

Cadastral Valuation for the Land Tax in the Russian Federation: The New Market-Informed Valuation System

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Recent changes in Russia's system of land taxation have had considerable impact on taxes due. For example, *Rossiyskaya Gazeta* (2006) reports that for a property holder in the Moscow oblast, the tax on his 200-square-meter plot increased from 340 rubles to 30,000 rubles in 2006. Similar increases are occurring elsewhere in the country. Clearly such a sizable increase in taxes owed would shock any property holder, regardless of the country. These changes constitute a radical change in property taxation and merit some attention.

The dramatic increase in land taxes can be attributed to a change in the valuation of land from a normative basis to a system described as cadastral valuation. This system marks a significant change from the old valuation scheme, in which low normative values (values that emerged from some hypothetical plan) were used for the nation as a whole. Over time, as inflation reduced the appropriateness of these normative values, the informal and nonsystematic

adjustments that were made destroyed any semblance of consistency and logic among land values. The cadastral system, while not a true current market value standard, brings more market information into the valuation process and creates variations across land parcels with different qualities and characteristics. Almy (2002, 20) categorizes cadastral values as "notional-value" without association to market value. The Russian application of the concept, as explained here, introduces market concepts as an integral part of valuation and surmounts some barriers to pure current market valuation. Thus, we categorize the system as "market-informed."

The shift to cadastral valuation of land marks a potentially significant watershed in the development of Russian fiscal systems, in the growth of private land markets, and in the evolution of the finances of local units of self-government. This shift is particularly significant for local government units because the land tax has been designated as the major

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source of revenue for them. This article explains how this new assessment system works and provides some observations about its potential effects.

As Chassagnard (2003) outlined some years ago, Russia levies three property taxes: a regional tax on company asset (book) value (net of land), a local personal property tax, and a local land tax. (A fourth, an immovable property tax on land and improvements combined, has not yet spread beyond its pilot experiments in Novgorod and Tver. These experiments in market-based valuation have been supported by substantial assistance from the U.S. Agency for International Development and may eventually provide the template for the entire country.) The local land tax is of primary interest because its nature is changing dramatically, yet both the enterprise asset tax and the personal property tax deserve some mention because they will be affected by this fiscal restructuring, even though their systems of valuation remain unchanged. None of these taxes is based on current market value, but the land tax has market-force elements in its valuation process.

Property Tax on Companies: Enterprise Asset Tax

Russian and foreign legal entities (including all enterprises, agencies, banks, credit institutions, and foreign entities owning any property) pay a regional tax on balance sheet fixed assets (excluding land, natural resources, and state-owned defense and internal security objects [Russian Federation Tax Code of 01.01.04]). Tax basis is net book value (balance sheet value) of fixed assets, intangible assets, inventories, and deferred expenses incurred as of the balance sheet date. Depreciation is allowed according to Russian statutory accounting standards. In some instances a foreign legal entity can use the depreciation rates established to arrive at the book value of the assets as long as the following limits

are not exceeded: 5 percent for buildings and structures; 25 percent for passenger cars, office furniture and equipment, computers, information systems, and data processing equipment; and 15 percent for other property (KPMG 2004). This tax is self-assessed.

The rate of the tax cannot exceed 2.2 percent; regional authorities can establish differential rates for certain categories of taxpayers or properties. Exemptions from property tax exist for certain assets, namely, monetary assets, securities, social and cultural assets, environmental protection assets, agricultural equipment, pipelines, electricity lines, and land. Local authorities can exempt other properties.

Property Tax on Individuals: Personal Property Tax

Throughout the Russian Federation, the local personal property tax is levied on individual owners of residential houses, apartments, summer houses, garages, and other buildings (Russian Federation Law No. 2003-1 of 09.12.91). ("Personal property" in the United States means movable property; that is not the meaning here.) Its valuation by the local Bureau of Technical Inventory is based on the cost of reproducing (reconstructing) the structure minus accrued depreciation. (Administration of this tax is being transferred to the same agency responsible for the land tax.) Standards are from insurance value regulations from the 1980s with some adjustments for inflation and changes in currency.

Tax rates set by local authorities can be based on total value, type of use, and other criteria. The national rate limits established for the tax are detailed in table 1.

Both regional and local governments can establish various tax preferences. Regional governments can provide preferences both for categories of taxpayers and for individual taxpayers, while local governments can establish preferences

Table 1. National property tax rate limits

Value of Property	Maximum Rate
Up to 300 thousand rubles	0.1 percent
300–500 thousand rubles	0.1–0.3 percent
More than 500 thousand rubles	0.3–2.0 percent

for individual taxpayers only. This tax plus the land tax constitute the designated tax sources for local governments in the Federation. Responsibility for this tax, including records, is being transferred to the same agency responsible for the land tax.

Land Tax Based on Cadastral Value

The land tax applies to landowners or users, except for renters (Russian Federation Law 1738-1 of 11.10.91 and Instruction No. 56 of Russian Federation Ministry of Tax Service of 21.02.00). These are the reforms noted briefly in Shatalov (2006, 775). Originally the land tax was based on normative land prices, which were values determined by using a planning process that somewhat differentiated among parcels based on value zones and region. Size of the parcel was the major determinant of tax owed. These values were unrelated to market values; the normative value typically was much less than what the land would have been worth on the private market. (Of course, the very idea of private land ownership in Russia is a relatively new concept and still not enthusiastically accepted in all quarters.)

The basis of valuation for the land tax is undergoing change with the adoption of cadastral value as the basis for the land tax. The new land tax applies to cadastre value of land parcels, thus replacing the previous normative tax. Since January 2006, land tax bills have been based on this new method of assessment in municipalities that have created the necessary legislation. (This new municipal tax will

be introduced depending on the level of preparedness of the municipalities and is outlined in Chapter 31 of the RF Tax Code. The initial final deadline of January 1, 2005 has been shifted to January 1, 2009 to provide municipalities more time to implement the tax.) The tax rates applied by municipalities to the new values for agricultural and residential property are subject to a maximum rate of 0.3 percent, while other land is subject to a maximum rate of 1.5 percent. Despite these rather modest maximum rates, there have been dramatic increases in tax obligations, as the earlier reference to the Moscow oblast indicates. These increases are due to large differences between the new cadastral value and the older normative values.

The system of cadastral valuation of land has been in development for some time—not surprising in light of the significance of the change and the size of the valuation task across the Federation. On August 25, 1999, the government of the Russian Federation passed regulation #945, “State Cadastral Value of Land,” which was followed by the passage on April 8, 2000 of regulation #316, “On Approval of the Norms of State Cadastre Land Assessment.” The latter established the rules and regulations for estimating state cadastre value of land for the purposes of taxation. These rules and regulations cover the seven categories of land established: agricultural land; industrial land and land under transport, communications, and other utilities; land under settlements; forest land; land occupied by water resources; land in specially protected areas; and land reserves.

The Federal Agency for Cadastre of Immovable Property developed the valuation standards for use throughout the nation. However, actual valuations are in the hands of private companies operating under contract with the subjects of the Federation (the regional governments). These appraisers, subject to national certification, also perform

traditional market value appraisals for private uses (loans, insurance, and so on). Property transaction values are not publicly available (although cadastral values are), but there are information networks between real estate brokers who assist with registration of property transfers and appraisers who hold transfer information on a proprietary basis. But this price information is not directly involved in cadastral valuation.

A specific method for cadastral valuation is applied to each of the following land categories:

Agricultural Land

In most portions of the Russian Federation, the bulk of the land is agricultural. Therefore, a considerable amount of valuation attention must be devoted to this land category. The Russian Federation has one of the most accurate and complete soil cadastres in the world, a legacy of Soviet times. These data create the basis for the cadastral valuation of agricultural land under the new system. (Unfortunately Soviet value concepts were not as clear for other uses of land, meaning there is no comparable reservoir of high-quality data for other land types.) Cadastral valuation is based on the net income (differentiated income) generated by the parcel. Net income is determined based on specific information concerning a parcel, including (a) location (distance to market), (b) fertility properties of the soil (e.g., there are 1,280 differentiated soil types in the Saratov oblast), (c) topography of the parcel, and (d) configuration of the parcel. The valuation process, which is driven by land productivity, is described in more detail below.

Average land values per square meter in a subject of the Federation (i.e., oblast) equal the sum of differentiated and absolute rents capitalized by a 33-year period. *Differentiated rent* is a difference between the monetary value of the average amount of crops grown in that oblast over the last 30 years (in

normative prices) and the average cost of their production over the past 8 years plus a 7 percent profit. *Absolute rent* is 1 percent of the value of gross produce Russia-wide, an indicator set at the federal level. Land values for individual rayons (zones) within a subject of the Federation are calculated based on the subject's average adjusted for rayon's differentiation coefficient. In order to estimate individual land parcel value, three adjustments to the differential rent of the oblast's average should be made.

First, individual parcel value is adjusted for soil yield quality in relation to that of the oblast average. The soil yield class is an average of strength of organic horizon, granulometric content, and humus content scores, and ranges from 0 to 100. The cost-of-production component in parcel valuation also is adjusted according to the transportation and storage expenses index (based on average productivity and provided in assessment methodology rather than calculated separately) and for its soil yield class.

Second, parcel value is adjusted for the parcel-specific technological properties in relation to the technological properties of an average parcel. Technological properties indicate difficulty of cultivation on a parcel and include such components as power intensity of soil (resistance to cultivation), the amount of stones in the soil, and relief and shape of a parcel.

Third, parcel value is adjusted for the difference in transportation cost incurred in delivering crops to the points of preprocessing or sale relative to the transportation cost incurred at an average parcel, plus a 7 percent profit. Estimation of the transportation cost takes into consideration the combination of actual types of crops produced on such parcel and of distance to every point of preprocessing or sale weighted by the amount of transported cargo and road quality on each route.

Once the differential rent is adjusted for parcel-specific properties, the value

of the individual parcel is estimated as the sum of differentiated and absolute rents capitalized by a 33-year period (a discount rate of 3-1/3 percent), where the absolute rent is defined by the federal authorities. As noted earlier, the valuation scheme is productivity adjusted for important costs—concepts familiar to a market-driven valuation scheme, even without the basic market standard.

Although land ownership has been privatized, the nature of this privatization provides limited transaction information. Large collective and state farms were privatized into large agricultural enterprises, not individually owned farms. Owners hold shares in the enterprise, not identifiable plots of land, and sales are of these shares. Therefore, the price from a transaction does not link to any parcel of land.

Industrial Land and Land under Transport, Communication, and Other Utilities

Industrial land is divided into six categories: land under small firms, under large firms, under firms associated with roads, under firms associated with defense, under communications firms, and under railroads. Land under large firms is valued on the basis of market value, as defined in a “Methodology for Market Value Assessment.” Defense land is valued as agricultural land. The other categories are valued according to the procedure used to value the land contiguous to it.

Enterprises must pay the tax even if they do not use the land they hold, thus encouraging use of the land and distribution of the land to those who will use it productively.

Urban Land

There are fourteen categories of land use in urban settlements (Government of Saratov Oblast 2003), and distinct valuation coefficients have been derived for each, according to locations (blocks) within the urban area. The tax base equals the value per square meter in a block,

as determined by the land use category, multiplied by the area of the plot of land. The fourteen categories are as follows:

1. Lands under multistoried residential housing.
2. Lands under individual residential houses.
3. Dacha (summer houses) and gardening union lands.
4. Land for garages and auto parking.
5. Lands underneath retailers, catering services, household services, gas stations, and auto service stations.
6. Land owned by educational institutions and organizations; lands underneath health and social security, physical education and sport, and arts and culture institutions; as well as land underneath religious objects.
7. Lands underneath industrial objects, housing infrastructure objects (various heating stations and the like), objects of material, technical and food supply, sales and storage; underneath objects of transportation (excluding land parcels that belong to gas stations, automobile service stations, garages, and car parking); and underneath objects of communications.
8. Lands underneath administrative, managerial, and communal objects; lands of businesses, organizations, and institutions in finance, credit, insurance, and pension funding.
9. Land under defense establishments.
10. Lands underneath health improvement and recreational use objects.
11. Agricultural lands.

12. Lands under forests in settlements (including forests within city limits), under other plants (bushes and the like) not counted as a forestry fund (including parks, forest-parks, lawns, and boulevards).
13. Lands underneath stand-alone (individual) water objects.
14. Other lands in settlements (including reserved lands and the like).

Valuation coefficients for the fourteen categories of land were developed for each settlement according to federal guidelines (Federal Land Service 2001).

The manner in which valuation coefficients were derived can best be explained by describing how the city of Saratov, in the Volga Region of the Russian Federation, arrived at its coefficients. The city was divided into 1,028 cadastral quarters, and an electronic cadastral map was produced that indicated how the quarter fared with respect to a number of factors derived from federal guidelines describing the valuation process for settlements. Each individual municipality developed its own parcel valuation factors.

Information on the effect of these factors was gathered through a questionnaire administered to different categories of social experts, including municipal officials, architects, attorneys, and others. The same questionnaire was used in each settlement in the Russian Federation with a population exceeding 50,000. Coefficients of value were generated by using a mathematical model based on information in the questionnaires. The coefficients measure the quality of the cadastral quarter, thereby providing a cadastral value for one square meter in each quarter for each of the fourteen possible land uses (Federal Service of Land Cadastre 2003). (Far more factors are used in this approach to valuation than in Western mass appraisal models. Almy [2002, 46] notes that the use of so many factors can cause appraisers to discredit actual market data, because the

market may not recognize some influences that the factor-based appraisals held to be important.)

Smaller settlements compiled their own individual matrices, which include coefficients of values for all fourteen types of land use allowed for areas within their borders. By definition these matrices are less complex than those generated for larger cities.

There is another complication for urban land valuation. In Soviet times, only structures could be owned, not the land under those structures. This is particularly relevant for apartment buildings. Previously, people owned their apartments but not the land on which the buildings were situated. Under the reformed system, apartment buildings formed condominium organizations that own the land under the buildings. Apartment owners then own shares of the land, according to the area of their apartments, and pay the land tax according to that ownership. The apartments themselves are covered by the personal property tax previously described.

This valuation scheme for urban land is driven by the notion that attractiveness of location is the major determinant of value in urban settings. This concept is very similar to that encountered in market-driven assessment systems.

Forest Land

Forest land is considered to be in light use and is valued without the value of growth on the land. Currently, the cadastral value is 3,460 rubles per hectare (roughly US \$130 at current exchange rates).

Land under Water

Water is federal property and not taxed, and there is no cadastral value established for it.

Land in Specially Protected Areas

These lands include hunting lands, national parks, recreation lands, children's camps, sanatoriums, and the like. The land is assessed at market value.

Land Reserves

Land reserves are government-owned land that is not taxed.

In summary, the system of cadastral valuation represents a considerable change for landholders. The most obvious change is that many if not most property holders face sharply higher land tax payments. The cadastral valuation system will increase the tax base from that used under the out-of-date normative values. This change may induce property holders to be more attentive to productive use of land; it will not be so easy to take land holding for granted. For the most important land categories—agricultural, urban, and industrial, the assessment concepts, although not current market value, are generally comparable to those in a market-based system. This represents an important transition from the old normative value system and could provide a bridge to market value assessments as markets continue to develop and as transaction prices become more transparent.

Some Concluding Observations

The new system of cadastral valuation of land marks a considerable change from the previous one of normative valuation. The change can have a radical effect on both land and fiscal systems, but it would be incorrect to categorize the valuation standard as current market value. The standard can best be considered to be *market informed*. In other words, the forces that would be expected to influence market values of land—location, productivity, accessibility, typography, access to infrastructure, and so on—are formally included in the process for determining cadastral value. The private firms that carry out cadastral valuation are certified by the national government; they employ the methodologies developed by the national government; and as another line of business, they also perform private appraisals to estimate current market values of parcels. Those performing cadastral

valuations understand the principles of current market value. Unfortunately, real property transaction values are not recorded and are not publicly available, meaning property holders have no easy way to test the validity of cadastral valuations relative to market values. In addition, the data limitations create a significant barrier to instituting a system of assessment based on market value. However, the cadastral system is created with many basic principles of market valuation and, with development of real property markets and data transparency, could provide a transition to that system.

Identifying the bare land value of a particular agricultural parcel is further complicated by the process used for privatizing ownership of many collective farms. The large collective farm was divided into several agricultural companies and individuals own shares of these companies. When a person sells, the sale is of a share of the company, not an identifiable parcel of land. Therefore, there can be no meaningful match between cadastral value of a parcel and its selling price.

The valuation changes are considerable, with some effects that are emerging now and others that promise to become important as the system is more fully installed throughout the country. Some points are worth particular mention.

Balancing Tax Rates

First, two property taxes—the land tax on cadastral value and the local personal property tax on individuals—will make up the new tax structure for local government. (There is no clear concept of single ownership title to land and structures combined in Russia. In general, they are considered two separate properties. Any merged real estate tax—like that in the Novgorod and Tver experiment—would need to surmount that complication.) To avoid discriminating against investment and economic development, the rate on structures should not be higher than the rate on land.

(There are, of course, strong economic development incentives for taxing only land and leaving structures untaxed and it would be possible to operate a system of local government on this basis. This is the system that has been adopted in Estonia, for instance.)

Unfortunately, for many individuals, the rate limits for the land tax would be considerably lower than the limits for structures. That is certainly the case for agricultural and residential land and possibly the case for industrial and settlement land. Structures owned by legal persons, of course, are not taxed under the local property tax regime, but those values are taxed as part of the regional tax on balance sheet values of fixed assets, so a reasonable relationship for these values will be extraordinarily difficult to produce. In general, it will be difficult to get the appropriate balance between the effective tax rate on land and the effective tax rate on structures. Not only do statutory rate rules differ, but also the valuation structures for the two classes of property are dramatically different, because land is valued under the cadastral system and structures are valued under the rules of technical inventory or balance sheet valuation. It will be almost impossible for local governments, inexperienced as they are in property tax rate setting, to get a sensible relationship between the two tax rates.

Updating of Cadastral Values

Second, cadastral values (and the cadastre itself) will need updating if land markets develop, because there will be divisions of land plots that will have to be tracked through the cadastral valuation system to obtain accurate division of values. (In many regions, land use controls are rigid, and conversion of use is difficult; these controls will need to become more flexible if areas are to develop.)

And even if land transfers do not materialize, revisions will still be necessary. Inflation is not yet fully under control in the Russian Federation. The recent

record on inflation (CPI) is as follows: 2001, 18.6 percent; 2002, 15.1 percent; 2003, 12.0 percent; 2004, 11.7 percent; 2005, 11 percent (Interstate Statistical Committee 2006). That means that real cadastral values will decline from year to year and will be moving further and further away from any connection to market values. Moreover, because local governments using the property tax as a means of financial support are severely limited in their ability to increase their land tax rate, yields from the tax will not maintain their purchasing power. Local governments will quickly develop significant financial problems unless those cadastral values can be adjusted to reflect inflation.

Even if flat-percentage adjustments were made to the value of each individual property, there would be costs from that updating. And should there be any effort to do more than flat adjustments, the cost would be even greater still. If the market value of some parcels declines, then property owners will feel mistreated unless there is a mechanism to reduce cadastral values and taxes accordingly. Indeed, there are already questions about agricultural land valuations based on soil quality. The quality studies were conducted in the 1969–1989 period, and in some areas, quality has changed because of erosion, depletion of nutrients, management practices, or spread of waste. Crop use of agricultural lands has changed with product markets. Valuations need to be adjusted due to the changing crop patterns, condition of the lands, and changed transport infrastructure and market points. The cadastral valuations must be changed to keep up with structural change.

A Quandry

Third, the cadastral system of valuing land in all uses combined with the new expectations placed on the land tax for support of units of local self-government potentially creates a difficult quandary. The maximum tax rate that can be levied

is controlled and, by international standards, is low. However, the new system of local government finance anticipates that the taxes on property will be the predominant tax source for local services. The problem is clear: Will the permitted rates be sufficient to support the government services provided by these units? It is a cruel hoax to provide local autonomy on the one hand, while setting those governments up for failure from lack of adequate fiscal resources on the other. The finances of these municipalities must be carefully monitored to ensure that the fiscal rules have not been established in a way that prevents successful operation of these governments. The rate limits may be too low for fiscal viability of these units of local self-government.

At the same time, there are concerns that the new tax may place too heavy of a burden on property holders. While Russia has transitioned to a system in which all land use results in some payment, either through taxes on owners or through rents paid by occupiers, this new tax represents a significant change from the common or social ownership of the past and, recently, extremely low payments for land use. As a result, landholders are accustomed to low payments for land, and even though tax rates are controlled, the burdens of the new tax may be extreme, relative to the low incomes of many people (pensioners and the like). It would be tragic if the low rates impose a burden sufficiently high that people must abandon or sell their apartments or if the relationship between taxes and rents becomes such that people choose to deprivatize their properties. Many Russians have extremely low cash incomes and thus face difficult land tax obligations from their privatized apartments or land plots, so great attention must be given to protecting them from unanticipated effects of the new land tax system. Some oblast administrations have already suggested that their municipalities not use all the rate maximums permitted by law.

Lack of an Appeal Process

Finally, property valuation is done by government officials or their representatives. In such a taxpayer-passive administrative system, taxpayers should understand the valuation system and have an open avenue for appealing these official decisions. And there needs to be a clear test for valuations. This presents a problem for the cadastral valuation system, because the only check is whether the established valuation methods have been followed. The test is not the valuation itself, which is likely the only thing visible to a property holder. Any arbitrariness in the system or its application or any mistakes in the valuation would not be apparent and hence not likely to be challenged. Indeed, it is not an exaggeration to argue that it is impossible for a taxpayer to challenge the outcome of cadastral valuation. To know whether a taxpayer's share of the cost of financing local governments is equitable, the taxpayer must be able to determine whether all properties have been valued for tax purposes according to the same standard. This is virtually impossible for the average taxpayer to do, because under cadastral valuation the standard is the process, not the result. Should a taxpayer be inclined to appeal for whatever reason, there is no appeal process available.

The cadastral value basis for land taxation in the Russian Federation represents a major accomplishment. It moves the system of taxation in a more systematic, more rational, and less arbitrary direction, even as many taxpayers face much higher land tax obligations. These changes are consistent with the general transition of the Russian economy toward one driven by market principles. They can bring both a more stable and sensible fiscal structure for local governments and a more efficient pattern of land utilization. These are useful changes.

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