

Understanding Regional Patterns of Economic Change in Post-Communist Russia

Philip Hanson

My aim in this paper is to summarise the findings of a three-year project on regional patterns of economic change in post-communist Russia. Sadly, we cannot after three years cross our hearts and say that we now understand everything about what drives economic change in every Russian region. That would be a tall order in any country, large or small. But we do believe we have learnt something useful.

Before embarking on a description of our findings, I shall offer answers to three preliminary questions. Why study this subject? What are the issues we have addressed? What methods have we used?

The subject of regional patterns of change matters because post-communist economic change plays out differently in different regions of a country; and regional differences in adaptation both shed light on the micro-economics of post-communist change and feed back to macro-economic adjustment in the country as a whole. And these considerations loom particularly large in Russia.

It is not merely that differences in average real incomes across Russia's 78 provinces (oblasts, krais and republics) increased in 1992-98 - though they did. There were large regional differences in real income under communism.¹ It is above all that central planning has gone, and much economic decision-making is now territorially devolved. Economic activities in Sakhalin, Kemerovo or Tiumen' are still affected by macro-economic policies made in Moscow and, in some cases, by decisions made in company head offices in the capital. But they are also now driven by the decisions of local households, firms and politicians, in ways that were largely absent in the communist era. They are also directly influenced by foreign firms and movements in foreign markets. Under communism such influences were either modified or completely blocked out by the central planners.

This change began before communism collapsed. In the summer of 1990 there was a trade war going on between the city of Moscow and the surrounding regions. A system of so-called *vizitochki* (literally "visiting cards") had been

* The author acknowledges support received for the present work from the ESRC (grant R000236398) and the European Union's Intas programme.

1 This was partly because of great differences in the availability of goods in the shops. A Muscovite could buy a great many things that a resident of Kuibyshev (now Samara) with the same income could not. In general, the change from shortage to rationing by price makes the comparison of real incomes between communist times and the present impossible.

introduced in the capital: Muscovites had to show a Moscow residence permit to buy a wide range of rationed goods in the stores. Many people from central European Russian regions outside Moscow, accustomed in the past to shopping in the metropolis for basic items that were not available in their home towns, were angered. Following the first competitive local elections, in March 1990, every region had local officials who for once had a reason to pay attention to what local residents said. The result was a number of "export" embargoes on deliveries of food to the capital.²

By mid-1999 the results of the whole transformation attempt could best be described as messy. The scale and character of the mess had not been anticipated by orthodox economic theory. Efforts to repair the damage, both to Russia and to mainstream economics, are now under way. Part of that necessary repair work is a closer examination of what has been going on within the regions.

To say that the transformation attempt in Russia has been a failure would be to over-dramatise events. The transformation attempts of 1992-98 were incomplete and fitful. The fall of the "last government of reformers," that of Sergei Kirienko, in August 1998, demonstrated that there was in fact a consensus on economic policy within the Russian political elite. This consensus held across the supposed divide between "reformers" and "traditionalists," even though the inclinations and perceptions of these two groups really were different. The post-reform governments of Evgenii Primakov and Sergei Stepashin continued to restrict money-supply growth and thereby inflation, and sought to restore Western financial assistance by trying, like their predecessors, to meet IMF loan conditions. To that extent, they did not depart from reformist policies. If they have been soft on bank and enterprise bankruptcies, that, too, was no departure from past practice. The so-called reformers also flinched from imposing hard budget constraints on large enterprises or large banks. They thus allowed the restructuring of privatised enterprises and the banking system to be postponed.

Because of the flaky nature of this policy consensus - and not because reformers were outgunned by traditionalists - the economic changes in Russia after 1991 have had strikingly poor outcomes by comparison with similar transformation attempts in Poland, Estonia, Hungary and the Czech Republic. The fact that the economies of Ukraine, Belarus and Uzbekistan, for instance, are in worse shape still, is not particularly encouraging. In Russia in 1998, officially-measured total output was about 44% down from the peak level of 1989. With an occasional, brief respite, recorded GDP has been falling for nine years. Poland, in contrast, is on track to enter the next millennium with its GDP 25% up on 1989.³

This comparative failure of transformation in Russia, and indeed in the whole of the former USSR except the Baltic states, presents a challenge to or-

2 Riazan', Tula, Kaluga and Orel all took such action. *Izvestiia*, 1 June, 1993: 3.

3 See the data and forecasts in the 1998 EBRD *Transition Report*.

thodox economics. As the Commonwealth of Independent States' crisis continued, several approaches have been developed to account for it. What has been happening in the regions is relevant to all of them.

Peter Murrell and others have stressed the difficulties of radical institutional change. Standard neo-classical writings had tended to assume that liberalisation, stabilisation and privatisation policies, changing the incentives of economic actors, would elicit rapid institutional change: that, for example, these policies would quickly impose hard budget constraints on producers, and these in turn would rather swiftly elicit radical changes in the product profiles, internal organisation, workforces and array of customers and suppliers of enterprises; also, that enterprises that did not change appropriately would close.

Those who stress the difficulty of institutional change have pointed to evidence of the impediments to making radical alterations in roles, rules and procedures within any social organisation. This is all the more problematic when the environment in which producers operate is itself being reconstructed, with new property rights, new legislation and new institutions (commercial banks, securities markets, private contracts and so on).

If institutional reform has proved to be more difficult in the CIS countries than it has in Hungary, Poland or Estonia (for example), this might be for one or both of two reasons: that the economic structure inherited from communism was one that was costlier to change in the former (see Blanchard and Kremer 1997 for a modelling of the results of differences in the length of supply chains); or that the social setting (the society's ability to co-operate in voluntary associations, to accept impersonal rules of behaviour, and the like) was more favourable in the latter (Rose 1998).

A close look at what is happening in the regions can help us make a better assessment of these processes of change in Russia. The issues to be addressed in this book all have a bearing on the character of economic change in post-communist Russia.

First of all, they shed light on the micro-economic processes that underlie the macro problems. Is there a single Russian economic space, without administrative barriers to the movement of goods and resources? Is resource reallocation occurring amongst regions in ways that resemble those to be found in established market economies? In so far as inter-regional resource reallocation of a productive kind is occurring, what part is played in this by market adjustment by firms and households, and what part by policy intervention? The gaps between (relatively) rich and poor regions have been increasing (Hanson 1999); but are they increasing in ways that could produce a patchwork of successful and languishing slices of territory, that might threaten Russia's integrity? Why have some regions adapted more successfully than others? Is it all to do with what each inherited (location, resources, population-size, human capital, conurbation-size, initial economic structure)? Or, given those differences, is there evidence that local reformers can affect local outcomes? Can we observe, close up, interest coalitions of local political and business elites that misappro-

priate public funds, prop up loss-making enterprises and impede the restructuring of production? Or do we see business and political elites disengaging from one another and forced to respond to market pressures by abandoning local cronyism and reliance on federal hand-outs? (Or do we see both these tendencies, but in different places?)

Second, an examination of regional change sheds light on the feed-backs from local problems to the development of macro-economic policies. By what channels and to what effect, if any, do local business and political elites influence federal policies? Can the centre effectively control overall levels of public spending (including federal budgets, regional and local budgets, federal off-budget funds and regional and local off-budget funds)? Is an “internal IMF” strategy feasible? In other words, can the federal government use conditionality to monitor and restrict sub-national spending, as an analysis by Freinkman and Haney (1997) suggests? Or is the reality closer to that depicted by several political scientists, of a weak centre desperate to strengthen support in the provinces by providing hand-outs to whichever regional leaders seem to threaten the most political damage? (Slider 1997, Treisman 1998).

It will be obvious from this summary of the issues, that the methods used in this study are not solely those of economics. The University of Birmingham team included two economists (Hanson and Sutherland), one economic geographer (Bradshaw) and one political scientist (Kirkow). The Russian colleagues with whom we have been working include economists (Chernikov, Kuznetsova, Tatarinov), geographers (Artobolevskii, Bylov, Treivish, Zimine), political scientists (Gel'man, Magomedov, Troiakova) and sociologists (Romanov, Tartakovskaia).

The approach we have adopted is as follows.

First, we have focussed on the regional level, and on regional-national links. We have not, with one exception, explored the local level, of municipalities and rural districts. This does not mean that we consider processes of change at the local level to be unimportant, merely that we consider that such processes at the regional level are important in themselves, and not everything can be tackled at once.

What that has meant in practice is that we have been looking at Russia's 77 oblasts, krajs and republics (Chechnia being the 78th). We have not tried to deal separately with the ten autonomous okrugs and one autonomous oblast that make up the 88 (or more frequently quoted 89) “federal subjects.” This is because, in many of the statistical series available, separate data for the “AOs” are not published; they are included in the data for the oblasts and krajs where they are located.⁴

4 The odd one out is the autonomous oblast of Chukotka, which is not simultaneously a federal subject and a component part of a krai or oblast. Where separate data were available for Chukotka, we have added them into those for Magadan.

These regions, and the differences between them, provide a rich field of study. Their average population-size is 1.9 million. That is bigger than one transition economy (Estonia), and by coincidence the same as the average of the European Union's "second-tier" regions. The variation around that average size is huge. Moscow city has over 8 million inhabitants, Altai Republic little more than 200,000. The variance in real per capita personal income levels is also enormous: a coefficient of variation of 49.8% in the third quarter of 1997, with a ratio of almost 1:8 between Dagestan and Moscow city (Hanson 1999) - well above the 1993 range of per capita GDP between the richest and the poorest second-tier region of the twelve-nation European Union, which was 1:5.5 (European Commission 1994).

The remainder of this paper summarises most of our main findings. Detailed numerical calculations (mostly regressions) are in the Annex. I should stress that what I am summarising here is work jointly undertaken by Michael Bradshaw and Douglas Sutherland, as well as by myself, with assistance from Peter Kirkow and Jonathan Oldfield.

I begin with a number of aspects of economic adjustment that could be said to be autonomous and market-driven. That is, they reflect the behaviour primarily of households and firms. I shall then go on to say something about federal policies aimed at influencing patterns of change, and then quote some case-study conclusions about the policies of regional leaders.

‘Autonomous Change’: Agriculture

The main regional consequence of post-Soviet agricultural change is (unusually for post-Soviet regional developments) a blurring of regional differences. It is true that regional administrations have more independence now from the federal centre, and that many are apt, when the going gets tough, to make declarations about (illegally) restricting the delivery of food outside their regions' borders. But their activities in food procurement have dwindled as private food wholesaling has developed. The traditional Soviet notion of 'food-surplus' and 'food-deficit' regions therefore means less than might, in these days of regional autonomy, be expected.

On our working definition of "food-surplus" and "food-deficit" regions, and using 1997 data, we assess 24 regions as "food-surplus," 24 as "food-deficit" and 29 as neither.⁵ Amongst the food-deficit regions thus defined are many

5 Data used from *Rossiiskii statisticheskii ezhegodnik*; calculations by Jonathan Oldfield. We classed a region as 'food-surplus' if its output per head of population of at least four out of five product groups (grain, potatoes, green vegetables, meat, dairy products) was equal to or above the all-Russian average. Conversely, we classed a region as 'food-deficit' if in four out of five product groups its per capita output was below the average - in both cases with the condition that grain had to be one of the four, because of the special importance given to grain in Russian politics.

obvious candidates: Karelia, Komi, Arkhangel'sk and Murmansk in the European North, the cities of Moscow and St. Petersburg, and the entire Far East Macro-Region except Amur. Less obvious food-deficit regions were Nizhny Novgorod, Kemerovo, Sverdlovsk and Tyumen' (if its component Khanty-Mansi and Yamal'-Nenets autonomous districts are included), amongst otherwise "strong" regions, and Dagestan, North Ossetia and Ingushetia amongst economically weak but troublesome regions. Our guess is that the cross-cutting of dependence on food supplies from "outside" with other factors suggesting a propensity to defy Moscow (relative economic strength, ethnic self-assertion) may help to shore up federal arrangements. Conversely, many "food-surplus" regions are in other respects economically weak. This pattern, together with the declining ability of regional administrations to control food movements, probably means that the regional politics of food supply matter less than might at first be expected.

At the same time, regional differences in policy certainly show up in agriculture. Apart from the regional initiatives on land markets, already mentioned, regional administrations have varied in their readiness to allow private plots, for example, to expand – for example, the traditionalist regime in Krasnodar seems to have been quite restrictive in this respect.

'Autonomous Change': Development of New Firms

With the growing liberalisation of the Russian economy in the early 1990s new incentives for individuals and enterprises were created. In this light we assume that the new economic units and activity seen in the period of analysis represent adaptations to these opportunities, that the decentralisation of economic decision making resulted in the creation of economic activity that was not formerly included in the planners' scheme of things.⁶ Three, overlapping, measures of new employment creation are used here. The criterion for these three categories of new economic activity was that they were either absent or almost completely absent in the centrally administered economy. They are private small enterprises, joint ventures, and the financial and "commercial" sectors. The importance of each of these varies across regions, and by no means uniformly, despite the links between them.

Two sectors, distribution and finance, are especially important in the 'new' economy of Russia. In terms of employment these two sectors are more important to the Moscow economy than elsewhere in Russia. The development of the financial and commercial sector is notable in that the regions with comparatively large shares of their employment in these 'new' activities (even though

6 No doubt many economic entities that emerged in the late Gorbachev and early Yel'tsin period may already have existed in the "coloured markets," and as such not represent "new" activities. The opportunity for these actors to be incorporated into the formal economy was, however, new.

that employment may in absolute terms be small) are not what are typically considered “reformist” regions. Partly this may be explained by a kind of two-track development. On the one hand, the financial sector is subject to increasing returns to scale, and this leads to an agglomeration of such activity in Moscow. By the same token, these sectors have also concentrated in regions containing sub-national financial hubs, such as Bashkortostan, but their development there is much less substantial.

The importance of the banking sector, after 1994, can also be seen in the figures given by the ratio of banks to regional population, and per capita bank lending activity. Again no clear pattern at the extremes emerges. The regions with high ratios of banks to population and relatively high per capita lending are a mixture of some of the richest and some of the poorest regions in Russia.⁷ If commercial and financial employment patterns defy simple regional typologies, then the story for joint venture activity shows the attraction of gateways and resource rich regions.⁸ Those regions that attract the fewest joint ventures and least foreign direct investment are typically mainly agricultural regions.

The apparent importance of small private enterprises to local labour markets also shows considerable regional variation and is not apparently linked to any general regional typology. It is possible to examine the factors governing labour demand in small private enterprises to show that much of the growth in employment can be linked to local labour market conditions. See Annex, Box 1.

The estimated equation for the growth in private small enterprise employment in 1994, the last year when consistent data series could be used for such analysis, is relatively robust, and suggests that the growth in private sector employment was relatively well described by considerations of high real wages and unemployment levels dampening down labour demand, while regions with high levels of human capital and productivity were also regions where labour demand from new firms was, *ceteris paribus*, higher.

Although the early growth of the small enterprise sector is relatively well explained by simple neo-classical ideas, what presents a greater difficulty is why the early rapid growth of this sector lasted such a short time, apparently ending in 1994.

7 This would suggest that the financial sector is relatively integrated and that the number of banks is endogenous to lending behaviour. As such it tends to confirm the findings of Bayoumi and Rose (1993) that at a sub-national level capital is more mobile than Feldstein and Horioka (1980) demonstrated internationally. As a result the complaints that over eighty percent of banking sector assets are held by Moscow banks are shown to be unsound by the high per capita lending activity in very poor regions.

8 Much like banking capital the story for foreign investment often suggests that Moscow is the dominant recipient region. Large discrepancies between officially recorded flows at the regional level and other sources on committed investments suggests that where the flows are registered is not always coterminous with the ultimate recipient region.

It is possible to determine the impact of some of the initial conditions on the growth of small enterprises. New geographical economics stresses the importance of regional size. We specify a functional form that will capture whether increasing returns to scale do play a role in the development of small enterprise employment. Although regional size may have this role it is also important to see whether this results from regional size or externalities arising from urban agglomerations. Relative wage costs are fixed by a measure of real monetary income adjusted to give greater weighting for predominantly rural regions. See Annex, Box 2.

The results from this estimation reveal that as the size of regions increases the share of private small enterprise employment to total regional population grows more rapidly, indicating that some sort of increasing returns to scale effect is exerting an influence. In addition, the impact of the share of the urban population also has a similar effect. This suggests that it is not only how urban a region is, but also its overall size. Also, as expected, the real wage measure exhibits a negative relationship. Finally, dummy variables for the Far East and the Urals macro economic regions are required to correct for spatial autocorrelation. The requirement for the inclusion of these dummy variables intuitively makes some sense. In the case of the Far East the rise in transportation costs may have made the importation of some goods prohibitively expensive, allowing the growth of local enterprises filling these needs. In the Urals macro economic region it is possible that the dominance of heavy industrial sectors has hindered the development of this sector.

‘Autonomous Change’: Regional Patterns of Unemployment

The spectre of mass unemployment hung over Russia prior to the start of transformation. Actual developments have shown that the growth of unemployment has been more gradual than anticipated and spatially heterogeneous.⁹ The growth of unemployment is, *inter alia*, related to the region’s industrial structure. Estimating the relationship between the 1995 unemployment rate and the 1992 share of industrial employment suggests a quadratic relationship. One sees that regions with very low and very high shares of industry are those that subsequently experienced larger unemployment rates. This does give an indication of the degree of industrial employment restructuring occurring in Russia’s regions, which is distinct from the observation that industrial restructuring is facilitated by the downward flexibility of the real wage. This relationship is, however, weak, suggesting that industrial downsizing in itself is not a major factor in the growth of unemployment.

One can also see that certain areas of the country are experiencing far higher degrees of unemployment, particularly in the North Caucasus. Else-

9 Measures to restore financial stabilisation in late 1998 may well lead to sharp increases in unemployment rates as the hard choices are finally confronted.

where there has been considerable fluidity in the growth of unemployment. Partly this is due to “individual restructuring,” as people move from those regions experiencing the greatest downturn in economic fortunes. For example, Chukotka had the highest rate of unemployment in 1992, but by 1995 due to out-migration became the region with the second lowest rate. The importance of migration is considered below. For the moment, it is worth pointing out that it has been sufficient to make the regional distribution of unemployment quite fluid.

What one can also say is that unemployment rates have increased, while at the same time dispersion in rates also increased. The greater dispersion in regional unemployment rates tends to indicate a greater mismatch between jobs and workers, which is often associated with duration effects, whereby the greater the regional mismatch the greater the probability of long term unemployment and all the associated problems.

To examine the determinants of the growth of regional unemployment rates a relatively simple set-up is used. The growth of the unemployment rate is a function of the initial unemployment rate, given a particular set of technologies. The set of technologies is proxied by the quadratic of the share of industry in regional employment. However, the dynamic adjustment variables to account for the intuitions of new geographical economics are also included, such as population size, distance, and the likely effects of transportation costs. See Annex, Box 3.

From this estimation one can see that the growth in unemployment can be reasonably explained by the original unemployment rate, even though the cross-correlations of regional unemployment rates across years were not strong, and the share of industrial employment at the beginning of transformation. However, this is not the whole story. Population size and migration also seem important in expected ways. Out-migration is associated with lowering the rate of unemployment and larger regions seem more capable to withstand adverse employment shocks. The impact of distance is also expected in that those regions where inputs are likely to be more expensive are faring worse.

‘Autonomous Change’: Regional Income Differences

There are two salient facts about the inter-regional differences in real per capita household incomes in the 1990s: they are large, and they have been increasing. Some observers have speculated that these differences could become a cause of conflict and even territorial fragmentation. Others (notably Jacques Sapir [1996]) have raised a rather different question: are we seeing two or more quite different patterns of adjustment in different regions, perhaps entailing a lack of market integration of the Russian economy; might this strongly affect long-term growth prospects, creating a situation rather like that of India, where a number of dynamic regional economies have developed but the weight of a huge, backward hinterland had dragged down the overall growth rate?

To address these questions, we need, first, to see what the evidence of increasing regional inequalities consists of; second, to put it in perspective both

in relation to regional inequality elsewhere and in relation to overall (inter-household) inequality in Russia; third, to try to account, if we can, for the differences we observe – what are the factors determining those differences? – and, finally, to see how strong the evidence is of a “leopard-skin” development in which the spots cannot readily be changed and the economy is not a single economic space.

The information that we have on regional incomes is from Goskomstat. It consists of reported average money incomes in each region. It appears that estimates of income in kind, such as subsistence food production, are not included. In general, the estimation of money income is probably rather weak, since much income is not reported. Goskomstat has also published three series that provide partial measures of the cost of living in each region. Because Russian regional price levels differ greatly, it is important that money income data are adjusted to reflect those differences.

The three series that could be used to assess regional costs of living are: the monthly rouble costs of a so-called subsistence minimum; a 19-item food basket, and (from 1996) a 25-item food basket. The subsistence minimum figure is believed to be a number that has been subject to local manipulation. The food-basket series are in that respect preferable, but they cover only part of the household budget.

Neither the money-income numerator nor the cost-of-living denominator, therefore, is as sound a figure as we would wish. On balance, we have chosen to use money incomes deflated by local food-basket costs wherever possible. In interpreting the picture that emerges, however, we have to take account of other relevant knowledge. In particular, the relative poverty of mainly-rural areas is likely to be overstated because of the omission of subsistence food production, which can be assumed to play a larger role in those areas.

At all events, the differences appear to be massive. In November 1997, for example, average money income in Moscow city was 5.8 times the local subsistence minimum, while in the Republic of Tyva it was less than the local subsistence minimum: 0.69.¹⁰ So, on the face of it, the region with the highest average real income had a population 8.4 times better off than the poorest region. Given the likely importance of subsistence food production in Tyva, the real difference will be somewhat less stark. If adding in subsistence food production for Tyva doubled real incomes, and including it for Muscovites added 10% to their real incomes, the ratio would be 4.6:1.¹¹

10 Derived from Goskomstat, *Sotsial'no-ekonomicheskoe polozhenie Rossii*, 1997: XII: 393-4 and 403-4.

11 A report from the Institute of Living Standards in late 1996 suggested that for rural dwellers subsistence food production added 100% to their incomes, while for the population as a whole it was worth an additional 20% (*Delovoi ekspress*, 21.i.97: 16). That is the basis for the guesstimated adjustments used here.

The evidence about changes over time in regional inequality is clear: the dispersion has increased sharply in 1992-97. See Annex, Box 4.

Another way of putting current Russian regional inequality into perspective is to ask how significant it is in comparison with inequality *within* regions, or, to put it differently, how much regional differences contribute to overall inequality amongst Russian households.

The development during the 1990s of inequality amongst Russian households has apparently followed a different path to inter-regional inequality. The latter appears from the evidence in the last sub-section to have grown continuously through late 1997. The former, according to the official data (which are just for money incomes, and ignore cost-of-living differences in different regions), increased sharply in 1992-94, but then levelled off. The ratio of the top 10% of incomes to the bottom 10% (the decile ratio) rose to 14:1 in 1994, declined to 13:1 in 1996 (OMRI *Daily Digest* 15.i.97) and to 12.5:1 in February 1998 (*Ekonomika i zhizn'* 1998: 16:19).

Part of the inequality that is now observable in Russian personal incomes generally, and probably part of its likely increase between the Soviet era and the mid-1990s, can be ascribed to the growing regional differentiation shown in Box 4. But how much of it?

We approximated an answer to this question by constructing a Russian decile ratio in which it is assumed that there is no inequality within regions: in other words, a reconstruction of the national decile ratio as it would have been if the only differences in incomes had been those between regional averages. See Annex, Box 5.

Thus inter-regional income inequalities are not the dominant source of inequality in Russia. But overall inequality has apparently been falling since 1994-95, while the regional component of it has (apparently) continued to rise. In any established market economy, unless inter-regional transfers were exceptionally large, one would expect regional differences in real income to correspond fairly well with regional per capita GDP. For Russia we have gross regional product (GRP) data only for the years 1994 and 1995. In the latter year, as Annex, Chart 1 shows, there is indeed a fairly strong, positive relationship between per capita real income (measured here as per capita monthly money income divided by the regional cost of the 19-item food-basket) and per capita GRP.

In thinking about the sources of regional differentiation in the mid-1990s, we considered a number of possible influences. The most obvious, immediate influence should be productivity. GRP per capita represents the overall level of economic activity per head of population. We have reason, however, to suspect that its coverage is biased towards the established, "old" workplaces, and understates the importance of the new private sector. Also, it excludes by definition not only value added in federal-government activities that cannot be redistributed by region but also value added in financial intermediation (information from Andrei Tatarinov). Those two considerations suggest a downward-biased

estimation for regions containing the emerging commercial-financial hubs, and especially Moscow city.

Studies of individual regions suggested that two main types of region have adapted best to the new circumstances: major natural-resource regions and regions containing the new commercial hubs. What both possess is a capacity for earning revenue from the outside world at a time when domestic demand is depressed. A possible proxy for this can be found in the Goskomstat regional data on inflows of foreign currency (*valiutnye postupleniia*). These numbers are for recorded inflows to the region, including export revenues that are not left offshore or in other regions, credits from abroad and foreign investment in financial form. That there is at least a suggestion of a positive relationship, across regions, between per capita real income (defined as before) and per capita foreign exchange inflows (measured here as a multiple of the average across all regions) is suggested by Annex, Chart 2.

We also considered two other factors. One was agglomeration effects based on so-called Jacobs externalities (Callejon and Costa 1997). Our case-study observations suggested that the shift of workers from old to new activities was easier in large cities than in smaller communities. This could perhaps be attributed to the opportunities for new firms to grow in an environment where many different skills and facilities (premises, equipment) were readily to hand, facilitating the recombining of production inputs in new forms (as we noted in case-studies on Samara and Kaliningrad). The core idea of Jacobs externalities is that the local presence of a wide range of skills and activities lowers the cost of economic expansion for any one firm. This seemed to us to be exemplified in the restructuring we observed in a number of different places. As a proxy measure for such agglomeration effects we used a dummy variable distinguishing regions containing a city of more than 700,000 population from other regions.

The other factor was the strength of local demand. As a proxy (and inverse) measure for this we used the regional rate of registered unemployment. See Annex, Box 6, in which it appears that per capita GRP predicted per capita real personal incomes reasonably well across regions in 1995 but not in 1994, and in the earlier year foreign exchange inflows were a significant influence, but did not improve the 'explanation' from GRP levels in 1995.

The change between the two years is intriguing. A sceptic would say that this is exactly the kind of odd year-to-year change that is to be expected from dodgy data. But a less sceptical interpretation also fits. This is that in 1994-95 the economy was in several important ways adjusting from a period of extreme turbulence. Part of the short-term adjustment to the liberalisation of 1992 was a flow of resources into trading in imported consumer goods. This activity was almost certainly under-recorded in GDP and GRP data, relatively to the activity of established enterprises. It was also likely to be stronger in regions where there were comparatively large inflows of foreign exchange. It is plausible to suggest that between 1994 and 1995 three things were changing. First, the relative importance of such trading in imports was levelling off or even declining. From

separate evidence — see above — we know that the growth of small firms was coming, for the time being, to an end. Second, the established (state and privatised) enterprises were still declining but no longer experiencing a precipitous fall in activity, as they began to cope with the situation – albeit in some very dubious ways. Third, the inter-regional market in foreign currency was probably becoming more integrated.

If these conjectures are somewhere near the mark, we have a reason for expecting that the relationship between a region's measured production and its real household incomes was becoming more "normal." Conversely, the specific regional incidence of foreign exchange inflows was becoming less critical to regional levels of material welfare.

‘Autonomous Change’: Regional Differences in Monetisation: a Leopard- skin Economy?

The fact remains, however, that regional real income-levels were continuing to diverge. This phenomenon has led some writers to suggest that rather more than quantitative divergence may be involved – that economic regimes are sharply differentiated across Russian regions, with some more or less adjusting to the market, and others coping in fundamentally different ways.

The (apparent) fact of diverging regional real incomes is important in itself. But if Russia is becoming once again a single economic space, subject to a single economic order, we might expect some countervailing tendencies back towards convergence to become apparent at some point.¹² If it is fragmented into a patchwork of adapting market economies, on the one hand, and Enver Hoxha-style Albanias, on the other, divergence might continue indefinitely. So the evidence about regionally-differentiated patterns of economic behaviour needs to be considered.

Jacques Sapir (1996) has suggested that Russian regions may be split into those in which market institutions and more-or-less conventional patterns of market behaviour have been developing, and those in which adjustment has mostly taken radically different forms - in particular, a strong reliance on barter.

12 Agglomeration effects might by themselves produce diverging regional real incomes. But growing concentration of economic activity produces congestion costs, and rising local labour and real-estate prices. These could in time push investment out of the hitherto favoured areas and out to the hinterland. There is some evidence, though it is open to dispute, that the long-term tendency in established market economies is towards convergence of regional income levels (Barro and Sala-I-Martin 1991). Preliminary work on real income determination (Berkowitz and DeJong 1997 and Sutherland 1997) does suggest that regional size matters, albeit for very short time spans. In addition, the growth of small enterprises (numbers or employment) also emerges in both studies as an important factor increasing regional real income.

If there are regions in which barter predominates, and other regions in which it does not, one would expect some systematic differences in household behaviour. In barter-dominated regions, recorded personal money incomes would not be the main determinants of consumption. And one indicator of this differences would be that there would be visibly different relationships between recorded saving and recorded money incomes in the two kinds of region.

Sapir showed that, indeed, between early 1993 and early 1996 there were some striking anomalies in recorded regional savings rates (average propensity to save or APS). Other things equal, one would expect high income regions to show high APS's, and vice versa. The anomalous combinations of relatively high APS and relatively low per capita incomes tended to become more marked over time. From this evidence he identified two categories of regions.

It is important, however, to adjust the money income data for differences in local prices. The quantitative importance of this is illustrated in Table 1.

Table 1. Money Incomes and Cost of Living in Ul'ianovsk and Magadan, November 1997 ('000 roubles per month)

	1	2	3
	average money income	subsistence minimum	real income 1÷2
Ul'ianovsk	654.6	255.2	2.57
Magadan	1735.3	875.8	1.98
RF average	909.8	407.3	2.23

Source: Goskomstat, *Sotsial' no-ekonomicheskoe polozhenie Rossii*, 1997: XII: 393-4, 403-4.

In Annex, Chart 3 indices of regional APS's for 1995 (unweighted average of Russian regions = 1) are plotted against per capita real incomes (money income as a multiple of the locally-priced 19-item food basket).

We found that, with this adjustment, the relationship across regions between savings rates and personal incomes was more 'normal' than appears if regional price differences are not taken into account. See Annex, Box 7.

This suggests that perhaps, after all, the Russian regions all belong to a population with tolerably homogeneous relationships between savings propensities and average real incomes. It does not follow that market integration is proceeding smoothly in what is or soon will be a single economic space. But it does cast doubt on one piece of evidence to the contrary.

What is clear is that the main use of barter is in inter-enterprise transactions, and in enterprise settlements with regional budgets. It is also clear that the closer an enterprise is to final consumer-goods markets, the less reliant they are on barter (see *The Russian Economic Barometer*, issues during 1997-99 for survey data on barter; also Lavrov 1998, on barter settlement with the budget). It is not obvious that this particular characteristic of Russian barter transactions from the early 1990s would produce a clear demarcation amongst regions.

In general, the evidence about regional income differences suggests four things. First, there is a growing differentiation across regions. Second, in-

equality within regions nonetheless greatly exceeded inequality between regions. Third, initial differences in productivity levels, plus differences in adaptation after 1991, plus (perhaps) reduced inter-regional income re-distribution may be the main explanation of the divergence amongst regional income-levels observed in the late 1990s. And, finally, there may be hope of subsequent convergence of income levels, because there may be rather more market integration of Russia's regions than is sometimes claimed.

‘Autonomous Change’: Migration Between Russian Regions

Inter-regional migration shapes, as well as responds to, regional economic change. It is part of the process that determines the location of economic activity and therefore partly shapes the economic potential of the regions. Assuming, reasonably, that the Soviet-era planners located economic activity, and thereby tried to influence household location decisions, in sub-optimal locations, this will have resulted in considerable spatial disequilibrium of the workforce and placed question marks over the sustainability of employment in many locations. Once firm and individual locational decision making is decentralised, considerable intra-country migration would be a natural consequence.

What we are concentrating on here are the characteristics of regions that influence an individual's decision to move within the country to improve their well being. During a period of profound structural change the location of the labour force would be expected to change as employment possibilities change differentially across the regions. This is driven by changes in the reference markets of economic units as liberalisation progresses, making some loci of economic activity unsustainable, while favouring others. As a result one would expect there to be congruent movements of the population and the location of economic activity, although rising unemployment may limit the ability of many to take advantage of the new opportunities that become available.

In describing the migration flows between regions within Russia use will be made of a distinction between “push” and “pull” factors. The “push” factors governing inter-regional migration are expected to be stronger in those regions with concentrations of types of economic activities that are likely to be uncompetitive as market-type production relations and structures become more firmly embedded in the Russian economy, resulting in higher levels of out-migration. In-migration, reflecting the “pull” factors, is expected to be related to either the location of inherited economic entities that are proving to be less adversely affected than most by economic transformation, or to locations where new economic activity is developing more strongly. In this way more emphasis is paid to economic influences on migration decisions, especially the relative importance of local labour and housing markets, which have been shown to be important in studies of migration in other parts of the world.

Even though the natural rate of change of the population has declined below the levels seen in the late Soviet period, the impact on particular regions has

been quite varied. In regions of the Russian Far East, for example, the population has fallen in the space of half a decade by up to 50 percent. Partly this is the effect of out migration, but it also reflects the living conditions in some of the more remote areas of Russia where life expectancy is far below the already abysmal Russian average. Immigration, both inter-regional and international, is moderating the population declines in some regions, though a clear pattern is emerging of migration towards the West and South of Russia. In terms of total population change the picture is different with an absolute growth of regional populations in mainly south Siberia and southern European Russia. Thus, in regions of central European Russia the effect of immigration is insufficient to balance the natural declines these regions are experiencing.

The noted southern and westward shift in effect is reversing the push by the Soviet era planners to develop some of the more remote regions of Russia. To some extent the scale of out migration from these regions reveals just how poor the planners' decision making was. However, it is not only the planners' preferences for the location of the population and economic activity that has resonance today. Several other legacies from the centrally administered system are also important factors governing migration.

The lack of a functioning housing market is a serious problem limiting economic adaptation through inter-regional migration. By the beginning of 1994 forty six percent of the Russian housing stock was said to be privately owned (Kaianova and Mal'gin 1994, p. 20). This figure is likely to be an underestimate when one takes into consideration the proliferation of private house construction throughout Russia, which is unlikely to be incorporated in official measures of the housing stock. Although house privatisation has progressed, Abalkina (1994, p. 113) argues that between 1991 and 1994 the flexibility of the housing market was roughly the same. Such an estimation is probably based on considerations of how flexible the rental market for property is, rather than the proportion of the housing market that has been privatised. If this was the case between these years, then the restrictions on mobility stemming from the lack of available properties for rent remained. In the recent clamp down on tax evasion one of the groups that are being targeted are those who rent their apartments in cities, while living in their suburban "kottedzi," giving indirect evidence that the market for rental has eased somewhat.

Where the situation has eased and inward migration is at least a possibility the use of the propiska system can hamper the movement of the population. Moscow city is notorious for its unconstitutional use of this system to prevent inward migration, as several constitutional courts have ruled. Moscow is not alone in the use of such a system, mainly by charging (illegal) fees which effectively delimit the opportunity to move into the region (the way this system operates is similar to the restrictions on migration to the Channel Islands).

During the period 1993 to the end of 1996, for which data are available, inter-regional immigration and emigration represent about one percent of population. This is almost identical to the out-migration rate from Southern Italy during the 1970s and 1980s (Daveri and Faini 1998).

The general assumption made about migration is that it results from the desire of migrants to improve their utility, either in the short or long term, by changing their location of residence. This is an implicitly rational decision, although it is unlikely that potential migrants have complete information about relative returns in all regions, that migration is costless and there are no barriers to migration. Thus the simple neo-classical approach to migration is unlikely to hold in its entirety. It does, however, serve as a useful benchmark for examining these flows.

In empirical studies of labour market responses to adverse shocks it has been found that migration is a potent employment response in regions within the United States, whereas in western Europe regional wage flexibility is the main adjustment mechanism (Abraham, 1996, p. 52). The downward flexibility of real wages in Russia has been much noted by analysts, but this co-exists with substantial inter-regional migration. It is obvious that Russian adjustment does not correspond closely to either the North American or Western European labour market adjustment processes.

In the Harris-Todaro (1970) analysis, migration responds to differences in expected earnings even in the face of considerable unemployment in other regions. What is important with the existence of unemployment is the expected probability of obtaining a job and the associated expected real wage in another region.

In the case of Russia it may well be the employment differentials rather than the real wage level that are the more important variable to consider. This would necessitate a relaxation of the assumption made by Harris and Todaro that there is full employment in the marginal migrant's home region, introducing more realism for the present situation in Russia.

The importance of information features in many of the works on migration. The "migrant stock effect" has the effect of increasing migration into a region as a consequence of information being passed back to other potential migrants about conditions in a destination region. It is also sometimes assumed that the reasons behind the higher propensity for the more educated and skilled to migrate is their greater ability to assimilate and assess information about various regions during the complex migration related decision making.

Empirical studies reveal that the probability of migration does decrease with distance as a result of, *inter alia*, information problems. The greater the distance the less likely the potential migrant has full information about conditions in that region. One of the consequences of this is the phenomenon of "repeat moves," which is argued to stem from the initial imperfect information. Short moves, often to neighbouring regions, are therefore the most common, which we saw was a likely explanation for the high levels of both in- and out-migration in the Russian Far East. It should also be noted that migration also incurs non-pecuniary psychic costs, which are incurred when the migrant breaks social linkages in the home region. When migrants have incurred the initial psychic cost, it appears that it is reduced in future moves, as migrants are more likely to re-migrate.

Here the approach is to examine the characteristics of regions: why do people leave particular regions and what attracts them to others? The new geographical economics literature suggests that the impact of migration decisions on a region may have a profound impact on its development. In the presence of increasing returns to scale, in-migration will benefit the region, attracting more incomers until congestion costs choke off the incentives to migrate and concurrently base new economic activity in the region. Already in Russia the emergence of regional hubs for sectors of the economy that are likely to be subject to increasing returns, such as financial markets, has been documented. Therefore, the question of what drives this process is of considerable import for the prospects of particular regions.

What influences can be measured? In the following analysis some simple least squared estimations are used to highlight the influence of various factors on the labour flows. Following the general thrust of the Harris-Todaro approach, emphasis is placed on the impact of real income and unemployment on migration flows. Estimates are made for both out- and in-migration, thereby splitting the migration decision into two components: the decision to leave a particular region and the choice of destination region. In this way it is hoped that it is possible to extract information about what characteristics of regions make them more or less attractive to individuals. This information will be incomplete since the migration decision is an extremely complicated process and by concentrating on economic factors many other important considerations, such as life cycle effects, are omitted.

We shall firstly concentrate on influences on out-migration, but limit ourselves to the two main economic influences on out-migration: real income and employment. The general approach therefore would predict a positive relationship between out-migration from a region and that region's level of unemployment and a negative relationship between a region's real income and inter-regional out-migration from it.

As the dependent variable the proportion of the region's population that migrates out of the region is taken. This is taken in preference to the total inter-regional out migration as we are trying to measure the influence of the prevailing conditions in the region on the "average" resident. See Annex, Box 8.

What is apparent is the stability of the influence of several parameters on migration flows. The influence of real income on migration is initially the opposite sign to that expected, though statistically insignificant. In subsequent years the more expected negative relationship is apparent, though again it is statistically insignificant. One cannot rule out the possibility that regional real income plays only a small role in the decision to migrate away from a region.

Some indication of an alternative influence is given by the impact of unemployment on migration. The measure used here is the residual between the labour force and reported employment. Again this may be a measure that is not the most accurate, but it does have the advantage of being more realistic than the reported levels of unemployment, which for several reasons substantially un-

derestimate the true scale of this problem. In 1993 and 1994 the effect of unemployment on inter-regional out migration was roughly comparable and then the coefficient for the rate of unemployment decreases markedly for 1995 and 1996 also losing its statistical significance.

One possible reason for the fluctuation may be that large-scale out-migration occurred from regions that initially suffered high levels of unemployment, and once that stock adjustment had taken place it became harder for residents in regions that then experienced growing unemployment to move away.

The size of the region, proxied by the population of the region, exhibits the expected negative relationship with inter-regional out-migration. This relationship is linear, suggesting that the more populous a region, the more opportunities to move within it. As this suggests that distance is an important consideration for migration, and given the size of Russia and its overpopulation of geographically remote regions, it is likely that repeat migration will be an important feature of the migration process and will considerably lengthen the period of adjustment to regional shocks. For all four years the impact of the dependency ratio was, as expected, a negative constraint on out-migration, though its impact declined over the period.

Finally three dummy variables were required to address problems of spatial autocorrelation. A dummy for the Far East macro region was needed for all years, revealing that out-migration was uniformly higher for the federal subjects in the Far East than would have been predicted from the other variables. The same was true for the administrative regions within the East Siberia macro region in 1993. During 1994 to 1996 the regions in the Volga Viatka macro region showed signs of reduced out-migration even after the other influences had been accounted for.

Investigation of inter-regional in-migration requires us to modify some of the variables used in testing the influences. Firstly, the dependent variable is changed to gross in-migration, rather than a proportion of the region's population. This is done as the proposition is that the migration decision is composed of two main decisions: the decision to leave a particular region and the choice of which region to migrate to. In the analysis of the out-migration decision it was assumed that prevailing economic conditions would affect the population of that region in roughly similar ways. The prevailing conditions in the destination region have no such influence on the migrants, who are assumed to view all regions in a roughly similar manner. See Annex, Box 9.

The variable for the real income measure is the simple per capita monetary income measure deflated by a measure of the cost of living in the region. Adjustment for subsistence activity is omitted as it is assumed that the migration is in search of paid employment, rather than subsistence activity. The coefficient of this variable is expected to be positive with migrants favouring regions with higher real incomes. The converse relationship is expected with respect to unemployment, which is again the wide measure of the residual between reported employment and the labour force. Partly this takes account of the effects of the

probability of finding employment in the destination region. In regions with high levels of unemployment the chances of finding employment would be expected to be diminished and thus discourage migration to such regions. A variable for the population of the region is again incorporated. This serves two purposes, though it is unfortunate that they cannot be identified separately. Firstly, in larger regions the availability of accommodation and employment will be larger and, secondly, in the presence of increasing returns to scale at the regional level the migrants' decision may be influenced by the potential opportunities offered by a larger agglomeration.

A variable to take into account the flexibility of the housing stock has also been included as the number of privatised dwellings in relation to the population of the region. As discussed above, the rigidities of the housing market are seen as a key obstacle to inter-regional migration. Therefore, the degree of liberalisation of the housing market should have an impact on migration flows. The degree of privatisation of dwellings is a measure that should capture the availability of housing, although a more precise measure of housing available for either rent, or perhaps purchase, would be a better indicator of the flexibility of the local housing market.

A final variable to examine the impact of the *propiska* system is included by the use of a dummy variable for Moscow. If, as expected, this prevents the free movement of people to the capital, then the coefficient for this variable should be significantly negative. Although other regions do attempt to control the in-migration of people, it is only Moscow that has unambiguously clung to the use of such restrictions for the whole period examined.

Finally, examination of the residuals for the estimated equations revealed problems with spatial auto-correlation that was removed with the inclusion of a dummy for Stavropol', Krasnodar, and Rostov, the non-republic federal subjects in the North Caucasus macro economic region. Given the instability in the region it is perhaps little surprise that these regions show significantly higher levels of inter-regional in-migration. Partly this may also capture some secondary in-migration of international immigrants from the Caucasus region in general.

In general, Russians have reacted as individuals to the changes of the 1990s by, amongst other things, moving from one region to another in quite substantial numbers. This is despite the problems of an undeveloped housing market and (in some places) the *propiska* system. This grass-roots form of adjustment follows patterns that are broadly similar to those found in other countries – again, special Russian circumstances do not have to be adduced to give a reasonable account of the patterns of both out- and in-migration.

Federal Policies Towards the Regions

The economic functions and powers, revenues and expenditures of Russia's regions can be determined "from above" by agencies of the presidential appa-

ratus, the federal government and the parliament, and by the constitutional court. The main federal actor at present, given the weakness of the presidency in early 1999, is the federal government. But it is not the only federal actor, and it is itself internally ill-co-ordinated, with multiple agencies (MinEkon, MinFin, the Tax Ministry and, from autumn 1998, a Ministry of Regional Policy). These departments' roles vis-à-vis the regions overlap and often conflict.

Of the four legal requirements of a federation listed by Risnes (1998), it might be said that the first and third (constitutional protection of federalism and direct election of executives and legislatures at both national and sub-national levels) are present, now that regional executive leaders are all elected. (In early 1997 most still were not.) The second – a clear legal framework delineating the powers of both federation and “federal subjects” – has a long way to go. The last – an independent judiciary – is also not safely installed.

So far as government decisions on the allocation of resources are concerned, two other considerations matter a great deal. First, the economy has – on official GDP measures and barring a brief respite in 1997 – been shrinking for a decade, and the machinery of government at all levels is weak and corrupt. All Russia's governments, national and sub-national, have been struggling desperately to cope with everyday responsibilities: paying public employees; keeping schools and hospitals functioning; maintaining (at the federal level) something with a passing resemblance to an army. Possibly the only government in Russia that has had resources with which to do anything to improve the conditions of life within its jurisdiction has been the city of Moscow – and that freedom of action may have ended in 1998.

The second consideration is that the centre, while in no shape to do anything to help the regions, can and does limit quite drastically their ability to help themselves. Tax bases and tax rates for all the main revenue-raising taxes are centrally determined. This applies above all to VAT and profits tax, which are critical to regional budget revenues.

After the rouble devaluation and partial debt default of August 1998, the federal government has been unable to service all its debt – both rouble and foreign, and is at the time of writing in partial default. A number of regions have defaulted on rouble bonds and sought rescheduling of foreign bank borrowing (consortium loans) and eurobonds (in the cases of the handful of Russian regions that had got as far as issuing eurobonds by early 1998). The credit ratings of municipalities and regions, as of the country as a whole now (June 1999) reflect this. Western attention has naturally been focussed chiefly on federal-level sovereign debt. But this is a *de facto* bankrupt country composed of mostly bankrupt regions. In 1997 all federal subjects except Moscow city and the Nenets autonomous okrug ran budget deficits (information from the Working Centre of Economic Reform). Now none of them is able to borrow at less than penal rates.

The regions have little fiscal autonomy. They can tinker with the minor property and other tax rates and bases that are at their discretion; they can

perhaps find a few novel ways of feeding off-budget funds, but these will not amount to much unless the region houses a major commercial and financial centre (Moscow city, perhaps St. Petersburg, Samara and Sverdlovsk); they can borrow, but their borrowing powers are circumscribed from above and their borrowing is not guaranteed from above; and they can lobby the centre. They do a lot of lobbying.

So far as responsibilities are concerned, the centre at the start of the reforms passed downwards a great deal of social spending: large parts of health, education and social-benefit provision. These areas are partly covered, in principle, by federal off-budget funds, but levels of provision across regions do depend heavily on local resources, and are correspondingly uneven.

Several important elements in the Russian fiscal-federal game can be seen in Annex, Box 10. In the period covered, both regions and centre were running deficits. This had not been true of the sum of regions in 1992-93. That was when a large slice of spending responsibilities was pushed downwards by the early reform governments. It may be that in 1992-93 the federal policy-makers trusted that sub-national budgets would be subject to quite hard constraints, and this would help to contain the overall level of government spending. After all, the regions, unlike the federal authorities, could not print money. (Here and elsewhere, unless otherwise specified, we use the term “regional budgets” to denote the regions’ consolidated regional-plus-local budgets; the latter are heavily dependent on the former.)

Over time, however, the regions learnt how to spend above their incomes. They have done this not simply by orthodox borrowing (bond issues and bank credits), but by various undocumented combinations of transfers from off-budget funds, issuing of bills of exchange (called in Russia, from the German name, *veksels*), tax offsets and the like.

However, the deficits have been much smaller at the sub-national than at the national level. From Box 10 it can be seen that they would have been smaller even if there had been no FFPR transfers from the federal budget. At around 1% of GDP, the actual FFPR transfers have had a limited role. It is possible that the regions have been able to maintain revenues within a modest margin of their spending levels by, among other things, extracting more revenue “from above” quite separately from the FFPR transfers. At all events, their share of general government spending converged, over this period, on the federal share, without the relative size of their combined deficit changing much.

It seems fair to conclude that the federal centre’s policies aimed at influencing regional economic outcomes are ill-organised and uncoordinated. They largely boil down to the federal budget transfers. These, contrary to what several specialists have argued, have been roughly compatible with ‘needs,’ in that they have gone preferentially to the neediest regions. They are however very small in total, thinly spread across the great majority of regions, and seem unlikely to do a great deal to alter the pattern of regional economic outcomes. Discussion about reforming them – including by concentrating them on fewer

regions and/or attaching conditions to them to encourage reform – was carried on intensively during the earlier part of 1998, and will probably be resumed.

The Policies of Regional Leaders: Some Thoughts Based on Case- Studies

Our case-study regions were Kaliningrad, St. Petersburg, Kostroma, Samara, Krasnodar, Irkutsk, Sakhalin and Primorskii krai. They included gateway regions, natural-resource regions and two of the emerging commercial-hub regions (St. Petersburg and Samara), as well as one relatively poor and remote region (Kostroma). Here I shall very briefly and very selectively highlight some conclusions from four of these regions that bear on the influence on a region's economic fate, during the 1990s, of its leadership.

Our starting point, after compiling economic profiles of each of these regions, and a summary of their recent history, was to ask whether their economic performance by 1997/98, relative to that of other Russian regions, could largely have been predicted from the advantages and disadvantages of their initial circumstances, and to what extent, if any, regional policies might have played a part in generating less predictable outcomes.

Case- Studies (a): Samara and Krasnodar

First, the evidence of the case-studies of Samara and Krasnodar supports the conjecture that a comparatively advanced region with large cities would on balance adapt more successfully than a rural region. In other words, the beneficial agglomeration effects connected (probably) to Jacobs externalities seem in these two regions to have outweighed the disadvantages of rust-belt effects arising from the presence of a large amount of moribund heavy industry. Thus Samara adjusted better than Krasnodar.

Second, the influence of regional policy-makers seems to be limited. Our impression – and it can only be an impression – is that the sort of economy each region had in 1990 was more important to their subsequent adaptation than decisions made by regional leaders. Perhaps the influence of regional policies is best seen as negative: regional leaders can impede adjustment; but they may be capable of exerting only very limited positive influence on events. Much of Titov's activity in Samara is not readily distinguishable from much of what was done by regional leaders in Krasnodar, except that Titov did not make strong anti-reform pronouncements, calling into question previous privatisations, and he has not been surrounded by officials openly sceptical about foreign investment. At the very least, the public stance of successive regional leaders in Krasnodar has not been encouraging to the development of new business.

One question we have not pursued is whether local city leaders may be capable of influencing economic development more than their regional counterparts. De Melo and Ofer (1999) in a study of ten cities along the Volga,

suggest that city administrations can make a difference. They consider that Samara city had both comparatively favourable initial conditions and comparatively reformist policies – though these attributes were not necessarily conducive to favourable outcomes in the 1990s.

The view that city administrations matter seems to be shared by residents of the Samara region. Survey evidence in the region shows that, in the perceptions of the population, the mayor of a city is credited with more influence on people's economic circumstances than the more distant regional leadership (even in Samara city, where the regional leadership is based) (Romanov and Tartakovskaia 1998). Whether that perception matches reality, however, is something we have not investigated. De Melo and Ofer do not address it.

Case Studies (b): Kaliningrad and Primorskii Krai

Russian border regions, like border regions in most parts of the world, are hospitable to informal, shadow-economy activities. What has been striking about Russian gateway regions in the 1990s, other than St. Petersburg, is that their political leaders have not sought to facilitate more regular kinds of foreign trade and inward investment. Rather, they have been inward-looking, protectionist, and even xenophobic.

In the case of Primorskii krai, and also of Kaliningrad, this might be ascribed to their history as military outposts. People now in office there grew up in communities administratively closed to foreigners, and were taught, quite truthfully, that their region defended the USSR against a hostile outside world. But that may not be the whole story. After all, governor Kondrachenko in Krasnodar is now the all-Russian provincial xenophobia champion, and his region was not a military bastion. And it is striking that the only region in which a representative of Vladimir Zhirinovskii's hyper-nationalist party has gained gubernatorial office is Pskov, on the border with Estonia. Suspicion of the outside world and a constant looking to Moscow as the source of benefits are perhaps rather widespread characteristics of the Russian regional political elite; those who run gateway regions simply air their views more fervently, because of their exposed position.

If Kaliningrad had, by early 1998, been more successful in economic adjustment than Primorskii krai – and neither had done brilliantly – we suggest that this may be for two reasons. In the first place, the scale of the long-term adjustment needed in the latter is exceptionally daunting, and the inherited economic structure exceptionally distorted. Secondly, the Nazdrachenko leadership in Primor'e has sought aggressively to entrench the monopoly power of the local business establishment, creating especially large barriers to market entry and fostering corruption of epic dimensions. In Kaliningrad, in contrast, foreign trade and investment may not have been actively encouraged, but the region's economy has been rather more open, though the intertwining of the local political and red-managerial elites is similar.

The governor's teams in both regions have been the subject of accusations of corruption, embezzlement and intimidation of political opponents. These accusations have been made in some detail and have not to our knowledge elicited libel suits.

Both regions have been severely affected by the 1998 crisis, which has been particularly damaging for foreign trade and investment. Meanwhile, Kaliningrad had already begun to be affected by a new source of uncertainty: the prospect of European Union enlargement. In preparation for its EU membership application, Poland had begun to tighten up on border controls, impeding border trade with Kaliningrad (*Kaliningradskaia pravda*, 13.i.98: 1 and 14.i.98: 1).

The sad truth is that, for all the gains available from trade, foreign investment, technology transfer and the free movement of people, opening to the outside world does entail opening up to new sources of uncertainty and turbulence. Border regions are more exposed than the hinterland to such turbulence. Suspicion of the outside world is mostly, but not entirely, misplaced. Extensive and high-level corruption probably compound the problems. Location on a Russian border provides opportunities for grey-market activities that may usefully boost the incomes of the population. Unfortunately, gateway regions are also a natural habitat for gate-keepers. The above-average opportunities for high-level market-rigging, embezzlement and money-laundering, in the Russian environment, can easily shape the kind of regional political regime that flourishes in these places.

Some Overall Conclusions

What has been said above is already a précis of much longer writings, so I shall not recapitulate specific points here. Instead, I offer a few thoughts on broader implications.

Any review of Russian regional economic adjustment in the 1990s has to be conducted against a background of general decline. The 'success' or 'failure' of particular regions is, in a rather depressing sense, relative. No Russian region, even Moscow city, is in good economic shape in 1999. Poverty is widespread in all regions; public finances are in disarray, with all regions now (probably) running fiscal deficits and having trouble paying debts.

On the other hand, these regions' fortunes have diverged substantially during the 1990s. My conclusion is that most of these diverging fortunes are to be accounted for primarily by initial circumstances, rather than by either the benign or the malign influence of particular policies - whether federal or regional. In adjusting from those initial circumstances, in the face of the collapse of central economic micro-management, the partial liberalisation of markets and the privatisation of a large proportion of assets, households have changed consumption patterns, employment and (strikingly often, given the impediments) place of residence. New firms have been set up, albeit in disappointingly small num-

bers by Central European standards. Pre-existing enterprises, though rarely closed or dismantled, have to some extent altered production profiles, networks of customers and suppliers, and employment levels.

In making these changes, firms and households found conditions more favourable in relatively large regions, and especially in those that contained large urban conglomerations that were well placed to operate as commercial and financial hubs.

A few regions with strong natural-resource-based activities (oil, gas, cheap electricity, major fisheries) that could bring in foreign currency also benefited initially. The comparatively narrow base of their (comparative) success, however, made them vulnerable to changes in world market prices for the materials they had to offer, and to shifts in the location of control of their assets (e.g., from West Siberia to Moscow). Most Russian natural-resource regions also soon found that they were handicapped by two factors.

First, their development had often been based in the Soviet period on extravagantly-subsidised transport and food supplies, so when they were forced to face the real costs of their location, they were often poorly placed to continue to compete with producers closer to world centres of economic activity. Second, the Russian insiders (managers and their allies, often extending to regional leaders, deputies in the federal parliament and even in some cases to federal government ministers) resisted participation by foreigners that could have brought investment and technological updating, because they feared loss of control.

In 1991-92 many observers expected Russian gateway regions, especially those whose gates opened on to major markets (Europe and Asia-Pacific) to lead the way in economic transformation. St. Petersburg has to some extent fulfilled that expectation. Others (Kaliningrad, Primor'e, and, on the Black Sea, Krasnodar) have not. But this is not for lack of grass-roots trading activities in those regions. It seems chiefly to be the fault of regional administrations – a point to be taken up below.

One upshot of these divergent fortunes has been a steep increase during the 1990s of inequality amongst regions. Differences between regional average incomes, however, remain much less than those amongst households: that is, there is more inequality within than between regions.

The role of the federal government in all of this has been small. Special regional development programmes have been announced but then not funded. The fiscal transfers made to “support” regions have been small and thinly spread. Central government has done little to acquire credibility in the eyes of regional leaders.

Those leaders, nonetheless, have mostly continued to look to Moscow for help, however often their hopes have been dashed. Their powers are limited, it is true, but there does seem to be a propensity on the part of regional politicians to look inwards, to Moscow, rather than outwards to foreign markets and foreign sources of investment. This is particularly striking in gateway regions, where fear of the outside world apparently overwhelms any inclination to pur-

sue the advantages of opening up to foreign trade and investment. I refer here to inclinations in public policy; privately, local politicians in border regions may often do quite well, directly or indirectly, out of business.

Beneath all these regional patterns of economic change there are deeper problems with the transformation in Russia: the sources (whatever they are) that have made for weak and corrupt government at all levels. One characteristic trait of regional governments, to judge from our case-studies, is that their leaders are often very closely linked with a dominant group of managers of large enterprises in their regions. Part of the failure in 1995-98 to translate aggregate monetary tightening into a hardening of budget constraints on all producers is attributable to this. Regional leaders have often –perhaps universally – connived in the extension of hidden subsidies to large manufacturing enterprises, especially via non-monetary settlements and a growth of arrears – in both tax payments and energy payments.

This pattern of behaviour is blamed by some observers on cronyism, by others simply on a fear of the political consequences of allowing large-scale enforced redundancies to occur. It may also have much to do with the type of mass, large-scale privatisation in Russia, ahead of the development of capital markets, that has left the country with a particularly damaging version of the divorce of ownership and control.

At all events, this characteristic of the economic behaviour of Russia's regional elites has much to do with the persistence of the economic crisis. It should make us pause before blaming all the defects in centre-region relations on the centre.

References

General

- Blanchard, O., and M. Kremer (1997), "Disorganization," *Quarterly Journal of Economics*, CXII: 4: 1091- 1127.
- European Commission (1994), *Competitiveness and Cohesion: Trends in the Regions*, Luxembourg: European Union.
- Rose, R. (1998), "Getting Things Done in an Anti- Modern Society: Social Capital Networks in Russia," *Studies in Social Policy*, 304.

Autonomous change

- Abalkina, I. (1994), "Analiz regional'nykh razlichii formirovaniia zhilishchnogo rynka," *Voprosy ekonomiki*, 4: 111- 119.
- Abraham, Filip (1996), "Regional Adjustment and Wage Flexibility in the European Union," *Regional Science and Urban Economics*, 26: 51- 75.
- Alimova, T., V. Buev, P. Vakurov, V. Golikova and L. Korbut (1995), "Strategii povedeniia semeinykh fermerskikh khoziaistv," *Voprosy ekonomiki*, 1: 47- 56.
- Balzer, Harvey (1998), "Russia's Middle Classes," *Post- Soviet Affairs*, 14: 2 (April- June): 165- 187.

- Barro, R.J., and X. Sala-I-Martin (1991), "Convergence Across States and Regions," *Brookings Papers in Economic Activity*, 1: 107- 182.
- Bayoumi, Tamim A., and Andrew K. Rose (1993), "Domestic Savings and Intra- National Capital Flows," *European Economic Review*, 37: 1197- 1202.
- Berkowitz, Daniel, and David DeJong (1997), "Accounting for Growth in Post-Soviet Russia," University of Pittsburgh, Department of Economics, *Working Paper* no. 318.
- Berkowitz, Daniel, and Steven Husted (1995), "Market Integration Against the Odds: Evidence from Russia's Big Bang," mimeo.
- Bradshaw, M., and J. Palacin (1996), "An Atlas of Economic Performance of Russia's Regions," The University of Birmingham, Russian Regional Research Group, *Working Paper* no. 2.
- Callejon, M., and M.T. Costa (1997), "Agglomeration Economies and the Location of Industry," paper presented at the European Network for Industrial Policy International Conference on Industrial Policy for Europe, London (June).
- Commander, Simon, Qimiao Fan and Mark E. Schaffer, eds. (1996), *Enterprise Restructuring and Economic Policy in Russia*; Washington, D.C.: The World Bank.
- Daveri, F., and R. Faini (1998), "Where Do Migrants Go?" mimeo.
- De Masi, Paula, and Vincent Koen (1996), "Relative Price Convergence in Russia," *IMF Staff Papers* 43: 1: 97- 122.
- Feldstein, M., and C. Horioka (1980), "Domestic Savings and International Capital Flows," *The Economic Journal*, 90: 314- 329.
- Goskomstat Rossii (1996), *Rossiiskii statisticheskii ezhegodnik 1996*, Moscow: Goskomstat Rossii.
- Hanson, P. (1997), "How Many Russias? Russia's Regions and their Adjustment to Economic Change," *The International Spectator*, XXXII: I: 39- 53.
- (1999), "Regional Income Differences," in Brigitte Granville and Peter Oppenheimer (eds.), *The Russian Economy in the 1990s* (forthcoming).
- Harris, J.R., and M.P. Todaro (1970), "Migration, Unemployment and Development: A Two Sector Analysis," *American Economic Review*, 60: 126- 142.
- Kaianova, O., and A. Mal'gin (1994), "Chto proiskhodit na zhilishchnom rynke S. Peterburga," *Voprosy ekonomiki*, 10: 120- 130.
- Lavrov, Alexei (1998), "Nekotorye problemy mezhibiudzhethnykh otnoshenii v Rossii," mimeo.
- Loy, Jens- Peter, and Peter Wehrheim (1997), "Spatial Food Market Integration in Russia," Christian- Albrechts- Universitat: *The Russian Food Economy in Transition Discussion Paper* no. 6.
- Matiaev, D. (1998), "Ekonomicheskaiia politika pri vozvrate k mobilizatsionnoi modeli razvitiia," *Rossiiskii ekonomicheskii zhurnal*, 4: 11- 27.
- Nordhaus, William D. (1990), "Soviet Economic Reform: The Longest Road," *Brookings Paper on Economic Activity*, 287- 317.

- Sapir, Jacques (1996), "Is There Still an Unified Russian Economic System?" mimeo, Paris: Centre des hautes études en sciences sociales.
- Serova, E. (1999), "Russian Agrarian Sector: Development and Prospects," *Russian Economic Trends*, Monthly Update (January): 1- 9.
- Shleifer, Andrei and Maxim Boycko (1994), "Next Steps in Privatization: Six Major Challenges," in I.W. Lieberman and J. Nellis, eds. *Russia: Creating Private Enterprises and Efficient Markets*, Washington, D.C., The World Bank, 75- 86.
- Sutherland, Douglas (1997), *Regional Economic Structure and the Process of Economic Transformation in the Russian Federation*, PhD thesis, CREES, The University of Birmingham.
- Ulanova, S. (1995), "O vozdeistvii mestnykh organov upravlenii v otdel'nykh regionakh na protsessy formirovaniia tsen na tovary narodnogo potrebleniia i platnye uslugi naseleniiu v III kvartale 1995 goda," *Voprosy statistiki*, 12: 57- 60.
- Van Atta, Don (1994), "Agrarian Reform in Post- Soviet Russia," *Post- Soviet Affaris*, 10: 2: 159- 190.

Federal policies

- Berkowitz, Daniel (1997), "Regional Income and Secession: Center- Periphery Relations in Emerging Market Economies," *Regional Science and Urban Economics*, 27: 17- 45.
- Buckley, Robert M., and Eugene N. Gurenko (1997), "Housing and Income Distribution in Russia: Zhivago's Legacy," *The World Bank Research Observer*; 12: 1: 19- 32.
- Commander, S., and C. Mummsen (1999), "Understanding Barter in Russia," *EBRD Working paper*.
- De Melo, M., and G. Ofer (1999), "Reforms Along the Volga: Initial Conditions, Policies and Outcomes in Ten Regional Capitals," mimeo.
- Freinkman, Lev, and Michael Haney (1997), "What Affects the Russian Regional Governments' Propensity to Subsidise?" *World Bank Policy Research Working Paper* 1818.
- IEPPP (1998), Institut Ekonomicheskikh Problem Perekhodnogo Perioda, *Osnovnye voprosy kontseptsii razvitiia otnoshenii mezhdu Federal' nym biudzhetom i biudzhetami sub' ektov RF*, Moscow: IEPPP (analiticheskie materialy k dokladu na zasedanii Kommissii Pravitel'stva RF po ekonomicheskoi reforme).
- Khursevich, S. (1998), "O nekotorykh usloviakh rezul'tativnosti reformy mezhbiudzhetykh otnoshenii," *Voprosy ekonomiki*, 10: 127- 139.
- "Kontseptsiiia..." (1998), "Kontseptsiiia reformirovaniia mezhbiudzhetykh otnoshenii v Rossiiskoi Federatsii na 1999 god i na period do 2001 goda," report approved in April by the Russian Government Commission on Economic Reform.
- Kouznetsova, O., P. Hanson and D. Sutherland (1999), "Reforming Centre-

- Region Budgetary Relations,” The University of Birmingham, Russian Regional Research Group, *Working Paper* no. 17.
- Laikam, K. (1998), “Optimizatsiia raspredeleniia nalogov mezhdu federal’nym i regional’nym urovniami biudzhethnoi sistemy,” *Voprosy ekonomiki*, 10: 139- 143.
- Lavrov, Alexei (1997a), *Mify i rify rossiiskogo biudzhethnogo federalizma*, Moscow: Magistr.
- (1997b), “Konflikty mezhdu tsentrom i regionami v rossiiskoi modeli biudzhethnogo federalizma,” in *Evoliutsiia vzaimootnoshenii tsentra i regionov Rossii: ot konfliktov k poisku soglasiia*, Moscow: 101- 131.
- (1998), “Nekotorye problemy mezhbiudzhethnykh otnoshenii v Rossii,” mimeo.
- Le Houerou, Philippe, and Michal Rutkowski (1996), “Fiscal Transfers in Russia: Their Impact on Regional Revenues and Incomes,” *Comparative Economic Studies*, 38: 2/3: 21- 47.
- McAuley, Alastair (1997), “The Determinants of Russian Federal- Regional Fiscal Relations: Equity or Political Influence?” *Europe- Asia Studies*, 29: 3: 431- 444.
- Marchenko, G., and O. Machul’skaia (1997), “Vyravnivanie ili pereraspredelenie?” *Ekonomika i zhizn’*, 50 (December): 30.
- Ministerstvo ekonomiki RF (1998), “Kontseptsiiia razvitiia mezhbiudzhethnykh otnoshenii mezhdu federal’nym i territorial’nymi biudzhethami,” report to Government Commission on Economic Reform.
- Morozov, Alexander (1996), “Tax Administration in Russia,” *East European Constitutional Review*, Spring/Summer: 39- 48.
- Musgrave, Richard A. (1959), *The Theory of Public Finance: A Study in Public Economy*; New York: McGraw Hill Book Company.
- NIFI (1998), Nauchno- issledovatel’skii finansovyi institut, “Predlozheniia po sodержaniuu kontsepstii mezhbiudzhethnykh otnoshenii Rossiiskoi Federatsii na 1999 i posleduiushchie gody,” report to the Government Commission on Economic Reform.
- “O plane- grafike mer po realizatsii kontseptsii reformirovaniia mezhbiudzhethnykh otnoshenii v Rossiiskoi Federatsii v 1999- 2000 godakh,” government decree (rasporiazhenie) no. 1718 of 4 December 1998.
- Oates, Wallace (1991), “Principles of Fiscal Federalism: A Survey of Recent Theoretical and Empirical Research,” College Park, MD: University of Maryland, Center for Institutional reform and the Informal Sector, *Working Paper* no. 21.
- (1977), “An Economist’s Perspective on Fiscal Federalism” in W. E. Oates, ed. *The Political Economy of Fiscal Federalism*; Lexington: Lexington Books, 3- 20.
- (1972), *Fiscal Federalism*; New York: Harcourt Brace Jovanovich, INC.
- Petrov, Nikolai, and Andrei Treyvish (1994), “Riski regional’noi dezintegratsii,” Moscow, mimeo.

- Proekt srednesrochnoi...* (1998), *Proekt srednesrochnoi programmy Pravitel'stva RF, "Strukturnaia perestroika i ekonomicheskii rost v 1998- 2000 godakh."*
- Risnes, B. (1998), "Can Law Keep Russia Together?" paper presented at the NUPI- Fridtjof Nansen Institute conference on "perspectives on Russia as a Federation," Oslo, January.
- Romanov, Pavel, and Irina Tartakovskaia (1998), "Samara Oblast': a Govenor and His Guberniya," *Communist Economies & Economic Transformation*, 10: 3: 341- 361.
- Samokhvalov, Arkadii (1996), "Ekonomicheskie osnovy federativnykh otnoshenii," special issue of *Promyshlennyi vestnik Rossii*, 1.
- Slider, Darrell (1997), "Russia's Market- Distorting Federalism," *Post- Soviet Geography and Economics*, 38: 9: 489- 504.
- Stewart, Kitty (1997), "Are Intergovernmental Transfers in Russia Equalizing?" *Innocenti Occasional Papers*, EPS 59, Florence: UNICEF.
- Tabata, Shinichiro (1998), "Transfers from Federal to Regional Budgets in Russia: a Statistical Analysis," *Post- Soviet Geography and Economics*, 39: 8: 447- 460.
- Treisman, Daniel (1998), "Fiscal Redistribution in a Fragile Federation: Moscow and the Regions in 1994," *British Journal of Political Science*, 28: 185- 200.
- (1997), "Russia's 'Ethnic Revival': the Separatist Activism of Regional Leaders in a Post- Communist Order," *World Politics*, 49: 2: 212- 249.
- (1996), "The Politics of Intergovernmental Transfers in Post- Communist Russia," *British Journal of Political Science*, 26: 299- 335.
- Vtoraia (1997), *Vtoraia mezhdunarodnaia konferentsiia po federalizmu, Materialy dlia obsuzhdeniia*, Moscow.
- World Bank (1996), *Fiscal Management in Russia*; Washington, D.C.: The World Bank.

ANNEX

ESTIMATES AND TESTS OF HYPOTHESES

Box 1. Regional Patterns of New Firm Development in 1994

Using a somewhat simplified labour demand function it can be seen that real wages, aggregate demand, and labour productivity were all influential in expected ways.

$$\text{PSEE} = -0.32 - 0.42 \cdot \text{M/P} - 0.21 \cdot \text{U} + 0.15 \cdot \text{Y/E} + 0.02 \cdot \text{HK} + 0.30 \cdot \text{WSIB} - 0.46 \cdot \text{NCR}$$

$$(-0.68) \quad (-3.78) \quad (-2.09) \quad (2.46) \quad (3.23) \quad (3.65) \quad (-5.90)$$

$$\text{Adj } R^2 = 0.36, \text{ DW} = 2.35, \text{ F-Stat} = 7.62, n = 72$$

(associated t-statistic in brackets)

where PSEE is growth in employment in private small enterprises, M/P is the regional real wage, U is the unemployment rate, Y/E is regional productivity, HK is the share of the region's population with secondary education, and WSIB and NCR are dummy variables for regions in the West Siberian macroeconomic region and the North Caucasian republics, respectively needed to correct for spatial autocorrelation, and the estimation is for 1994.

Box 2. Influences on the Regional Pattern of Small Firm Employment in 1997

As a dynamic specification cannot be attempted due to the frequent changes in small enterprise reporting definitions, we take the ratio of small enterprise employment in June 1997 to the labour-force size of the region in 1992. This is done to try and minimise the effects of subsequent migration movements. Regions where out-migration has been large have large shares of small enterprise employment. This, however, merely reflects the fact that what employment is left is in small enterprises. It does not indicate a strong growth of this sector in those regions

$$\text{Log(PSEE97/LF92)} = -3.76 + 0.0001 \cdot \text{POP92} - 0.35 \cdot \text{log(M/P92)} + 0.01 \cdot \text{URBAN} + 0.38 \cdot \text{FEAST} - 0.31 \cdot \text{URAL}$$

$$(-20.87) \quad (4.05) \quad (-2.47) \quad (4.29) \quad (3.04) \quad (-2.51)$$

$$\text{Adj } R^2 = 0.43, \text{ DW} = 1.89, \text{ F-Stat} = 11.77, n = 73$$

(associated t-statistic in brackets)

The results from this estimation reveal that as the size of regions increases the share of private small enterprise employment to total regional population grows more rapidly, indicating that some sort of increasing returns to scale effect is exerting an influence.

Box 3. Regional Patterns of Unemployment

To examine the determinants of the growth of regional unemployment rates a relatively simple set-up is used. The growth of the unemployment rate is a function of the initial unemployment rate, given a particular set of technologies. The set of technologies is proxied by the quadratic of the share of industry in regional employment. However, the dynamic adjustment variables to account for the intuitions of new geographical economics are also included, such as population size, distance, and the likely effects of transportation costs.

$$\text{Unem92-5} = 1.71 - 0.07*\text{Unem92} - 0.03\text{Ind} + 0.001*\text{Ind}^2 - 8.05\text{E-}5*\text{Pop92} - 0.0001\text{Migout} + 0.21\text{Distant}$$

(6.95) (- 6.20) (- 1.92) (2.03) (- 4.81) (- 3.72) (2.72)

Adj R²=0.71, DW=1.95, F-Stat=31.76, n=74

where Ind is the share of employment in industry, Pop is the regional population size, Migout is the percentage of the population that migrated out of the region in 1993, and Distant is a dummy variable for regions in the North and Far East macro economic regions where transportation costs should be of especially great importance.

Box 4. Cross-Regional Variance in Average Real Incomes in Russia, 1992-97

	1992	1993	1994	1995	1996*	1997*
coefficient of variation (%)	30.6	26	32.2	39.5	42.3	49.8
number of regions	74	74	77	77	76	77
memorandum RF real y	2.54	3.79	2.38	2.3	2.2	III (3.24)

Sources: Calculated from Bradshaw and Palacin (1996), Goskomstat (1996), *Izvestiia*, 25.x.97: 5.

Notes: * 1996 and 1997 figures, except for the bracketed 1996 figure for Russia as a whole, are for money incomes divided by the subsistence minimum, whereas the figures for 1992-95 are for money incomes divided by the 19- item food basket. Therefore 1992- 95 and 1996- 97 data are not strictly comparable. However, the bracketed 1996 figure in the bottom row is comparable with earlier years.

Box 5. Regional Inequality and Overall Inequality in Russia, 1996

The following calculation was made for November 1996. A group of richest and a group of poorest regions, on the real-income proxy measure of regional average money income divided by regional subsistence minimum, were found, each of which contained close to 10 percent of the total Russian population. These were, first, Moscow, Tiumen' and St. Petersburg and, second, a much larger number of mainly small regions that contained around the same number of people, about half of them in the North Caucasus.

These groups of regions each contained close to 11% of the population. That was the nearest the regional boundaries permitted to a decile ratio. The population-weighted average measure of real income in the three richest regions was 5.01 (that is, about five times the subsistence minimum, locally priced). The average real income of the richest group was 4.4 times that of the poorest group.

If incomes within each region were all identical, in other words, the decile ratio for all Russian incomes would be close to 4:1. So inter-regional inequality, thus defined, accounts for something like 33% of overall inter-household inequality.

Chart 1. Russian Regions 1995: Per Capita GRP and Per Capita Real Incomes

Russian regions 1995: gross product and real personal income levels

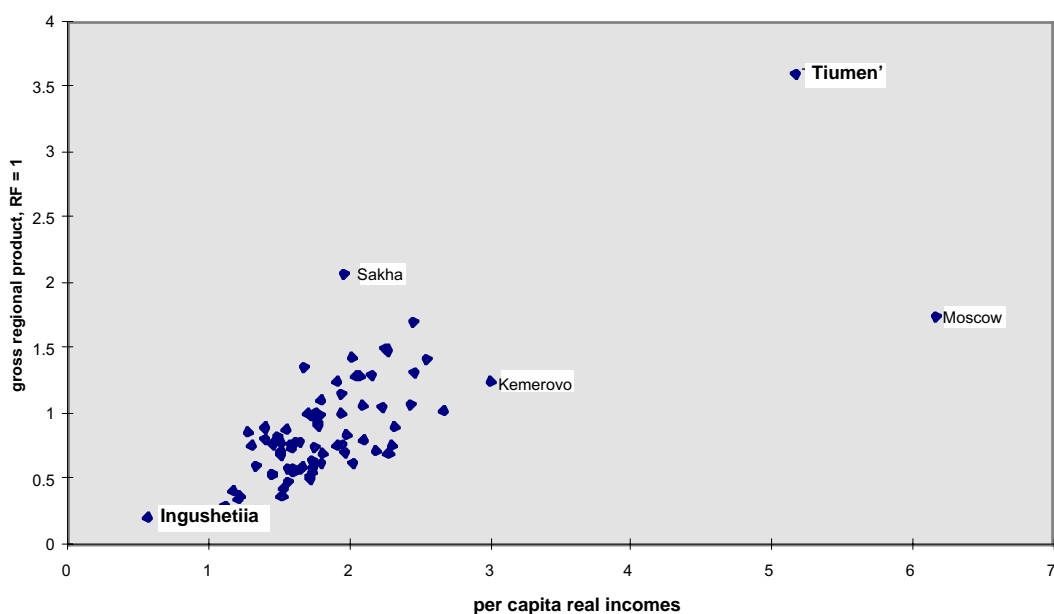


Chart 2. Russian Regions 1994: Average Real Incomes and *Valiuta* Inflows

RF Regions: per cap real incomes and forex inflows, 1995

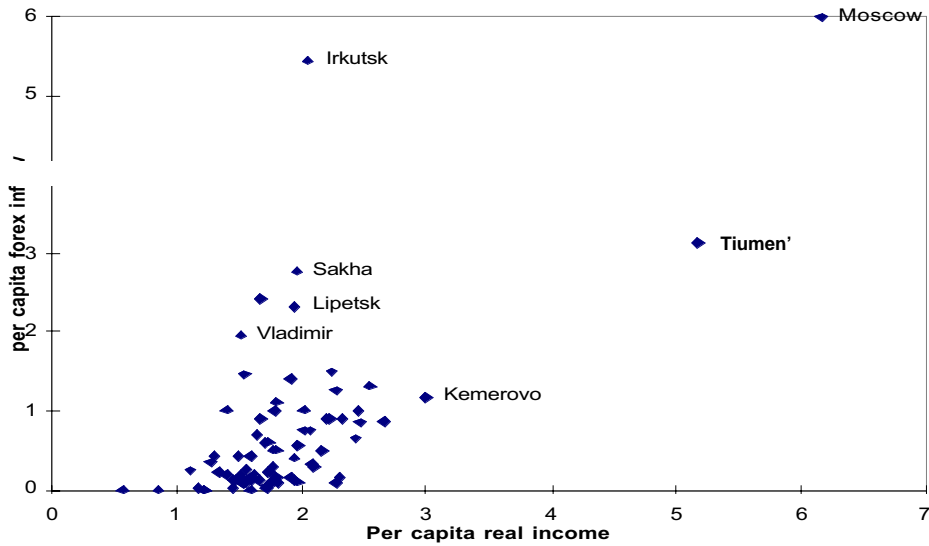
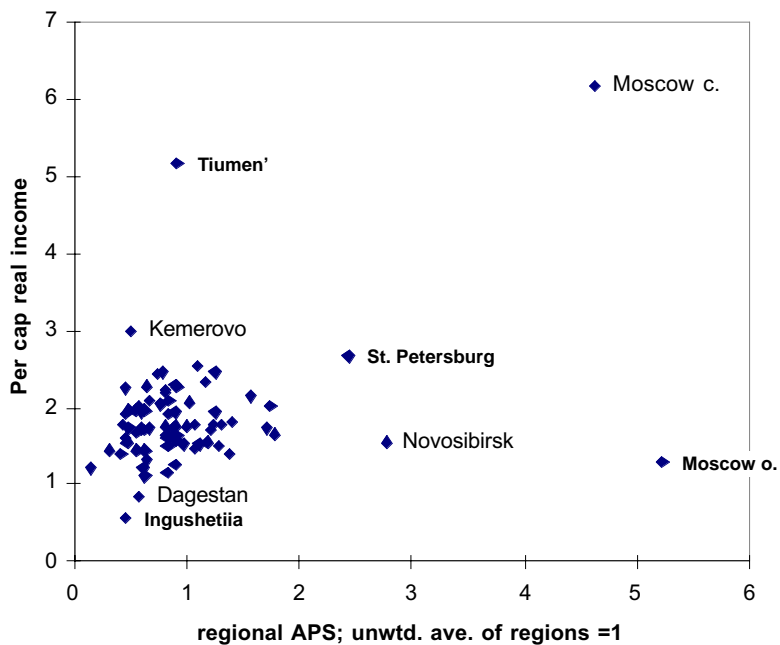


Chart 3. Russian Regions: Per Capita Real Incomes and Personal Savings Rates

RF Regions: per cap real incomes and savings indexes, 1995



Box 6. Influences on the Regional Variance in Per Capita Real Incomes, 1994 and 1995

We took an index of real per capita personal income (average across all Russian regions = 1) as the dependent variable (REALY). Independent variables were per capita GRP (also as an index, RF = 1), per capita inflows of foreign exchange (also as an index, RF = 1, identified below as HCPC), a dummy variable for the presence/absence of a large city, and the unemployment rate.

All the explanatory variables had the expected signs. In different specifications, however, the unemployment rate was never close to being significant, and the big-city dummy was significant at 10%, but not at the 5% level conventionally required. The interplay of the other two factors, for 1994 and 1995, however, presented an interesting picture.

$$\text{REALY } 94 = 0.919 + 0.057\text{HCPC94} \quad n = 74 \quad \text{Adj } R^2 = 0.111$$

$$(29.54) \quad (3.19) \quad \text{DW} = 1.72 \quad \text{F- Stat} = 10.155$$

where the bracketed figures are t- statistics. Evidently the effect of foreign currency influences is weak, but it is highly significant (at better than 1%).

For the 1995 data, the relative importance of GRP and HCPC is reversed. Here Moscow city was omitted as an outlier, and log form worked better. We get

$$\ln\text{REALY } 95 = 0.003 + 0.519 \ln\text{GRP95} \quad n = 75 \quad \text{Adj } R^2 = 0.631$$

$$(0.13) \quad (11.29)$$

Here the bracketed figures are again t- statistics, and the coefficient on the explanatory variable is this time both highly significant and strong.

Box 7. Russian Regions: Savings Rates and Real Income Levels, 1995

In the regression analysis, Moscow oblast' was excluded as an outlier, and the possibility of a non-linear relationship between APS and real income-levels was allowed for. We get

$$\text{APS95} = 9.408 - 3.53 \text{REALY95} + 1.897 (\text{REALY95})^2$$

$$(2.66) \quad (-1.20) \quad (4.46)$$

$$n = 76 \quad \text{Adj } R^2 = 0.47$$

$$\text{DW} = 1.62 \quad \text{F- Stat} = 33.77$$

Here the coefficient on the square of real income is highly significant, the equation as a whole works quite well, and almost half of the variance in the dependent variable is accounted for.

Box 8. Russian Regions: Determinants of Out-Migration, 1993-96

	1993	1994	1995	1996 ^a
coefficient				
constant	5.83 (11.75)	6.29 (11.69)	5.62 (11.31)	5.19 (10.03)
real inc.	0.18 (1.41)	- 0.09 (- 0.94)	- 0.15 (- 1.09)	- 0.10 (- 0.78)
unempl.	0.42 (2.23)	0.46 (2.955)	0.13 (0.87)	0.17 (1.26)
popn.	- 0.20 (- 4.00)	- 0.24 (- 5.03)	- 0.27 (- 4.71)	- 0.25 (- 4.86)
depend.	- 2.30 (- 15.30)	- 2.02 (- 15.95)	- 1.85 (- 12.57)	- 1.39 (- 9.98)
Far East	0.90 (7.73)	0.93 (6.15)	0.93 (6.09)	0.75 (6.31)
E Sib	0.51 (6.65)			
V- Viatka		- 0.36 (- 5.29)	- 0.33 (- 4.02)	- 0.28 (- 3.29)
adj. R ²	0.72	0.72	0.70	0.63
F- stat	31.06	33.02	28.70	21.15
n	71	74	73	73

a. Real income, unemployment and dependency ratio figures used are for 1995.
t- statistics in brackets.

Box 9. Russian Regions: Determinants of In-Migration, 1993-96

	1993	1994	1995	1996 ^a
coefficient				
constant	2.67 (2.42)	6.25 (5.37)	5.16 (7.06)	4.60 (6.37)
real inc.	0.26 (1.68)	0.30 (3.24)	0.31 (1.99)	0.49 (2.45)
unempl	1.20 (0.91)	- 2.92 (- 2.01)	- 1.09 (- 1.22)	- 0.84 (- 0.91)
popn.	0.80 (17.64)	0.88 (21.48)	0.84 (22.01)	0.86 (17.86)
housing	0.06 (1.45)	0.24 (3.26)	0.33 (3.96)	0.35 (4.05)
NCNR ^b	0.54 (3.37)	0.43 (2.95)	0.33 (2.26)	0.27 (2.03)
Moscow	- 0.41 (- 2.46)	- 0.69 (- 4.34)	- 0.38 (- 2.17)	- 0.41 (- 1.78)
adj. R ²	0.90	0.91	0.90	0.90
F- stat	104	123	113	107
n	70	73	72	73

a. as in Box 8.
b. North Caucasus non-republics
t- statistics in brackets

Box 10. Russia: Budgets and Transfers as % GDP, 1994-98

	1994	1995	1996	1997	1998
1. <u>Federal budget</u>					
revenue		13.0	11.8	12.3	10.2
2. expenditure		18.6	19.9	19.6	15.2
3. o/w planned					
transfers to regions	4.3	1.9	2.7	2.7	1.9
4. actual transfers ^a	3.3	1.7	2.2	1.7	
5. planned FFPR	1.9	1.0	1.8	2.1	
6. actual FFPR	0.9	1.3	1.1	1.3	
7. <u>sum regional budgets</u>					
revenue	18.9	15.5	15.0	16.3	14.7
8. expenditure		16.0	16.0	17.7	15.2
9. FFPR/reg. revenue, %	4.9	8.1	7.3	8.0	
10. Memorandum item:					
GDP, 1994 = 100	100	95.9	92.5	93.4	89.1
11. number, donor regions ^b	..	14	12	8	7

Sources: derived from *Russian Economic Trends Monthly Update*, June 1999 (rows 1, 2, 7, 8); *ibid.* plus *EBRD Transition Report 1998* (row 10); Tabata (1998) (rows 3 and 5); Khursevich (1998) (row 6; original gives 6 as % 5); row 9 is derived from the original rouble series behind rows 5 and 7; IEPPP (1998) and Marchenko and Machul'skaia (1997) (row 4).

Notes a. The coverage of row 4 is not comparable with that of row 3. It is in fact wider, since it also includes mutual settlements (budget offsets) and budget loan balances.
b. Regions not planned to receive any FFPR transfers in a given year.

Box 11. Federal Budget Transfers, 1996 and Regions' Income Levels

Using budgetary data from Lavrov 1997, we get the following OLS regression result.

$$\text{Lavrov balance 96} = -1.579 + 1.143 \text{ REALY 95} - 0.303 \text{ rep} \quad n = 76$$

$$(-7.53) \quad (11.72) \quad (-1.83) \quad \text{Adj } R^2 = 0.673$$

where Lavrov balance 96 is the per capita balance of taxes remitted to the centre less FFPR transfers from the centre in 1996, standardised to the average for all regions = 1; REALY 95 is per capita regional personal money income divided by the local cost of the 19-item food basket; and rep is a dummy for republic status (republic 1, oblast or krai 0). The REALY 95 coefficient is significant at 1% and the republic dummy only at 10%. If the republic dummy is dropped, the adjusted R^2 declines only very slightly, to 0.663, and the coefficient on REALY changes very little (to 1.18) and remains highly significant. (It should be remembered that the Lavrov balances are positive if more goes to the centre than comes back from it, so expected signs of explanatory variables are the opposite of what they would be, if FFPR transfers were the dependent variable.)