bang" in overall physical conditions was anticipated when the private firms began work. On the other hand improvements in cleanliness of the public spaces in the buildings and the grounds around the buildings, as well trash removal were expected.

Monitoring Performance

The plan was to monitor contractor performance carefully during the first year. Performance was to be measured against the contractor's approved work plan and budget. In addition to holding regular weekly meetings with the contractor, the owner is to make regular inspections to assess and verify site conditions. Performance indicators include:

contract compliance
routine/emergence service response times
budget compliance, particularly cost savings
building conditions
site conditions
correction or removal or hazardous conditions
appearance of the building common areas and grounds
operational readiness of building systems
tenant satisfaction.

The USAID-funded resident advisor for the pilot program participated actively in the monitoring program and also observed the performance of the owners over the year after the first contract was signed.

3. Expected Outcomes

Implicit in the foregoing is the expectation of improved maintenance resulting from the shift to private firms. Is this realistic in a formerly planned economy from an economic perspective? Struyk, Mark and Telgarsky (1991), relying on agency theory, have studied the likely impact on the efficiency of management and unit quality of changing from state to private firms, competitively selected, to manage housing in Eastern Europe. After analyzing the somewhat complex incentives involved, they concluded:

> ... there are several reasons to expect relatively good performance: ownership will be fully concentrated in local government; it appears possible to create substantial competition among property management firms; the costs of switching firms is small; sources of information on management efforts are available; and conditions that limit the ability of the management agent to act against the owner's interests can be included in the contract. In addition, further gains should result from the provision of technical assistance—improved financial management skills on the part of management agents, and better contracting and monitoring practices for city officials. Nevertheless, there is still concern whether city officials will in fact exercise due diligence in contracting and monitoring. (Indeed, one can argue that the collective ownership implied by city ownership is a highly diffused ownership form, not a concentrated one.) ... In short, there are some grounds for optimism for a positive near-term outcome from shifting to private management of the state rental stock. The shift is nonetheless something of a gamble—a gamble in which carefully constructed contractual arrangements and concentrated and effective technical assistance can improve the odds for success. (p.108)

The foregoing indicates four critical factors for private firms to provide improved services: concentrated ownership (vs. many owners each with a small share), meaningful competition, a well-written contract, and vigilant monitoring of performance by the owner (and invoking penalties for poor performance contained the contract when necessary). As noted earlier, in the Moscow pilot there has been real competition for the available contracts. Additionally, the contract—created with a good deal of technical assistance—appears to contain the necessary provisions and incentives.

On the other hand, the monitoring of contractor performance by the owners has been spotty. Officials at the DEZ level have revealed a high preference for paper reports and a distinct dislike for doing on-site inspections of the condition of buildings and grounds. This pattern exists despite the exhortations by senior management in the Department of Engineering and Communal Services and the

resident adviser. One would expect that the adverse effects of weak monitoring to grow over time, as the contractor discovers that poor performance goes unpenalized.

A further complication has been that the City has consistently been tardy in its payments to contractors. The payment system for the private contractors in the March buildings is the same as for the REUs, with funds flowing from the Department of Finance to the Administrative District level where the final disbursement authorization is made by the District office of the Department of Engineering and Communal Services. It appears that some of the officials at the District level are more concerned about the welfare of the REUs than that of the private firms, and this is reflected in the order in which firms are paid.[14] With funds constantly less than requested, those at the end of the queue often suffer significant payment delays. In 1993 inflation in Russia ran at an annual rate of about 850 percent. Hence, such delays mean a reduction in the real value of payments received compared with the amount specified in the contract.

Given these various considerations, our expectation is to see stronger performance by the private firms soon after they begin operations. However, performance quality may fall off over time due to the practices of the owner.

[14] For the September buildings, the Department of High Rise Buildings receives payment directly from the Department of Finance. Payment delays have been less of a problem here. **[true?]**

4. Evaluation Method

The general scheme for the evaluation is to identify change by contrasting conditions in the buildings included in the pilot program before and after the introduction of private management. Because conditions in the March buildings were so poor at the time of the introduction of private management, we reason that there must be improvement in outcomes for the primary goal of the program—the provision of high quality maintenance—to be achieved. Documentation of improvements gives evidence of the maintenance companies at least moving toward the achieving the goal. In contrast, conditions in the September buildings were much better and our minimum expectation in this case is for no reduction in quality.

The evaluation does not include a control group of similar buildings. Therefore, it is theoretically possible that any improvement observed at the pilot buildings could also be occurring in other buildings because of general factors. This type of general improvement in conditions in Moscow's municipal housing stock during 1993 seems extremely unlikely because of the sharp reductions in the funding for maintenance: the Department of Engineering and Communal Services estimates that in 1990 funding to the REUs was sufficient to fund 60-70 percent of the services they were supposed to provide; at the end of 1993, funding had declined to about 45 percent of the "needed" amount. No increase in funding has occurred during the period since the private firms took over the pilot buildings.

Data Employed

Data from six household surveys are involved:

1. The survey in December 1992 of the occupants of 2,002 randomly selected State rentals in Moscow. The sample included 1,706 units belonging to the city and being maintained by the REUs. To insure comparability, data only for the municipal units are employed in this analysis.

2. A survey in the second half of February 1993 of 300 randomly selected households living in March buildings. The survey instrument was identical to that used in the December survey.

3-4. Reinterviews of the 300 households in the March buildings in May and November 1993. The first survey was 10 weeks after the private companies took over maintenance responsibilities and the second some nine months. No replacement households were permitted in this survey, i.e., only households included in the February survey could participate. Every attempt was made to have the same respondent who

was the respondent in February. A total of 291 interviews were successfully completed in May and 290 in November.

5. A survey in early September 1993 of 379 randomly selected tenants of the September buildings just prior to private firms taking over maintenance responsibilities. The instrument was the same as that for December 1992.

6. Reinterviews of the originally survey tenant households in the September buildings in January 1994, i.e., about four months after the shift to the private companies. Again no replacement households were permitted. A total of 368 interviews were successfully completed.

All survey instruments included extensive sets of questions on the conditions in the common spaces of the building (as observed by the respondent and the interviewer) and in the flat; on breakdowns in services, such as hot water, security systems and elevators during the preceding month; and the respondent's experience with the maintenance company when it requested assistance. Tenants were directly asked about their perception of changes in specific maintenance and service areas. In addition, the December and two "base line" surveys obtained data on basic unit and building characteristics, housing expenditures, household demographics and privatization status.

Analysis Plan

The analysis proceeds in three parts. In the first we examine the extent to which the attributes of the units and buildings included in the March and September buildings differ from the overall stock of municipal housing. The question to be explored is whether the buildings selected are in better condition or appear to be somehow easier to maintain than the overall stock. The third part of the analysis is a simple comparison of the cost of private firms and the REUs.

The second and main analytic task is the comparison before and after the introduction of the private maintenance firms of building conditions and tenant experience when help is requested from the maintenance company. For the March buildings data used are from the February, May, and November household surveys. Responses of tenants to direct questions about changes in maintenance are analyzed using data from the May and November surveys. For the September buildings, "after" data are from the January 1995 household survey.

In carrying out these tests our working hypothesis was that we would observe little to modest change in physical conditions over such a short period. While the new maintenance firms are certainly charged with making repairs to common areas and maintaining the grounds, they may simply not have time and resources to make

much progress on building quality. On the other hand, we expect more change in tenants' experience in their dealings with the maintenance company.

In every phase of the analysis we employ standard statistical tests of the significance of differences in variable values or distributions between the demonstration projects and the general municipal building population or between the "before" and "after" data for the pilot buildings. In the "before" and "after" analysis separate results are presented separately for the March and September buildings and for two points in
time for the March buildings.[15]

[15] Results for individual "packages" of buildings are available from the authors upon request.

5. Conditions When the Private Firms Took Responsibility for Maintenance

This section presents information on two comparisons: the types of units and buildings included in the stock of the units placed under contract to private firms and the condition of this stock compared with all municipal units in Moscow; and, the cost of maintenance for the private firms and the REUs.

Building Attributes and Conditions

Table 1 displays data on the type of units and buildings included in the pilot and those for the Moscow municipal stock. Data on the March and September buildings are presented separately to allow for individual comparison of the two groups of buildings with the Moscow municipal stock. This is particularly important because, as a glance at Table 1 reveals, the two groups of pilot buildings are quite dissimilar.

In terms of size, as measured by total space, living space, number of rooms, and ceiling height, units in the March buildings and those of the Moscow municipal stock are, on average, virtually identical. However, the data show that the March buildings do have significantly fewer communal apartments than the municipal stock, but the difference is only five percentage points. In contrast, the September buildings are, on average, 34 percent larger in terms of total space than the all-Moscow stock and the ceilings in the September units are 27 percent higher. In addition, only 2.1 percent of the September units are communal as compared with 11.6 percent in the municipal stock.

Both groups of buildings differ in building type as compared with the Moscow municipal stock. The March buildings are relatively concentrated in Stalin and Khrushchev era buildings and in new panel buildings. The Stalin buildings, which account for 45 percent of these units, are considered to be of high quality construction, although with age and lack of proper maintenance, they are no longer the clearly superior buildings they once were. On the other hand, the five-story walk-up Khrushchev buildings, which make up 22 percent of the March buildings, are generally viewed as having been cheaply constructed, with low ceilings and small room size. The September buildings are all of the highest quality available: new panel and new brick. The majority are also over 15 stories high.

More important for the evaluation are maintenance conditions at the time when the private firms took over management responsibility in the two groups of buildings. Data on this point are also presented in Table 1. Included in the table are tenant responses on conditions of public spaces, condition in flats and experience with repairs; and, interviewer opinions. Responses on the following topics were employed in the statistical analysis: condition of the entryway; lighting in the

common areas; functioning of the security system, elevator and toilet; presence of rubbish in the halls and stairways; supply of hot water; leakage in the ceiling; presence of rats, mice, cockroaches or ants in the apartment; response to requests for repairs; satisfaction with repairs and overall maintenance; impression of the building and flat. Additional data which assess the conditions and experience with repairs are available from the authors; these data were excluded for lack of space, but the patterns are analogous to those discussed.

For the above topics, respondents were either asked to rate the condition on a scale from "very bad" to "very good" or to indicate the frequency in which a task was NOT performed or in which a service was NOT provided on a scale from "did not occur" (meaning the REU or state maintenance organization was performing its duties) to "occurred practically a whole month." Regarding the questions on pests in the apartment, respondents were asked to indicate the extent to which the apartment was infested. In evaluating the results, it was decided to focus on the extremes of the scale since this is where condition differences, most likely, are most discernible.

Tenant responses reveal that, if anything, conditions in the common spaces were worse in the March buildings before the private firms took over, than in the Moscow municipal stock. For example, 27 percent of respondents in the March buildings, compared with only 14 percent of the all-Moscow respondents, reported that their entryway was in very bad condition. On the other hand, the experience with repairs was essentially the same for the two groups of tenants - bad. Only 9 percent of those needing repairs in the pilot buildings, for example, were satisfied with the quality of the repairs they received; similarly, only 6 percent of those occupying Moscow municipal housing were satisfied with the quality of repairs. The information on conditions in the flats paints a more ambiguous picture. Some conditions were better in the March pilot flats, e.g., fewer leaks in the ceiling, less trouble with ants and cockroaches, and some were worse, particularly problems with breakdowns in the hot water supply.

Data on conditions and experience with repairs in the September buildings impart a different story than for the March buildings. Both tenants and interviewers agree that the conditions in the common spaces and in the flats in the September buildings were initially better, and in many cases, **much** better, than in the Moscow municipal stock. For example, only 10 percent of the pilot respondents reported their lights out of order in the halls for a month's duration, whereas 39 percent asserted this in the all-Moscow survey. Similarly, 71 percent stated that they had not had interruptions in the hot water supply in the previous month, compared with only 52 percent in the all-Moscow respondents who could claim the same. The data also demonstrate that the tenants experience with repairs in the September buildings was much better than in Moscow buildings on the whole. Only 4 percent of the pilot respondents reported that they made a repair request which never was executed while 22 percent suffered this fate in the all-Moscow buildings.

One's general impression from reviewing this information is that the March buildings included in the pilot were certainly not better maintained than the average municipal building. Similarly, the REUs serving these buildings provided essentially the same level of services as those serving other buildings. In contrast, the data demonstrate that the September buildings were being better maintained, on average, than the Moscow municipal stock. Those living in these buildings definitely enjoyed a higher level of services than most, particularly with regards to repairs.

Costs

How does contracted cost for private maintenance compare with that for the REU's? It is impossible to answer this question with precision because of limitations in the data available for the REUs and because of the differences in the functions carried out by the two types of firms. Nevertheless, some suggestive information is possible.

In the beginning of the Pilot project ("March buildings") the average per unit per month (PUM) for the private firms as of March was rub 1,574. This is the amount for which the contracts were written. In February 1993, the REUs were receiving approximately rub 1,000 PUM; this is a city average figure specific to these sites. However, the Department of Engineering and Communal Services estimated in March that the REUs were receiving only 25 to 30 percent of the funds they needed to carry out their assigned duties. On this basis, the full cost for the REUs would be rub 3,000 to 4,000 PUM. The private companies agreed at the lower price to carry out most but not all of the functions assigned to the REUs. These extra functions of the REUs are primarily office functions such as registering young men for military service. They also include following up with families who are delinquent in paying their rent. If such activities constitute 20 percent of total cost, then the rub 1,574 for private firms could be compared with rub 2,250 to 3,000 for the RAiUs.

While the private firms were initially receiving slightly more than the REUs, the payment levels began to slowly even out over the first months due to regular delays in inflation adjustments and to delays in payments themselves. In November 1993, the Department of Engineering and Communal Services also reported that funding for the REUs had been increased such that REUs were receiving up to 47 percent of the funds needed for full operation. Thus, by November, the level at which the private firms were funded actually decreased relative to the amount provided to the REUs for comparable municipal maintenance. To make matters even worse for the private firms, during the month of November, payments to the contractors virtually stopped. This was due to a switch in the system of payments to the private firms. Payments for the private firms began to be transferred straight to the DEZ common budget for housing maintenance, instead of to a special account which had been set up for the private firms by the Department of Engineering and Communal Services. As a result, the DEZ paid the REUs at the expense of the private firms. By the end

of 1993, the firms maintaining the March pilot buildings were owed rub 59,660,000. In short, the private firms should have been receiving about the same payment as the REUs but their payments were being delayed which significantly reduced their value given Russia's high inflation.

Private firms maintaining the September buildings also operate at a funding disadvantage compared to the state firms. The decision was made by the Department of Engineering and Communal Services to pay the private contractors for the "September buildings" the same amount of funds that is paid from the city budget to the Department of High Rise Buildings for their maintenance. Since 1992, the city has provided funds to the department's maintenance organizations just as it does to the city's REUs.[16] However, at the same time, the departmental maintenance organizations were receiving more than twice this amount, because the Department of High Rise Buildings has traditionally used revenues from other sources, such as rents on non-residential space, to provide additional funds to their maintenance organizations. This additional funding was not offered to the contractors. The difference in funding is rather significant. For example, city funding for the September buildings was only rub 2,970 PUM, while the Department of High Rise Buildings was providing its maintenance organizations with an average of rub 6501 PUM for similar buildings. These figures, however, include financing for tasks which the contractors were not performing, such as registration and capital repair.

More useful numbers are available for amounts provided specific to the limited tasks performed by the pilot firms. In December, the departmental maintenance organizations were receiving approximately rub 2848 PUM for comparable maintenance provision (that is, not including the extra non-maintenance tasks) to buildings in the same region of the city as the September buildings: the private contractors in the same region received rub 2495 PUM. In another region where some of the September buildings lie, the department maintenance organizations received rub 2858 PUM in December for maintenance; the private contracts received only rub 1703 PUM. In addition, payments to the contractors were often delayed. The Department of High Rise Buildings asserts that the inadequate payments are the result of delayed payments from the city budget.

These findings suggest that the maintenance provided by private firms certainly was not costing more than that provided by the state maintenance organizations. In fact, in all cases, private firms have operated at cost levels below those of the REUs/departmental maintenance organizations. The serious financing problems which gradually developed over the course of the pilot should not be ignored when assessing performance of the private firms in the next section.

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[16] Funding from the city budget for these buildings is significantly higher than for the average Moscow building.

6. Changes in Conditions under the Private Firms

This section provides a comparison of the March and September buildings before and after the introduction of the private maintenance firms and information on how well informed the tenants were of the management change. The comparison uses February, May and November survey data for the March buildings and September and January data for the September buildings to examine the change in the physical conditions in both public spaces and flats, as well as the change in the interruptions in services and in the speed and quality repair services.

Physical Conditions of Public Spaces/Flats and Interruptions in Services

Table 2 presents the data used to assess the change in conditions in common areas and in individual flats, as well as in interruptions in services under the private firms. At-a-glance results are presented in Table 4. In the "before and after" analysis, data were employed for responses to the same maintenance topics covered in the baseline survey and discussed in Section 5. Data on heat and hot water service were excluded from the analysis since these are services over which the private firms have no control: heat and hot water are regulated by the central authorities.

In Table 2 only data for the extremes of the distributions are presented since it is most likely that only at the extremes could the private firms hope to make a decided improvement in the short time periods - for instance, the first follow-up survey of the March buildings occurred only 10 weeks after the private firms had begun work. Therefore, it is also at the extremes where improvement or lack thereof is probably most evident. Using the data from both the positive and negative extremes, a net improvement rating was determined. A rating of "better," for example, denotes that performance under the new firm was better than under the REU. A rating of "worse" indicates just the opposite, namely, that service worsened under the private maintenance firm. In addition to re-rating the conditions and services as done in the baseline survey, respondents were also asked whether they perceived that conditions had improved or worsened under the private maintenance firm or whether the frequency in which tasks were not performed or services not provided had increased or decreased under the private firm. These results are also presented in Table 2. Again, the data is separately presented for each group of building.

The results indicate that there was a decided overall, statistically significant improvement in conditions in common areas and the flats of the March buildings over the initial 10 week evaluation period from March to May. (Statistical significance was determined using a chi-square test.) Improved maintenance was reported for 9 of the 11 categories evaluated. For example, the percentage of respondents who asserted

that there was never lack of light in the common areas jumped from 14 percent in February to 40 percent in May. In most cases, respondents' perception of improvement or lack thereof corresponded generally with the rating results. The only areas in which positive change was not exhibited was the functioning of the toilet in flats and the functioning of the buildings' security systems. It should be noted that while private firms are formally responsible for maintaining security systems and lifts, in reality, major repair or replacement of these systems is often required and therefore beyond the responsibility and financial means of the firms: this is to be done by an outside state-run organization, which is often unreliable.

While there was definite improvement exhibited by the private firms from February to May, data from the November survey of the March buildings paint an ambiguous picture. On the one hand, the results indicate that performance levels worsened, sometimes slightly, in 6 of the 11 conditions categories between May and November. For example, those who reported that the area around the refuse chute was not cleaned in practically a whole month, jumped from 6 percent in May to 21 percent in November. On the other hand, performance levels remained unchanged in 4 categories and improved in one, the functioning of lights in the common areas. In addition, 2 of the 6 categories in which performance declined include the functioning of security systems and lifts which, as previously mentioned, cannot be considered solely the private firms' responsibility. Lastly, it is important to note that, despite the declines in service levels, most services remained better than they had been under the REUs.

In the November survey of the March buildings, the majority of tenants' responses on perception of improvement are negative, but this might be explained by the fact that they were asked to compare current conditions with those of 9 months earlier: respondents' might have forgotten what earlier conditions were like before the contractors took over. Their expectations may have also been raised by the better service since March.

Results for the September buildings do not lead to any clear conclusions, but suggest that maintenance performance by the private firms was at least on par with that of the departmental maintenance organizations. Improvement was reported for 8 of the 11 categories, but the 2 categories in which performance remained the same in comparison to the departmental organizations were two of the most important performance-evaluation categories since contractors are free to exercise complete control in these areas: condition of entryways and functioning of lights. The one area which indicated worse performance by the private firms concerned trash in the common areas; this too is an important performance-evaluation category. Also, respondents' perception of performance did not correspond with the ratings - most are quite negative. Overall, these findings are not surprising given the superior level of maintenance that was already being provided by the departmental maintenance organizations.

Experience with Repairs

The data on tenants' experience with repairs are presented in Table 3. Again, the results for the extremes are listed, and, from these, the net improvement rating was then derived. At-a-glance results are presented in Table 4. Here also, the data indicate a distinct improvement from February to May in all aspects of repair service in the March buildings. The new firms did a better job in setting a concrete time for making the repairs than the REUs had and then did a better job on keeping their promises. Also, the percentage of respondents who reported that repairs were made during the first visit increased from 42 percent in February to 63 percent in May. Over time, however, the data show that performance declined slightly in all of these areas. For example, the percentages of those who reported that repairs were made within the promised time fell from 59 percent in May to 49 percent in November.

Results for the September buildings do not paint a clear picture. They indicate that the new firms did a better job also in setting a time to do repairs but a worse job at honoring their promises. They also did a better job at making repairs on the first visit, but fewer respondents were satisfied with these repairs. Given the excellent repair record for these buildings compared with the average Moscow building and the expectations that accompany such a performance history, it is not shocking that the results for the new firms are not completely superior.

Tenant Knowledge of Management Change

Table 5 presents the findings concerning how well-informed respondents were that their building was being maintained by private firms. The May findings indicate that while only 1 percent of the respondents thought that the REU was still maintaining their building as of March, over half of the tenants did not know who had taken the place of the REU. These percentages changed only slightly in November. Similarly, 51 percent of the respondents in the September buildings did not know who was maintaining their building. Over 75 percent of respondents in May were unaware of the contractors' responsibilities: this figure decreased by 12 percent in November. Similarly, 87 percent of respondents from the September buildings did not know for what the private firms were responsible when surveyed in January.

The results indicate that the firms serving both the March and September buildings did a poor job of informing tenants of their new presence. Lack of information about the firm's duties can lead to dissatisfaction with the firm for failures for which the firms is not responsible. In short, better knowledge on the part of tenants is in the firms' best interest.

7. Conclusions

Introduction of any new practice into a situation in which other methods of operation are well-established is always risky. So, too, is the introduction of private companies, competitively selected to undertake the maintenance of municipally-owned residential buildings in Moscow.

The results of the analysis conducted to date show unequivocally that private Russian firms are capable of delivering good service, when selected on a competitive basis, given a clear contract, and subjected to reasonable oversight by the "owner." The results are also clear that the private firms can provide high quality service at a price that is highly competitive with the cost of the state companies.

Nevertheless, whether the introduction of private maintenance will be a success in Moscow remains an open question. While the program enjoys enthusiastic backing at the municipal level, it is at the local level, the DEZ level, where the duties of the "owner" must be successfully discharged. There is evidence that the DEZs will not perform these tasks well. To date those responsible for the buildings included in the pilot program have broken the contracts repeatedly through being late in their payments to private firms and they have shown little energy for making site visits to inspect the quality of work being done by the contractors. One can easily imagine that from the narrow perspective of the DEZ staff the new arrangements only mean more work: competitions must be held and more oversight action on their part is required. If they are unable to obtain some extra payment—either from the system or a side payment from the contractors—their incentive will be to return to the REUs or to hire a private firm, probably through a non competitive process, that is willing to compensate them for the extra work. (Of course, the side payment may also simply buy tolerance for low quality services.) In short, the DEZ may turn out to be a poor substitute for a real owner.

The municipality can act to limit the DEZs' possible negative behavior: segregated accounts for payment of the private firms can be established; the DEZ can be forced to contract with the Office of Building Inspection for regular on-site inspection services; and, the DEZ can be required to prove poor quality work to the municipal-level office before withholding payments to or dismissing a private firm.

In the end, however, sustained improvement in building maintenance may only come from more active tenant involvement. Most obviously this means creation of condominium associations in building in which most units have been privatized that will take over responsibility for overseeing maintenance. Moscow enacted a condominium regulation in April 1993 and further implementing regulations were promulgated by the fall, but few associations have been formed yet because of the complicated procedures involved in registering an association. Nevertheless, working

with the new associations to acquire quality management services should be (but has not been) a high city priority. Similarly, some experimentation should be undertaken with making tenants more concerned and active about the quality of maintenance services provided. Among the pilot projects more complaints about services were received from the tenants in building where most units were privatized and discussions were underway about forming a condominium association.

In Moscow we have found that private firms, competitively selected can indeed provide high quality maintenance of municipal buildings under certain conditions. To sustain the short-term record of success it appears that two types of change may be necessary: further institutional changes within city government to alter incentives and limit the scope for arbitrarily rejecting private firms, and increased involvement on the part of tenants to take over some responsibilities of insuring good maintenance is being provided.

ANNEX

Tables

TABLE 1
COMPARISON OF HOUSING ATTRIBUTES AND QUALITY OF MAINTENANCE

	March Buildings	September Buildings	All Moscow
ATTRIBUTES			
Total space of unit (sq.m.)**	56.8	71.69	53.59
Number of rooms in unit**	2.4	2.45	2.28
Kitchen size in unit (sq.m.)**	7.8	9.89	7.77
Ceiling height in unit (cm.)	277.8	272.6	271.00
Total space/Living space of unit	1.6	1.77	1.52
Type of unit**			
single	93.7	97.9	88.4
communal	6.3	2.1	11.6
Type of building**			
ramshackle stock	0.0	0.0	6.3
Krushchevka	22.0	0.0	17.9
brick of Stalin era	44.7	0.0	21.8
70's panel design	0.0	0.0	30.1
newly constructed panel	31.0	84.4	21.1
modern brick	2.3	15.6	2.8
Number of floors in building**			
2-5	22.0	0.0	29.0
6-10	27.6	8.6	32.3
11-15	45.3	32.6	20.9
16 +	5.0	58.8	17.8
RESPONDENT OPINION			
CONDITION OF PUBLIC SPACES			
Condition of entryway**			
very bad	27.3	4.0	13.9
bad	38.7	21.1	32.1
acceptable	31.0	46.4	42.6
good	2.7	25.3	10.1
very good	0.3	3.2	1.3
Lights out of order**			
did not occur	14.3	46.4	21.1
once and less than a day	6.0	18.5	11.7
twice	10.7	13.5	14.7
three times	19.3	11.6	13.1
practically a whole month	49.7	10.0	39.4
Entry security system out of order**			
did not occur	13.5	59.4	14.0
once and less than a day	5.7	15.0	4.5
twice	9.6	3.0	3.3
three times	13.1	1.6	2.6
practically a whole month	58.1	21.0	75.6
Trash/Debris in hallways**			
did not occur	36.0	66.0	41.1
once and less than a day	15.0	16.4	15.4
twice	18.7	12.7	13.1
three times	8.7	2.9	8.1
practically a whole month	21.7	2.1	22.3
Lift out of service**			
did not occur	26.8	35.1	30.6
once and less than a day	22.6	29.6	22.5
twice	19.6	14.8	19.8
three times	19.6	10.5	16.5
practically a whole month	11.5	10.0	10.6

Table 1 (continued)

	March Buildings	September Buildings	All Moscow
CONDITION OF FLAT			
Had been without hot water**			
did not occur	37.0	71.2	51.8
once and less than a day	16.8	19.1	21.1
twice	16.1	7.4	14.6
three times	12.8	1.8	8.4
practically a whole month	5.4	0.5	4.1
Toilet out of order**			
did not occur	88.6	86.0	81.0
once and less than a day	4.0	10.3	6.7
twice	2.0	1.1	3.6
three times	0.7	1.3	2.4
practically a whole month	4.7	1.3	6.3
Leaks in the ceiling**			
did not occur	80.3	83.6	73.8
yes, in one area	9.0	12.4	13.2
yes	10.3	4.0	12.1
do not know	0.3	0.0	0.9
Rats/Mice in flat**			
no	82.7	91.8	70.6
yes, rare occurance	12.0	7.7	20.7
yes, a lot	5.3	0.5	8.7
Cockroaches in flat**			
no	56.0	56.5	38.9
yes, rare occurance	23.3	31.4	36.9
yes, a lot	20.7	12.1	24.2
EXPERIENCE WITH REPAIRS			
Were repairs made?**			
yes, during first visit	42.4	64.5	39.7
yes, but had to re-request	8.1	5.9	8.3
yes, but had to make several requests	9.1	0.0	6.9
yes, but had to call authorities	1.0	0.8	3.6
did not even try to re-request	22.2	24.6	19.6
re-requested, complained, no result	17.2	4.2	21.9
Satisfied with quality of repairs?**			
no	34.4	14.5	28.3
more no	25.8	14.5	25.8
more yes	31.2	55.8	39.4
yes	8.6	15.2	6.5
Satisfied with maintenance of building?**			
no	26.3	2.9	21.7
more no	43.3	20.1	39.1
more yes	27.0	72.7	38.1
yes	0.3	4.3	1.1
INTERVIEWER OPINION			
Overall impression of interior of flat**			
needs major rehabilitation	3.0	0.0	6.9
needs some repair and rehabilitation	28.0	11.9	24.9
generally good condition	60.0	64.8	57.0
excellent condition	9.0	22.3	11.2
Overall impression of the building**			
needs major rehabilitation	23.0	0.0	14.0
needs some repair and rehabilitation	63.0	32.5	33.6
generally good condition	14.0	54.6	49.1
excellent condition	0.0	12.9	3.3

** significant at the .05 level
* significant at the .10 level

TABLE 2
CHANGES IN CONDITIONS

	March Buildings			September Buildings	
A. PUBLIC SPACES	Feb	May	Nov	Sept	Jan
1. Condition of entryway					
a) rating**					
very bad	27.3	19.9	27.3	4.0	0.6
very good	0.3	0.0	0.0	3.2	2.3
net improvement		better	worse		same
b) impression of change**					
worsened markedly		3.4	13.2		4.3
worsened somewhat		4.8	13.2		12.2
no change		75.9	65.3		77.7
improved somewhat		15.1	8.0		4.9
improved substancially		0.7	0.3		0.8
2. Lights out of order					
a) rating**					
did not occur	14.3	40.2	41.4	46.4	46.7
practically a whole month	49.7	22.3	14.8	10.0	10.9
net improvement		much bette	better		same
b) impression of change**					
less		14.4	14.1		4.6
same		82.5	77.7		83.2
more		3.1	8.6		12.2
3. Security system out of order					
a) rating**					
did not occur	13.5	17.6	17.4	59.4	69.5
practically a whole month	58.1	59.9	68.7	21.0	14.1
net improvement		same	worse		much better
b) impression of change**					
less		2.9	1.9		2.5
same		90.8	76.6		95.0
more		6.3	21.5		2.5
4. Trash/Debris in hallways					
a) rating**					
did not occur	36.0	39.7	33.4	66.0	64.1
practically a whole month	21.7	13.8	17.9	2.1	9.2
net improvement		better	same		worse
b) impression of change**					
less		13.1	15.5		2.2
same		78.4	65.5		85.1
more		8.6	19.0		12.8
5. Refuse chute area not clean					
a) rating**					
did not occur	69.3	74.8	69.8	62.9	76.8
practically a whole month	8.5	6.1	20.5	2.2	1.2
net improvement		better	much worse		better
b) impression of change**					
less		6.8	6.8		6.0
same		89.2	78.5		85.7
more		4.1	14.6		8.3
6. Lift out of service					
a) rating**					
did not occur	26.8	50.2	29.5	35.1	41.3
practically a whole month	11.5	9.8	11.2	10.0	7.9
net improvement		much better	much worse		better
b) impression of change**					
less		9.5	8.4		3.5
same		87.0	75.9		85.6
more		3.5	15.6		10.9

(Table 2 (continued)

	March Buildings			September Buildings	
B. FLATS	Feb	May	Nov	Sept	Jan
1. Toilet out of order					
a) rating**					
did not occur	88.6	88.7	91.0	86.0	96.7
practically a whole month	4.7	4.5	5.2	1.3	0.8
net improvement		same	same		better
b) impression of change**					
less		4.5	6.2		4.3
same		94.8	91.0		95.4
more		0.7	2.8		0.3
2. Leaks in the ceiling					
a) rating**					
did not occur	80.3	85.6	87.6	83.6	92.1
yes, a big problem	10.3	5.2	6.2	4.0	2.2
net improvement		better	same		better
b) impression of change					
net improvement		not available		not available	
3. Rats/Mice in flat					
a)rating**					
none	82.7	89.0	89.3	91.8	95.7
a lot	5.3	1.0	1.0	0.5	0.0
net improvement		better	same		better
b) impression of change*					
less		29.7	36.6		37.5
same		62.2	43.9		62.5
more		8.1	19.5		0.0
4. Cockroaches in flat					
a) rating**					
none	56.0	58.5	52.8	56.5	64.7
a lot	20.7	9.3	16.6	12.1	9.0
net improvement		better	worse		better
b) impression of change**					
less		29.6	33.3		20.0
same		60.0	48.7		72.1
more		10.4	18.0		7.9
5. Ants in flat					
a) rating**					
none	60.7	68.0	67.2	66.2	70.7
a lot	21.7	9.3	15.5	10.3	8.7
net improvement		much bette	worse		better
b) impression of change*					
no					
less		30.8	26.2		27.1
same		63.5	57.3		66.1
more		5.8	16.5		6.8

** significant at the .05 level
*significant at the .10 level

TABLE 3
EXPERIENCE WITH REPAIRS

	March Buildings			September Buildings	
	Feb	May	Nov	Sept	Jan
Repairs needed in past two months**					
none	55.3	63.0	50.2	45.4	72.3
yes	44.7	37.0	49.8	54.6	27.7
		fewer	more		less
Promise of repair within...**					
1 day	60.4	58.5	61.9	66.9	80.0
no concrete promise made	24.0	16.9	18.6	10.3	7.5
time could not be set	7.3	3.1	10.3	12.4	1.3
net improvement		better	worse		much better
Repairs made within promised time**					
yes	42.0	59.0	48.9	70.4	63.8
no	37.0	29.5	36.2	21.8	23.8
net improvement		much better	worse		worse
Were repairs eventually made?**					
yes, during first visit	42.4	62.7	51.1	64.4	70.1
re-requested, but no result	17.2	8.5	9.8	4.2	5.2
net improvement		much better	worse		better
Satisfied with quality of repairs?**					
no	34.4	30.8	15.7	14.5	23.7
yes	8.6	11.5	12.9	15.2	11.8
net improvement		better	better		worse

**significant at the .05 level
* signficant at the .10 level

TABLE 4.

CHANGES IN CONDITION AND EXPERIENCE WITH REPAIRS

	March buildings		September buildings
	Feb./ May	May/ Nov.	Jan./ Sept.
A. PUBLIC SPACES			
Condition of entryways	+	↓	s
Lights out of order	+	↑	s
Security system out of order	s	↓	+
Trash/Debris in hallways	+	→	–
Refuse chute area not clean	+	↓	+
Lift out of service	+	↓	+
B. CONDITION OF FLATS			
Toilet out of order	s	→	+
Leaks in the ceiling	+	→	+
Rats/Mice in flat	+	→	+
Cockroaches in flat	+	↓	+
Ants in flat	+	↓	+
C. EXPERIENCE WITH REPAIRS			
Promise of repair	+	↓	+
Repairs made within promise time	+	↓	–
Were repairs eventually made?	+	↓	+
Satisfied with quality of repairs?	+	↑	–

+ - better in May than in February (March buildings)
in January than in September (September buildings)
– - worse in May than in February
in January than in September
s - same in January than in September

→ - same in November than in May
↑ - better in November than in May
↓ - worse in November than in May

TABLE 5
KNOWLEDGE OF CURRENT MAINTENANCE RESPONSIBILITY

	March Buildings		September Buildings
	May	Nov	Jan
Persons responsible for maintenance**			
RAiU	1.0	2.1	13.6
do not know	56.7	52.1	51.4
know, but not specifically	21.0	17.9	27.2
name of firms	21.3	27.9	6.8
American firm	0.0	0.0	1.1
Contractor responsible for...**			
for _____ (fill in the blank)	12.4	10.3	3.0
for all maintenance	11.3	25.9	10.1
do not know	76.3	63.8	87.0
Month contractor began**			
January	1.9	7.8	
February	3.8	14.0	
March	87.6	63.6	
April	6.7	3.1	
September			43.3
October			18.3
November			16.7
December			1.7
other			20.0
Persons responsible for making management decisions**			
RAiU	10.0	4.5	17.9
DES	3.4	7.9	6.9
committee of a residents association	0.3	0.0	0.3
meeting of a residents association	0.0	0.0	2.4
group of residents	0.7	0.7	0.8
do not know	85.6	86.9	71.7
Amount tenant would pay with the RAiU**			
less	2.7	5.9	0.8
same	36.4	23.8	13.0
more	0.3	1.0	0.5
do not know	60.5	69.3	85.6
Other sources of income for contractor**			
subsidy from municipality	79.5	55.9	60.0
rent from commercial space	7.7	2.9	11.4
do not know	12.8	41.2	28.6

** significant at the .05 level
* significant at the .10 level

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