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**Measuring the Progress of Economic Reform in the  
Countries of the former Soviet Union**

by

Alexander Sundakov, European II Department 1/

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**Abstract**

Improvements in the medium-term potential of economies in transition may for a number of years be obscured by poor macroeconomic performance. This paper considers how the underlying systemic progress can be measured independently of the behaviour of aggregate variables. The key features of the market economy are the central role of the price system in the allocation of resources, de-centralized price formation, and the role of present and potential competition in imposing discipline on market participants. Hence, we examine three types of indicators for monitoring transition. "Framework" indicators record the development of market institutions. "Performance" indicators track the extent to which prices indeed reflect relative scarcities in the economy. "Structural" indicators measure adjustment and competition in various sectors of the economy.

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## I. Introduction

In the medium term, structural transformation of the FSU countries from centrally planned to market economies will be measured by sustained growth in real per capita GDP with low inflation. However, improvements in the medium-term potential of an economy may for a number of years be obscured by poor macroeconomic performance. There are time lags before benefits of microeconomic reforms become felt, transition and stabilization tend to impose short-term costs, and, moreover, the fall in the output of the state sector may well be better captured in the official statistics than a rise in private output. Consequently, the traditional measuring rods of performance--output, inflation, employment--may be relatively less useful in tracking the progress of economies in transition.

The comparison of GDP and inflation performance in 1992 of the two biggest FSU states--Russia and Ukraine--illustrates the issue. In that year, GDP fell by an estimated 19 percent in Russia and by 14 percent in Ukraine. The average annual inflation was 14.5 times in Russia and 15.5 times in Ukraine. These figures indicate a fairly similar experience for the two countries. Yet, this was clearly not the case. In 1992, Russia made significant progress towards the development of market institutions, including rapid growth of the commercial banking sector, abolition of the bulk of state orders and the commencement of the mass privatization program. By contrast, systemic reform in Ukraine was limited. The private sector remained negligible and the majority of key inputs for industry, including credit, continued to be centrally allocated.

Consequently, the question that this paper addresses is whether the underlying structural progress can be measured independently of the behavior of aggregate indicators. Ideally, one would want to have a few summary statistics, which, akin to the macroeconomic indicators, would be largely unambiguous, easily comparable between countries and would capture the essential features of microeconomic performance. This is a tall order. First, there is still considerable debate about the relative significance of various microeconomic reforms. There are numerous important institutions in an economy that need to be changed to improve the medium-term potential. Consequently, it is not immediately clear what the priorities for monitoring should be.

Second, the sequencing of microeconomic reforms is important. The economy's performance may depend on the order in which markets are liberalized and institutions are created. Thus, the same observed microeconomic changes may have different implications, depending on what other reforms are in place, and depending on how far the overall transformation is advanced. For example, credit rationing early on in the process of reform might be regarded as relatively benign, while at later stages poorly functioning financial markets could begin to pose major risks for growth.

Third, market and government institutions interact in numerous and complex ways, and there is no easy correlation between any particular system of market regulation and government intervention, and economic performance. To understand the effect of any particular microeconomic measure, it is frequently necessary to examine the policy in considerable detail and in the

context of the relevant institutional and historical background. This makes it dangerous to rely on summary measures and difficult to compare microeconomic reforms across countries.

While it is important to appreciate the complexities of tracking systemic reforms, operational requirements of dealing with economies in transition demand practical techniques for measuring structural progress. The objective of this paper is to identify a range of indicators which, while not clear-cut in themselves, would provide a consistent and coherent underlying framework for the broad judgements which are inevitable in the assessment of microeconomic progress.

## II. Policy Context

Systemic reform and macroeconomic stabilization are interdependent elements of a policy aimed at achieving sustainable growth. For example, changing the legal status of enterprises through privatization or corporatization may have a limited effect on their behavior as long as they continue to face a soft budget constraint. There is little incentive for managers to re-orient towards the market if they are able to obtain credits at negative real interest rates which allow them to preserve habitual practices. The necessary fundamental re-orientation of decision making from political to economic criteria will be retarded while managers devote most of their energies to lobbying for credit allocations or fiscal subsidies.

The causality runs the other way too. Diffusion of ownership and the emergence of competition in the product markets may create a deterrent to monetary and fiscal laxity. Private businesses could, in the right

circumstances, provide a powerful constituency for low inflation and to fight against fiscal preferences granted to their state-owned competitors. The availability of goods made in the private sector may make it easier for governments to withdraw subsidies from the producers of "essential" consumer commodities.

Since macroeconomic policies and systemic reforms are inter-linked, a successful financial stabilization may itself be an indicator of systemic transformation. A sustainable stabilization implies price liberalization and the imposition of hard budget constraints on enterprises. However, in order to remain manageable, this paper examines systemic issues within a more narrow context. The key features of a market economy, whether it is enjoying macroeconomic stability like New Zealand or suffering from severe imbalances like Brazil, are the central role of the price system in the allocation of resources, de-centralized price formation and the role of present or potential competition in imposing discipline on market participants. In this context, the keystones of transition are the emergence of the major market institutions, the change in the structure of the economy towards the "best practice" benchmark of market economies, and the efficiency with which resources are allocated.

Consequently, to monitor transition in this narrow sense, we are interested in how economic agents form and respond to prices, even if these price signals are distorted by macroeconomic imbalances. First it is necessary to know whether legal institutions--such as clearly defined property rights--exist to enable the price system and market competition to perform their functions. Second, we may ask if the structure of the economy

is beginning to respond to the new price signals. Finally, it is important to establish that prices indeed reflect relative scarcities in the economy. Thus, potential indicators will be examined under the corresponding broad headings of "market framework", "structural" and "market performance".

### III. Market Framework

The setting up and the continued refinement of the institutions of the market economy--laws, regulations and implementation agencies which underpin private activity--are the chief tasks of transition to a market economy. Yet, it is particularly hard to produce brief and consistent overviews of these developments which would allow cross-country comparisons and tracking over time. Changes in the legal environment resist quantification, and experience with cross-country comparisons of regulatory frameworks 1/ suggests that they require extensive research efforts and lengthy descriptions. Moreover, distinction has to be made between the laws and decrees themselves--something that at least can be readily listed--and their implementation.

At the same time, no measure of systemic reform would be complete without some impression of how activity is regulated, what costs the laws and their application by government bodies impose on market transactions, and whether the regulatory environment encourages rent-seeking rather than productive activities. Although judgements and possibly guesses are inevitable in any attempt to form a broad impression out of the mass of detail, it would be useful to impose some structure and consistency on the

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1/ See, for example, Blommenstein and Marrese, 1993.

analysis. For example, it would be helpful to document recent developments in different countries under a small number of set analytical headings which would capture the chief features of the market framework. This is an approach adopted, for example, in the comparative studies of the tax systems.

The main consideration is how to organize information in a way that would spotlight the most relevant features of a regulatory regime. On this basis, the following headings appear to offer the most interesting analytical insights:

-- **Completeness.** The first issue is whether the laws required to enable various kinds of market activities, from the formation of limited liability companies to the transfer of property titles, are in place, and whether they adequately cover the main requirements of market activity. For example, a few FSU countries still do not have a bankruptcy code, and some of those that do, do not define clearly the rights of debtors and creditors, making them largely unworkable.

-- **Capability.** The existence of institutions capable of implementing the laws and regulations is another crucial issue. It would be useful to assess what resources are being devoted to government administration and the legal system, which agencies are up and running, the ability to attract high-caliber people into the key public posts, and the clarity of the lines of command. In general, the reader should be able to form an impression of how effective the market framework is.

-- **Stability.** The regulatory framework needs to be predictable in order to enable medium-term decisions to be made. For example, no-one is



likely to invest in real estate unless they are reasonably sure that they will be able to retain the title to that property. Similarly, frequent changes in foreign trade and exchange regulations are likely to be destabilizing, e.g. foreign trade regulations in Ukraine underwent at least five major changes during 1993.

-- **Transparency.** The issue here is whether the requirements imposed by regulations are clear and verifiable. The less transparent a regulatory framework, the more discretion it grants to individual officials. This may encourage corruption and creates an incentive for entrepreneurs to divert resources to attempts to by-pass legal requirements. For example, most FSU countries impose a licensing regime on the export of raw commodities. These regimes tend to lack transparency and generate enormous rents. However, where quotas remain, the development of quota auctions could be regarded as a movement from a less transparent to a more transparent regulatory regime.

-- **Market Friendliness.** This category calls for an overall assessment of the market framework, in particular, whether it facilitates the entry of new competitors and allows effective challenges to the old ways of doing things. For example, a World Bank survey of private entrepreneurs in Ukraine at the end of 1992 found that the process of business registration with the local authorities was regarded as a major obstacle; by mid-1993 this issue was no longer at the top of the agenda as law firms with the right expertise and connections began to appear.

Market framework also encompasses the physical infrastructure. A modern market economy can not function without the communication, distribution and credit systems. The development of these systems also

needs to be enumerated. For example, it appears that Russian Federation is leading its neighbors in the development of a modern banking system.

Russian commercial banks are becoming increasingly sophisticated, and a few major ones satisfy the World Bank's "international standard" criteria.

Overall, individual countries could be ranked and tracked through their performance under these analytical categories with relative objectivity. Systematic and ongoing monitoring of this type might also help penetrate the claims of various authorities vying for the "reformist" status.

#### IV. Structural Benchmarks

A well-known feature of formerly planned economies is that both their ownership structure and the structure of production tend to differ from developed market economies. Formerly socialist countries begin the transformation process with a dominant state sector, high levels of market concentration, <sup>1/</sup> and a relatively greater proportion of GDP being produced by heavy industry. The structure of employment is correspondingly different, with fewer people employed in the service sector, and more in manufacturing and agriculture.

Structural differences are readily measured by the relative size of the public and private sectors, and the distribution of value-added and employment by sector. Concentration ratios in a variety of markets in different countries could also be calculated, although this type of data is not readily available. This section examines how these ratios can be

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<sup>1/</sup> Although the degree of concentration is now being questioned, e.g. Brown, Ickes, and Ryterman, 1993.

interpreted, and to what extent the progress of reforms can be tracked through their changes.

1. Ownership structure

An increase in the ratio of private to public sector is, at first glance, an obvious measure of progress for economies in transition. There are a number of issues, however, which complicate the analysis. The first question is what constitutes the private sector. Formerly planned economies have adopted a variety of privatization policies, with state enterprises being leased, sold to investors at large and to workers' collectives, and converted to joint-stock companies. Many enterprises are owned jointly by the state and by private individuals. Table 1 illustrates the variety of the emerging forms of ownership for the case of Ukraine. It is not always immediately clear how these hybrid forms of ownership are to be understood, and how enterprises are to be assigned to the public or private sectors.

Leased enterprises tend to play a relatively important role in the FSU countries since the Soviet law on leasing represented a first attempt at *de facto* privatization. On the one hand, leasing may exhibit many features of private enterprise. Lease-holders are driven by their own self-interest, are free to use the assets under their control as they wish, and depend for their survival on their market performance. On the other hand, leasing is often seen as a mechanism for the old nomenklatura to protect itself from true privatization, and as an obstacle to future reform. The management of leased enterprises, even if it performs poorly, can not be challenged by outside investors. Moreover, since leases can not be sold, managers may have a perverse incentive simply to consume the assets of the enterprise.

The nature of joint-stock companies is equally ambiguous. The shares in these companies are largely held by state-owned enterprises, municipal authorities and directly by government ministries. There is very little, if any, participation by private investors. And yet, these companies have many important features of private corporations. They are governed by boards of directors appointed to represent the financial interests of the shareholders, who earn dividends on their shares. Although stock markets hardly exist, shareholders are able to sell or transfer their stock in some way. Outside investors, both public and private, are able to participate in such companies both through equity and debt. Overall, despite the identity of its owners, an appropriate analogy for a joint-stock company of this kind may be a Western corporation with a large proportion of stock held by a public pension fund. The dominant owner may be a public sector body, but its claim is held through a market mechanism and the company is substantively private.

Even if an enterprise is formally privatized through an auction, the difficulty of interpretation remains. Most FSU countries offer "workers' collective" privileged access to the purchase of the enterprise in which it is employed, including up to 30 percent discounts on the highest bid price and term payment plans. For example, the Russian privatization program has reportedly resulted in the workers' collectives owning a large proportion of newly privatized enterprises. This type of ownership, although nominally private, in practice may have little in common with private enterprise. Individual workers are often not able to sell their shares without the

collective's permission. Workers leaving the enterprise are, as rule, required to surrender their shares, possibly at a nominal price.

The effect of such "closed" privatization is to insulate enterprise managers from the pressures of capital markets and to vest control with the insiders. For all intents and purposes, this is little different from the governance of state enterprises under the newly acquired autonomy from branch ministries. Employees are, in any case, the main constituency which the management of a self-financing state enterprise must satisfy. Consequently, an apparent mass privatization program which results in widespread collective ownership of this kind may, in fact, be a retrograde step if it simply creates a new legally and politically defensible basis for preserving the status quo.

Overall, great caution and considerable judgement are required in interpreting the changes in ownership structure in economies in transition. Progress, if any, should probably be seen as a broad movement from "more or less state-owned" to "more or less private", and a single private-to-public ratio is unlikely to capture the complexity of this process. Moreover, since legal details differ from country to country, even a more detailed classification, such as laid out in Table 1, may offer little guidance without a great deal of background explanation.

Even if "private" and "public" labels can be assigned to enterprises sensibly, there is still the issue of how changes in such a ratio are to be assessed. Initial growth of the private sector is crucial for the process of transformation. An economy where about 10 percent of activity is produced by the private sector (e.g Russia) may be significantly different

from an economy where it accounts for only about 5 percent (e.g. Ukraine). However, as the relative size of the private sector grows, further increments in the ratio probably become relatively less informative about the progress of transition. For example, there seems to be a broad consensus that in 1992, the Czech Republic with about 20 percent of GDP produced by the private sector, Poland with about 30 percent and Hungary with about 40 percent 1/ were more or less in the same ball-park with respect to structural transformation.

Once the private and public sectors are approximately equal in size, the immediate virtues of further privatization of the economy may be debateable. For example, periods of rapid growth in East Asian economies appeared consistent with a significant level of public ownership. In Taiwan state-owned enterprises accounted for 51 percent of manufacturing output in 1955, while Indonesia, a relative late developer in that region, produced 60 percent of its manufacturing output in the state sector in 1987. 2/ While the role of the public sector tended to diminish in those economies as they matured, the pace of change was slow. 3/ An increasing significance of the private sector in East Asian economies is probably more appropriately seen in evolutionary terms, rather than as a deliberate process of structural reform.

Thus, in monitoring and advising the economies in transition, the significance of the relative decline of the state sector for the growth

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1/ These numbers exclude co-operatives.

2/ See Petri, 1993, pp. 16-17.

3/ By 1990, 19 percent of manufacturing output in Taiwan was produced by state-owned enterprises.

performance of those countries should be assessed with caution. Very early on in the process of transformation, the pay-off from effective privatization would tend to be high. During later stages (as measured by the private-to-public ratio), marginal changes in the ownership structure are likely to provide less of a clue to the adjustment taking place in a country's economy.

## 2. Output structure

There is considerable evidence that the pattern of production tends to be linked to economic development. In general, as per capita GDP grows, agriculture tends to decline in importance, while the service sector grows. Formerly planned economies are widely regarded as being over-invested in heavy industry and military production, at the expense of consumer goods and services. Consequently, it may be possible to monitor the process of transition through changes in GDP shares of various sectors as the economy evolves towards a more market-based structure. For example, Winiecki 1/ uses Chenery-type regressions 2/ to argue that at the present level of per capita GDP, agriculture in the former Soviet Union should decline from an average of 16 percent of GDP to 7.5 percent, and industry from an average of 62 percent to 38 percent, while the service sector should grow from 22 percent to 54.5 percent of GDP.

While some of the insights provided by such ratios are intuitively plausible--the relative scarcity of services in the FSU is plain to see--these indicators do not track transition unambiguously. There is no

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1/ See Winiecki, 1993.

2/ Which use samples of market economies to estimate "normal" weights for each sector at a given level of per capita GDP.

*a priori* reason why any economy should have a particular structure of production. One could argue, for example, that due to their historic physical and human capital investments, some FSU countries will continue having a comparative advantage in the production of heavy machinery and military equipment. They might maximize their welfare by becoming exporters of those goods and importers of everything else. Therefore, transition to a market economy might conceivably be consistent with relatively little change in the composition of the GDP.

Despite the lack of information about comparative advantage, changes in economic structure are frequently used to track and even plan development. One example of this approach is presented in Table 2, which shows manufacturing structure in Korea and Japan, and a projected development strategy to the year 2000 prepared by the Korea Institute of Economics and Technology, affiliated with the Ministry of Trade and Industry, in 1985. <sup>1/</sup> The logic of this indicative strategy is that Korea is following the same development path as Japan, but with a lag of about 20 years. There appears to be a strong correlation between Korea's output structure in manufactures in 1983 and Japan's in 1965. Thus, development in Korea is envisaged as more or less replicating by the year 2000 Japan's structure of 1983.

This type of structural planning and monitoring sits uncomfortably within the traditional framework of economic analysis. It requires heroic assumptions and appears to ignore considerations of factor endowment, relative prices, economies of scale, changes in world demand over time, and

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<sup>1/</sup> As quoted in Kim and Leipziger, 1993.



other considerations which determine at the level of the firm which activity is profitable and which is not. Yet, precisely this kind of approach is implicitly adopted every time FSU output structures are compared to some kind of market economy "norms."

The other side of the coin is that observed changes in output structures do not necessarily indicate a different pattern of production. If FSU countries continue piece-meal liberalization and struggle to control inflation, it may be some time before relative prices settle to some sort of stable equilibrium. Consequently, in the short term, as relative prices gyrate, GDP shares may change substantially with little, if any, structural adjustment taking place. In this regard, information on employment shares could provide a useful check on the distribution of value-added. However, employment changes themselves may be retarded by various subsidies to unprofitable industries, which delay the laying off of surplus labor.

Overall, in the short term, observed changes in the structure of production would seem to be neither a necessary nor a sufficient indicator of progress in transition to a market economy. Observed changes in output structures provide a useful input into the overall assessment of economic performance--combined with information on prices, profitability etc.--but should be interpreted with caution.

### 3. Market structures

Certain legacies of central planning have been identified as impediments to the transition to a market economy in the FSU countries. Primary among these is the apparent monopolistic structure of industrial production and trade. Arguably, the benefits of a market system can not be

fully realized in a monopolized economy. Many FSU governments have already enacted anti-monopoly legislation and established enforcement agencies.

Anti-monopoly committees in some countries (e.g. Ukraine, Russia and Belarus) have started compiling lists of monopolies. While their methodology is unclear, and may prove inappropriate, 1/ the data gathered by these agencies could provide a useful start to monitoring the evolution of competition in these countries. If information exists, it would be possible to calculate Herfindahl indices (which measure both concentration and a relative size of enterprises) for each output category using standard industrial classifications. Changes in these indices would track the evolution of market structures and indicate the development of competition.

Concentration indices of various kinds are not uncontroversial-- although they are used by the anti-trust authorities of different countries, debate continues about the very usefulness of the traditional structure-performance paradigm. Concentration ratios essentially measure deviations from the paradigm of many firms, each possessing little market share. However, intense competition may exist in markets characterized by high levels of concentration and a few dominant firms--take, for example, global competition between Coke and Pepsi. Moreover, there is no well-established link between the extent of domestic competition and economic performance. For example, while the US enforces strict anti-trust laws at both federal and state levels, Japan tends to tolerate, and in some ways even encourage, formation of domestic cartels.

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1/ In particular, there appears to be a tendency to define monopolies in terms of enterprises' share of domestic production, rather than in terms of their total market share taking account of imports.

Consequently, the use of market structure as a summary indicator of transition is fraught with the same difficulties of interpretation and judgement as the use of ownership and production structure measures. In addition, since a comprehensive data gathering effort would be required, one needs to ask whether the informational value of concentration ratios outweighs the cost of constructing them. In this regard, it would seem desirable to encourage national anti-monopoly authorities to develop and monitor such indices in preference to the rather arbitrary measures which appear to be used at present.

Overall, the three types of structural indicators--ownership, production and market--together carry considerable information about a country's transition from central planning to a market economy. None of them, however, can be used as summary statistics of reform, and their use requires country-specific analyses and explanations.

#### V. Market Performance

Transition from central planning to a market economy is, primarily, a move to substitute price signals for quantity rationing as the chief mechanism of resource allocation. Consequently, the progress of reform can be thought of in terms of the gradual elimination of the vestiges of a shortage economy--where consumption is constrained by the inability to obtain goods at posted prices--and by the emergence of market-clearing prices. Market efficiency in this context can be measured by the elimination of arbitrage opportunities--which would indicate that informed and active trading is taking place--and by the continuity of supply.

In a developed market economy, the allocation of resources takes place through many inter-connected markets. Conversion from central planning will inevitably begin with many markets missing or in a rudimentary state. Strictly speaking, the absence of a single market may disrupt the equilibrating capacity of the whole system. However, experience from Eastern and Central Europe suggests that broad equilibria--in the sense that arbitrage opportunities are exploited to eliminate queuing and to bring official and parallel market prices to convergence--are likely to be achieved fairly quickly following decisive reform. Thus, during the early stages of transition, the progress of microeconomic reforms could be tracked in terms of the narrowing of differentials between official and parallel market prices of the same goods, between the prices of those goods in different localities, and between official and black market exchange rates. Once these broad equilibria are reached with the advance of reform, the monitoring effort would need to switch to a more in-depth overview of the growth and deepening of the main asset markets.

1. Shortages

Most FSU countries collect a wide variety of price statistics for the main consumer goods, broken down both by market type and by locality. This information, if interpreted with caution, provides considerable insight into the progress of microeconomic reforms. In particular, the differential between parallel market and official prices may be used as a measure of

shortages, caused both by price controls and by other types of government intervention. 1/

A price premium in the parallel market can be broken down into three components--a quality differential, a risk premium and a measure of excess demand at official prices. Quality differences are unlikely to be a major explanatory variable since price data in the FSU countries tend to be confined to domestically produced goods, which have a narrow product range and little systematic variations in quality. The risk premium associated with trading outside the official network would differ between countries, but in most FSU economies is likely to be small. Few unofficial trading activities remained unlawful, and it appears that the enforcement effort against those that did was limited. Consequently, although it is important to have a clear understanding of the context in which price data are gathered, by and large it seems safe to focus on the price differential as an indicator of shortage.

An important caveat in interpreting this indicator is that the bulk of transactions must continue to take place through official channels at posted official prices. If this were not the case, and most transactions actually took place in the unofficial markets, the official posted price would have little significance, and the price differential could no longer be viewed as a measure of shortage.

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1/ For an application of this indicator see Sundakov, Ossowski and Lane, 1994.

Chart 1 shows an example of such an indicator for the case of Ukraine. In this case, the price differential measure was derived from an *ad hoc* sample of 6 food items (such as potatoes and cheese) and 11 nonfood goods (including items of clothing, irons and color televisions) supplied by the Ministry of Statistics. Despite its idiosyncratic composition, the indicator provides a useful track of the vagaries of price reform in Ukraine in 1992--a sharp narrowing of the differential following price liberalization in January, further liberalization of food prices but an imposition of profit margin controls on manufactures in July, and a renewed tightening of the price regime towards the end of the year. Similar indicators could be constructed for other FSU countries, and their precision may be improved by better sampling.

Shortages may also be measured more directly by checking the availability of items at state stores, and counting the line length. For example, data are available on the availability of selected foodstuffs in state stores in a sample of 76 major cities in Russia. <sup>1/</sup> Thus, in its February 1994 report, the Goskomstat quotes the "coefficient of availability in retail trade" for major consumer goods. For the food-product group, the coefficient stood at 82 percent in February 1994 compared to 57 percent in February 1993. For the nonfood products, the corresponding coefficients were 90 and 76 percent.

An advantage of this kind of data is that it also provides information about the continuity of supply--an important factor reflecting the

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<sup>1/</sup> See, for example, Koen and Phillips, 1993, who quote data prepared by the Goskomstat of the Russian Federation.

transition of the distribution system to a market basis. A peculiarity of the centralized distribution sector is that, quite apart from an overall imbalance between demand and supply, it had few feedback mechanisms, often produced random short-term shortages in some individual locations and over-supply in others. Thus, even if prices remained distorted through controls, information on variations in availability and line length could be used to oversee changes to the domestic trading arrangements.

## 2. Arbitrage

The persistence of unexploited arbitrage opportunities between markets, even if each one individually clears, is an indicator of market imperfection and possible policy interference. Although such opportunities are likely to be numerous, it is probably sufficient to track a small number of key areas of trading in order to have an overall sense of how market processes are developing. Perhaps the most interesting information is likely to be contained in the regional differences in the prices of tradeable goods and in the different market exchange rates for cash and noncash local currency. The first indicator would signal the state of development of the goods market, while the second says much about the financial markets. Consistency of currency cross-rates could be another signal of the developing efficiency of foreign exchange markets.

For example, while the Russian ruble was the legal tender in the majority of CIS countries, the CIS Goskomstat collected information on the ruble prices of selected goods in various cities of the Commonwealth. While the physical transaction costs of doing business in the CIS are very high, it seems unlikely that the striking differences which could be observed were

fully explained by the cost of transportation between these locations. Clearly, something--probably inter-state trade barriers--was preventing enterprising individuals from buying goods in low-price cities and selling them in the high-price ones. A broad-brush comparison like this can not explain what the individual impediments are, but it provides a simple and tractable signal that the impediments do exist. A track of regional price differentials over time would indicate progress towards more efficient markets as prices converge.

The existence of different exchange rates for cash and noncash currency is, similarly, a signal of financial market imperfection. In socialist economies, cash and noncash modes of money circulation were distinctly separate. As market institutions began to develop, the wall between the two modes became increasingly more permeable. In an increasingly sophisticated financial system--such as already achieved in Eastern Europe--the distinction, of course, disappears altogether. In this context, early stages of transition can be monitored in terms of the increasing convergence of the value of the two types of money on the currency markets.

Overall, market performance indicators discussed in this section are less ambiguous than the structural indicators examined earlier--in the sense that poor market performance is clearly a bad thing. However, judgement is required in deciding which markets are to be monitored and in ensuring the reliability of the data.



## VI. Conclusions and Recommendations

Systemic transformation is at the heart of transition from a centrally planned to a market economy. However, the very complexity of the economic systems makes it very difficult to monitor this transformation in a concise and systematic manner. The tendency to date has been to produce *ad hoc* evaluations of microeconomic reforms which are not directly comparable across countries and which are not always helpful in assessing the dynamic potential of the economy.

This paper has attempted to identify a set of indicators and presentation techniques which would provide a more systematic basis for the monitoring of structural reforms. The analysis in this paper suggests that a useable framework for measuring structural progress should consist of:

- (i) documentation of developments under a small number of set headings as described in the "Market Framework" section of this paper.
- (ii) quantitative presentation of developments in market structures in the economies in transition, accompanied by the analysis of legal and practical impediments to the contestability of ownership.
- (iii) quantitative tracking of the existence of parallel markets in the economies in transition and the analysis of price differentials between the dominant and parallel markets.

While the proposed framework is by necessity judgmental, it would reduce ambiguity and facilitate comparisons. It is also interesting to note that since the over-arching role of prices is a key feature of a market economy, much of the information required to track transition is contained in the existence of various arbitrage possibilities. The information

content of market performance measures appears to surpass all others, suggesting that such measures should be the focus of data-gathering and analysis.

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