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# **WIDER WORKING PAPERS**

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Reform in Uzbekistan**

**Simon Johnson and  
Bakhtior Islamov**

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**PROPERTY RIGHTS AND ECONOMIC REFORM IN UZBEKISTAN**

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## I. Introduction

Most Western analysts of Soviet Central Asia emphasize the problems caused by rising nationalism, the rapid growth of the Muslim population, and the continued power of traditional political elites. For the most part, this kind of analysis suggests not only that recent political and ethnic developments are more significant than attempts at economic reform, but also that there is little basis for optimism about the prospects for economic development in Uzbekistan. This paper takes a different view. Using economic reasoning based on trade theory and Western economic history, we argue that the recent emergence of individual property rights in Uzbekistan indicates that real, market driven economic changes are underway. We interpret this as a positive development which is driven by the collapse of the administered economy, and by the emergence of local politicians who support the development of markets. In effect, we offer a rational choice interpretation of recent economic and political events in Uzbekistan.

Our argument, which is developed in detail below, is intended to complement rather than to contradict the established analysis of demography, ethnicity and the partocracy. The relative size of Muslims in the Soviet Union is certainly rising fast: according to the 1989 All-Union Census, this group already comprises about one-fifth of the total Union population and was responsible for almost half the national population increase between 1979 and 1989. Some western predictions suggest that by 2010 about half of the Soviet population will be Central Asians (Szayna 1991), and that this ratio will increase to two-thirds by 2050 (Kingkade 1988a and 1988b). Uzbeks are already the third largest national group in the Soviet Union. These facts suggest a

Malthusian pessimism: perhaps there is too much population and too little land to allow reasonable growth in per capita incomes.

Another source of pessimism about Uzbekistan's economic prospects arises from the attention paid to national conflicts, for example in Fergana, Parkent and Osh between Turks, Kirghizes and Uzbeks. It is certainly true that during "glasnost" various nationalist demands have been made in Uzbekistan. If interethnic conflict increases, economic development will be much harder to achieve.

Even more damaging to economic development is the third prevailing view: that the recent economic changes and Uzbekistan's qualified acceptance of a continued Union is primarily the work of the same established political elite. This view holds that the local partocracy has adopted some reformist and some nationalist rhetoric in order to strengthen its position, but its primary goal is to maintain its authority. Even worse, it may be using the slogan of "economic reform" to conceal a return to traditional, feudal patterns of economic control.

Our view is rather different. We begin with the uncontroversial observation that the central government -- meaning the previously powerful combination of the all-Union Communist Party, Gosplan, Gosnab and the branch ministries -- have lost control over the macroeconomy. This loss of control has many implications, but we focus on just one: the loss of control over the allocation of goods, and the implied rise in the marginal value product of labor in small-scale firms and farms. With the collapse of old administrative restrictions, labor and other mobile factors of production can move to the higher productivity small-scale sector. Most capital, however, cannot move easily -- the lack of capital markets is a widely recognized feature of post-

communist economies (Hinds 1990). This fact suggests to us the specific factor model used in international trade, which would predict an increase in the return on assets which are specific to the small-scale production sector. But the previous property rights to these assets were not well-defined, so we would expect also to see an increase in the demand for property rights in the small-scale sector. The evidence suggests this demand has brought forth its own supply of property rights, in the form of a political coalition which supports promotes private property and which has established statutes to codify common law rights to use property. Not only does it appear that this acquisition of property rights is driven primarily by market forces, but there is also evidence that it is resulting in higher levels of output in the small-scale sector. Although this process undoubtedly causes conflict between people with rival claims to property, because significant endowments of resources are at stake, it may also be considered "efficient" -- because it facilitates increases in productivity.

We follow an established economics literature by defining "property rights" to be the residual rights of control over an asset (Grossman and Hart 1986). These rights are residual because discretionary control over the asset is usually constrained by specified conditions in agreed contracts, which may be explicit or implicit. This definition of property rights focuses attention on de facto control over an asset, rather than de jure ownership. It also allows us to discuss the formation of property rights even when these do not satisfy the conditions for an efficient system of property rights -- such as exclusivity, transferability and universality (Posner 1972).

Although our rational choice approach may appear quite unusual for analysing the problems of the Soviet Union, in fact one of our main points is

that existing views of the Soviet Union can easily be recast in the language of property rights. The term "property rights" is seldom used in the western literature on the Soviet Union, principally because the state clearly held the residual rights of control over most assets. There may have been conflicts between different levels of the state, or between the state and the party -- for example, there is evidence that regional party secretaries had considerable power to intervene in the use of assets (Hough 1969). There were certainly contradictions in the various contracts which managers were required to fulfill, and this created some scope for managerial discretion (Berliner 1957, Granick 1954). But the residual rights of control were held by the planning authorities, the party, and the ministries. These rights could be exercised by individuals, but only in their official capacity. There was a system of property rights, but not one which could be considered efficient. In fact, the Soviet Union greatly resembled the medieval kingdoms which refused to grant individual property rights which were exclusive, universal and transferable -- primarily because the ruler realized this would reduce his power (North 1981). In western Europe, modern property rights developed over centuries. We argue below that such property rights are emerging much faster in Uzbekistan.

The idea that economic reform of communism involves changes in property rights is not new, although the previously preferred term was "institutional change" (Stark and Nee 1989). Indeed, a leading idea among in Eastern Europe is that full private ownership is essential for the proper functioning of markets, and that economic reform must involve privatization of most productive assets (Hinds 1990, Lewandowski and Szomburg 1989). This literature assumes that private ownership is a necessary condition for market-



oriented behavior and particularly for hard budget constraints (Kornai 1990). But the emphasis in Eastern Europe is on the need for effective central government privatization policy, and the debate is about what will be effective (Frydman and Rapaczynski 1990, Lipton and Sachs 1990). The situation in Uzbekistan is different, because there has long been a substantial underground economy in the republic, and because there was a particular sequence of events: in 1987-88, the central government removed the coercive threat which precluded private property and then lost control over the macroeconomy and relative prices; this was followed by the Uzbek government promoting the private seizure of property rights after 1988, and finally by republic legislation which legitimizes these new property rights. The primary driving force for private property is now, and has been to some extent ever since the end of Stalinism, not government policy, but rather the desire of many individuals to have property rights and to act predominantly in their own self-interest. The distinction is critical: government policy has permitted some private property rights throughout the Soviet Union, but in Uzbekistan individuals have perhaps gone furthest in using this permission and in establishing new rights.

Our argument is closely related to historical studies of the development of property rights in capitalist countries, which emphasize that changes in relative product prices created incentives for people to acquire in property rights -- in effect, there was an increase in demand for property rights (Feeny 1988, North and Thomas 1973). This appropriation of property rights likely reduces the externalities associated with technical innovation and improvements in the organization of work, and can be argued to represent the first step towards a modern economy (North and Thomas 1973).

But there is an important, probably unique feature to the Soviet Union: individuals began the process with only very small endowments of assets, and only a small fraction of all assets in the economy already have clear owners. In addition to any efficient reallocation of ownership rights (Grossman and Hart 1986), there is also a massive degree of wealth allocation. Economists prefer to build models with initial endowments of resources assumed given, but for a great many resources in Uzbekistan such an assumption is not reasonable

The remainder of this paper has three sections. Section II derives testable predictions from an informal model of endogenous property rights. In section III we argue that the available evidence provides at least partial support for these predictions. Section IV concludes by suggesting some tentative implications of our analysis.

## II. A Model of Endogenous Property Rights

We initially assume the Soviet economy can be modelled as a two-sector model with two specific and one mobile factors of production: capital is specific to each sector and labor is mobile between sectors. (In section III we also allow land and cattle to move between sectors.) We further assume an unusual dichotomy between sectors: large-scale and small-scale production. Large-scale production in Uzbekistan means capital-intensive industry and cotton production, small-scale production includes food production on household plots of land, consumer goods and services associated with retail trade and some industrial inputs -- such as transportation.<sup>1</sup>

Large-scale enterprises, industrial and agricultural, were the mainstay of the planned economy, and both received and delivered goods in accordance with a physical plan. Some small-scale production was allowed, but was

discriminated against -- particularly through being denied access to goods. The productivity of labor in small-scale activity was therefore kept low, to reduce the incentive for labor to move into that sector.

Perestroika can be interpreted as initially removing the limit on labor productivity in small-scale production, which would account for the rapid rise in small cooperatives after their legalization in 1987. Measures adopted by the Uzbek government helped to demonstrate a real change in official attitudes to private production. Subsequent all-Union laws, particularly measures in 1990 which allowed purely private production, can be seen as confirmation that the central government does not intend to seize private property. But the central government's loss of control over the macroeconomy and over goods can also be interpreted as removing all guarantees from the rate of return on large-scale production, or as lowering the effective relative prices paid for these goods -- reducing the marginal value of labor in this sector.

Given our assumptions, the specific factors model of international trade gives interesting results. The mobile factors of production, primarily labor, will move into the sector with the highest marginal value product of these factors. There should be an increase in the market value of specific factors in the sector which attracts the mobile factor. In a normal capitalist economy this would merely be an increase in the rate of return on assets employed in that sector. But in a country with no clear system of individual property rights, a rational choice model would predict that an increase in the relative value of an asset should induce the formation of individual property rights in that asset (North and Thomas 1973, Feeny 1988).

Given these changes we would also expect an increase in conflicts between individuals over property rights. It seems plausible that property

rights will be established when the resulting benefits outweigh the costs of enforcing these rights (Demsetz 1967). In the current Soviet situation, the demand for property rights should also induce improvements in the dispute resolution mechanisms in the economy -- a form of induced institutional innovation. We might also expect that rival claimants to property will attempt to form political coalitions to gain the support of the government's coercive powers: might makes right.

The fact that individuals want a system of property rights -- because these rights have become more valuable -- does not mean that they will get them. A system of property rights requires the existence of a government willing to enforce it: "The essence of property rights is the right to exclude, and an organization which has a comparative advantage in violence is in the position to specify and enforce property rights," (North 1981). It is common in the West to view property rights as a public good which it is economically rational for the government to provide -- because this will increase the productivity of the economy. Nevertheless, it is not necessarily in the government's political interest to provide these rights (Bates 1988, North 1990).

However, our trade-based model can be extended to allow testable predictions about political behavior. Specifically we adopt three assumptions made in a recent study of the effects of changing patterns of international trade on domestic politics: "that the beneficiaries of a change will try to continue and accelerate it, while the victims of the same change will endeavor to retard or halt it; that those who enjoy a sudden increase in wealth and income will thereby be enabled to expand their political influence as well ...; and that, as the desire and the means for a particular political

preference increase, the likelihood grows that political entrepreneurs will devise mechanisms that can surmount the obstacles to collective action," (Rogowski 1989, p.5).<sup>2</sup> If our theory is correct, we would expect to see evidence of a political realignment with a new political coalition emerging based on the express intention of establishing property rights in small-scale production. We therefore expect to see induced political change alongside induced institutional change -- both are essential to the establishment of property rights.

Of course, in order for our test to have any power, we need to specify a reasonable alternative hypothesis. This is hard to do because not much attention has been paid to property rights in the Soviet Union. However, the leading alternative explanation for apparent economic change in Soviet Central Asia is that everything benefits primarily and is controlled by the partocracy -- the established Communist elite. This is a "top down" theory of the changes in property rights, and one which resembles interpretations of "nomenklatura privatizations" in Hungary and Poland (Levitas and Strzalkowski 1989, Stark 1990).

If this alternative hypothesis is reasonable, we can suggest a fair test of our theory. Presumably transactions costs, especially negotiations costs, would cause elites to appropriate large pieces of property -- so they would acquire the more resources per transaction. However, if the process is driven by market incentives and the actions of many individuals, we would expect to see property rights emerging first over small pieces of property. This test is then consistent with an established view in the economics literature, that property rights will be established first where the benefits are higher and where the enforcement costs are lower (Demsetz 1967).

### III. The Evidence

Unfortunately, the problems of data availability in the Soviet Union preclude us from directly testing how rates of return have changed on assets in large- and small-scale production. However, there are eight pieces of relevant evidence which can be evaluated. The first piece of evidence is based on statistics which have already been published in the West (International Monetary Fund et al 1991), but the rest is based on new Uzbek statistical material.

First, it is clearly true that Uzbekistan has, relative to the rest of the Soviet Union, an established tradition of "private activity". Table 1 shows that the percentage of labor in 1988 employed privately was 11% in Uzbekistan, but only 2% in the Russian Federation (RSFSR) -- with most of the difference due to farming on individual plots. In 1988, in Uzbekistan, Turkmenistan and Tadjikistan only about 52-55 percent worked in State enterprises, while the average for the USSR was about 75 percent. There are also established networks of private Uzbeki traders, active in "peasant markets" throughout the Soviet Union.

Second, we know without a doubt that the central government lost control over the macroeconomy after 1988 and has had increasing difficulties in controlling the supply of goods (International Monetary Fund et al 1991, Directorate-General 1990). One of the new stylized facts is that enterprises which remain closely tied to the plan have great difficulties obtaining goods, but enterprises which can buy and sell in markets do better. These developments have weakened the bargaining position of the center: for example, in summer 1989 Uzbekistan was able to obtain a doubling of procurement prices for cotton and a 20% reduction in the cotton production plan.<sup>3</sup>

Third, there is evidence that labor has moved into small-scale production. Tables 2 and 3 show a rapid rise in private sector employment in Uzbekistan, particularly on individual plots in agriculture. Table 2 also shows a rise in output and capital of all sectors, but given the measurement problems in the Soviet economy these numbers should be regarded with caution. A most impressive change in the individual sector occurred in 1985-1990. Within this short period employment almost doubled, mostly due to the sharp growth of individuals working in farming plots -- rising from 655,000 to 1,111,300 people. (The total employed labor force in Uzbekistan is 10 million.) More than half the growth of employment in the cooperative sector was connected with the formation of new cooperatives -- which are usually based on privately owned assets. Furthermore, by January 1st, 1991 there were 1,400 completely independent households working exclusively on their own farms with a combined land area of nine thousand hectares.<sup>4</sup>

In 1990 alone the number of cooperatives increased 1.2 times, with more than 300,000 employees (including 121,600 part-time workers). The share of cooperatives in construction and production consumer goods in employment was respectively 40 percent and 18 percent, and their output exceeded 50 percent of total cooperative output.<sup>5</sup>

Fourth, we can look at a second mobile factor of production in Uzbekistan: cattle. Again the evidence is strongly that the cattle is moving, probably literally, into the private sector. Table 4 shows this movement for the main categories of farm animals in Uzbekistan. Table 5 lends credence to the view that the shift of resources is causing an increase in output -- 1990 was a very good year for all products derived from animals. This point is confirmed by Table 6, which shows higher output for all crops in 1990, with

the significant exception of cotton -- the reduction in cotton acreage is a conscious policy of the Uzbek government.

Fifth, the evidence on leasing is that a higher proportion of small-scale firms are currently leased than large industrial enterprises: Table 6. By January 1, 1991, there were 59 large industrial plants leased to tenancy employing 32.2 thousand workers. But leasing is being introduced much faster in retail trade and in services: within the last year about 2,500 small and medium sized shops, canteens, taxi and service firms were "privatized" in this way. This evidence fits with our model both because we argue Uzbekistan has a higher marginal value of labor in small-scale production and because we argue the barriers to entry in small-scale production are less. This evidence also tends to reject the alternative hypothesis that elites are manipulating the establishment of property rights, because if only elites were active in this process, lower transactions costs would lead them to acquire the property rights in large firms -- and in fact there is evidence of this in Ukraine (Johnson 1991).

Sixth, there is clear evidence of induced change in the legal framework for property rights, particularly from changes in the distribution of land -- which can also, to some extent, move between sectors. The share of arable land distributed between farmers at the expense of collective and state farms almost doubled in the last year and a half, increasing by 183,000 hectares to reach 408,000 hectares. (There are about 2 million hectares of arable land in Uzbekistan.) Within this period, after the decrees of the Uzbek President in summer 1988 on the development of individual households production, 1.5 mln. households in the republic were formally received new or additional personal plots, one-third of them for the first time. Clearly, the Uzbek government



began this process by permitting and even promoting private land use. But the speed with which land has been obtained by households is remarkable, and must indicate positive, market-based incentives for households. The average size of the plots increased from 0.12 to 0.17 hectares and in two regions, Djizak and Khoresm, to 0.23 hectares.<sup>6</sup> In the first three months of 1991, 22,300 hectares of land were distributed, and 71,000 of young cattle -- less than one year old -- were sold along with about 200,000 tons of fodder. By the end of 1991 the total amount of arable land distributed among households is planned to increase by a further 108,000 hectares and reach up to 538,000 hectares.<sup>7</sup>

At the beginning of 1991, the Parliament of Uzbekistan adopted a number of significant economic laws: on ownership, on enterprises, on Banks, on taxation and on entrepreneurship. These new laws recognize private property, guarantee equal treatment to different forms of ownership, and give the right to hire and fire employees -- in essence they endorse and legitimize property rights which have already been established in Uzbekistan.

Seventh, there appears now to be a political coalition which is actively promoting the private sector. There is a new, influential voice for private farmers: the Association of Individual Farmers -- and it does not appear to be controlled by the old partocracy. Its links to the government were made clear on March 18, 1991, when the President of Uzbekistan signed a decree which granted this Association 1 billion rubles, to be passed on to individual households -- 250 mln. in April-June, 250 mln. rubles in July-September, and 500 mln. rubles in October-December. This assistance was intentionally not passed through the Ministry of Agriculture, to avoid the usual bureaucratic problems. This aid is explicitly intended to stimulate personal plots, especially the supply of fruit, vegetables, meat, milk, and eggs. The

government sees higher agricultural production both as helpful to the spread of market relations and as a way to help establish Uzbek economic and political sovereignty.

An obvious question is why should the communist party of Uzbekistan support the establishment of private property? Why are the economic reformers in the republic inside the party, while almost everywhere else in the Soviet Union they are in opposition movements? The answer is simple: in the brief Andropov period there was a brutal purge of the Uzbek communist party, organized by investigators from Moscow. Many aspects of this purge are now considered to be unjust: some evidence was suppressed, especially documents which suggested that corruption also involved Moscow, and many ordinary citizens were punished very severely. But one inadvertent result of this purge was crucial: the Central Committee of the Uzbek Communist Party became dominated by urban and rural technocrats who wanted to reduce the opportunity for capricious action by the central government. The old corrupt bosses of state and collective farms were weakened by the purge, and decision-making power has begun to shift from the party to the government. These developments mean that the present governing coalition is well disposed towards the rule of law and a greater role for the market -- including respect for property rights and real privatization, beginning with small-scale assets.

Eighth, in November 1990 after discussions in the Supreme Soviet of Uzbekistan it was decided that the enlarging of private use of land should be on a lease basis. The three main reasons for this decision are illuminating. First, the government wants to avoid disruptive conflicts over land, especially because there are not yet efficient mechanisms for resolving such conflicts. Leasing is a device for postponing conflicts over property.

Second, there is also a fear that the old partocracy would be able to buy up freehold land and reestablish its power. Third, the scarcity of water means that the allocation of water rights is a very sensitive issue.

While we do not consider these eight pieces of evidence to be conclusive, they are certainly suggestive. In the presence of two important preconditions -- existing networks of private Uzbeki traders, and new Uzbeki political leadership in the mid-1980s -- the relaxation of property regulations has led to a rapid growth in small-scale business. New private property forms are being established, and the current ruling coalition in the republic is trying hard to promote private enterprise still further.

#### IV. Conclusions

Because we have suggested a new interpretation of recent economic changes in Uzbekistan, it is important to emphasize that our claims are modest. We are not saying that the movement of resources into smaller scale, and more nearly private, production has already produced modern economic development or democracy. There is some limited evidence of "efficiency" gains -- narrowly defined -- but given that many Soviet prices do not reflect scarcity values, and given the pervasive presence of monopolies, we certainly would not make any statements about social welfare. We also make no claims at all about whether this process is fair.

Our explanation should be seen as complementary to, rather than contradicting, existing views of Soviet Central Asia. We do not dispute that some groups have made extreme, nationalist demands -- in fact, we worry that these demands may become associated with claims for property rights, despite some government efforts to reduce conflict over land. There is evidence for

other parts of the Soviet Union that ethnic conflict is behind some claims for property rights.<sup>8</sup> We also do not deny the demographic trends, but we are inclined to be suspicious of Malthusian pessimism: the economic development of western Europe was certainly correlated with rapid population growth, and some would say was caused by it -- specifically, because it led to more exclusive property rights (North and Thomas 1973). We are also aware of the important environmental problems in Central Asia -- in fact this is a classic problem of externalities and the difficulties of establishing universal property rights.

Our model suggests two other tentative ideas. First, there is the question of why small-scale privatization is proceeding rapidly in Uzbekistan and more slowly in Russia and Ukraine (Johnson 1991). In large part this may be because Uzbekistan has a higher labor-land ratio, which makes in small-scale agricultural production feasible, and established "traditions" which reduce the barriers to entry in small-scale urban activities. Putting the matter delicately, there is also evidence that bureaucrats in Soviet Central Asia have always been more inclined to take an equity position in non-state enterprises, and such relationships probably also reduce the costs of establishing property rights. There were also two important differences between Uzbekistan and other Soviet republics in 1985: there were already extensive networks of private traders, and there was a new set of political leaders who were not from the old partocracy.

Second, it might seem puzzling that the central government has faced considerable opposition to the introduction of its economic reforms (Sachs 1991), while the Uzbek government seems to be in the enviable position of building reforms by first legitimizing the processes which were based on previously underground activities, and then attempting more widespread

reforms. The answer to this puzzle probably lies in looking at who are the winners and losers. The winners in Uzbekistan are small-scale producers, rural and urban, and their technocratic sponsors. The gains are concentrated and local, particularly strengthening the republic government in its negotiations with the center. The losses are primarily for the administrative-command system, especially in Moscow -- further weakening the central bureaucracy -- and for old leading members of the partocracy, such as chairmen of collective farms. In contrast, the Soviet government's macroeconomic stabilization measures were blocked in fall 1990 by fearful managers of large firms (Rutland 1991). They feared, probably correctly, that a market economy would reduce the rate of return to factors specific to their sectors. There is evidence in the spring of 1991 that the only kind of economic reform which is proceeding in the Slavic republics is spontaneous privatization -- although there it is primarily in large-scale production.<sup>9</sup> The people and regional governments which are obtaining property should be seen as positioning themselves to survive and even to benefit from the current "war of attrition" in the Soviet Union, in which no one is yet willing to suffer the costs of stabilization -- see the model in Alesina and Drazen (1991).

Our explanation for the development of property rights in Uzbekistan does not imply economic reform in that republic is irreversible or will necessarily go smoothly. There may well be demographic or nationalist problems. We only wish to point out the similarities between contemporary Uzbekistan and other countries which have experienced the formation of private property rights. There is pressure from ordinary people for a sustained transition to private property and the market, and this pressure is manifest

most clearly in the taking of property rights. So far the Uzbek government has promoted this process with supportive measures, particularly statutes which codify property rights. The next logical stage is already underway: the republic government is attempting to gain greater control over all-Union property located in Uzbekistan, and to use property to further economic reform.

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## Endnotes

1. A more conventional assumption would be that the two sectors are capital goods and consumer goods, but some consumer goods are produced in large factories and have been particularly hard-hit by the breakdown of official supply chains - because they are traditionally the lowest priority in the state sector. Many such goods, however, such as clothing, have substitutes which can be produced on a small-scale.
2. Rogowski uses the Heckscher-Ohlin model and the Stolper-Samuelson theorem as the basis of his analysis. Together these predict that when a labor-rich, land-poor country is opened up to international trade, it should increase its production of goods which use labor relatively intensively, and workers should gain while landowners lose. These results are suggestive for Uzbekistan, but we prefer the specific factors model because of some factors of production are clearly not mobile in the Soviet Union.
3. Interview with Islam Karimov, the President of Uzbekistan, in *Komsomolskaya Pravda*, March 7, 1991.
4. *Pravda Vostoka*, February 6, 1991.
5. *Pravda Vostoka*, February 6, 1991.
6. *Pravda Vostoka*, February 14, 1991.
7. *Pravda Vostoka*, April 30, 1991.
8. In both Latvia and Estonia some firms have changed their property form because their predominantly Russian workforces did not want to be under the supervision of the republic government (Rutland 1991).
9. This analysis resembles models of the sustainability of trade reform, such as in Fernandez and Rodrik 1991.

Table 1. USSR: Labor Force by Employment Status by Republic, 1988  
(In percent of total for republic)

	Total Labor Resources	Employed Total	State enterprises	Collective farms	Private activity	Students	Other <sup>1</sup>
USSR	100	85	75	7	3	7	8
RSFSR	100	86	80	5	2	7	7
Ukraine	100	86	72	12	2	7	7
Belorussia	100	87	74	11	1	7	6
Estonia	100	85	76	8	2	7	8
Latvia	100	87	76	9	2	7	7
Lithuania	100	86	73	10	2	8	7
Moldavia	100	87	67	13	7	7	6
Georgia	100	88	74	8	6	7	5
Armenia	100	81	70	3	8	8	12
Azerbaijdzhan	100	70	56	8	6	8	22
Kazakhstan	100	81	75	3	3	8	11
Turkmenistan	100	82	52	19	11	9	9
Uzbekistan	100	76	55	11	11	10	14
Tadzhikistan	100	77	53	11	14	10	13
Kirghizstan	100	80	62	9	9	10	11

Source: *Statisticheskie materialy* (1989), p.30.

<sup>1</sup>Includes housewives, soldiers, religious functionaries, and unemployed.

Cited by International Monetary Fund et al, 1991, Vol.1, p.219.

Table 2. Uzbekistan: Public, Cooperative, Individual Sectors  
of the Economy in 1985 and 1990

	Employment, thousand of people		Output, billion rubles		Production Capital stock, billion rubles	
	1985	1990	1985	1990	1985	1990
Total	4875.5	5774.8	45.2	51.2	56.2	69.3
Public Sector	3058.3	3192.6	36.6	39.3	49.6	61.3
Cooperative Sector	1159.4	1461.4	5.2	7.3	4.9	5.7
— collective farms and their associ- ations	978.1	1054.0	4.0	5.2	3.8	4.0
— consumers ' cooperative societies	181.3	229.0	1.2	1.7	1.1	1.5
— new cooperatives	—	178.4	—	0.4	—	0.2
Individual sector	657.8	1120.8	3.4	4.6	1.7	2.1
— individual plots	655.0	1111.3	2.9	3.4	1.7	2.0

Source: Goskomstat of Uzbek SSR (see *Pravda Vostoka*, February 6, 1991).

Table 3. Composition and Average Growth Rates of Labor  
in Uzbekistan's Economy in 1985 and 1990  
(by sector in percent)

	1	2	3
Sectors	1985	1990	Average growth rates in 1985-1990
Public	72	66	1.6
Cooperative	18	20	5.1
Individual	10	14	11.2

Source: Goskomstat of Uzbek SSR (*Pravda Vostoka*, February 6, 1991).

Table 4  
 Distribution of Cattle in Uzbekistan (January 1991)  
 (thousands)

	Total		In households	
	1990	1991	1991	1991
Bulls and cows	4180.2	4437.0	2443.2	2725.4
Cows	1644.7	1772.7	1206.8	1336.9
Pigs	742.9	691.6	13.5	19.3
Sheep and goats	8785.6	8968.8	3260.5	3611.8

*Source:* Goskomstat of Uzbek SSR (*Pravda Vostoka*, February 7, 1991).

Table 5  
Output of the Main Cattle-breeding Products  
(thousand tons)

	Average per year			
	1981-1985	1986-1990	1989	1990
Meat (netto)	377.8	439.7	477.8	491.3
Milk	2447.8	2789.1	2929.3	3024.7
Eggs, mln.	1773.3	2300.3	2429.1	2478.0
Wool (brutto)	24.1	24.6	24.4	25.7

*Source:* Goskomstat of Uzbek SSR (*Pravda Vostoka*, February 7, 1991).

Though in 1990 consumption of meat per capita increased by 4 kilograms in comparison with average consumption for the previous four years and reached 33.7 kilograms and milk by 18 kilograms, 1,512 kilograms, the absolute levels of these important products are still very low.

Table 6  
Output of the Main Crops  
(thousand tons)

	Average per year		1989	1990
	1981-1985	1986-1990		
Grains				
brutto	2450.2	1791.4	1640.8	2046.3
netto	380.1	1692.1	1555.4	1897.2
Raw cotton	5159.0	5112.5	5292.3	5057.5
Vegetables	2505.8	2626.3	2596.1	2726.8
Potato	305.2	307.5	324.6	334.6
Fruits	780.9	615.2	543.2	651.6
Melons	930.3	842.2	931.8	948.2
Grapes	614.8	630.1	416.1	731.9

*Source:* Goskomstat of Uzbek SSR (see *Pravda Vostoka*, February 6, 1991).



Table 7  
Sectoral Distribution of the Firms leased to Tenancy by 1/01/91

Sector	Quantity of firms	Output mln. rubles	Share in total product of the industry (in percent)
Industrial enterprises	59	961.8	4.1
Retail trade firms and canteens	2282	1885.7	10.3
Service firms and their associations	139	20.4	4.6
Public buses and taxi associations	10	66.2	15.0

*Source:* Goskomstat of Uzbek SSR (*Pravda Vostoka*, February 6, 1991).

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