

## **Economic Policy Alternatives and Inflation in Russia**

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Alternative economic policies have been one of the most popular topics of debate among Russian politicians and economists for nearly 10 years and their logic has remained practically unchanged for the whole of the past decade, when these issues became the subject of open and heated political discussion. The government claims that its policy is the only possible one and accuses its opponents of adventurism, while the opposition strongly attacks this policy and promises a radical change of course should it come to power.

This was the case during the final period of the Soviet Union's existence, and subsequent events proved that Ryzhkov's claim that there was no alternative to his economic course was—to put it mildly—greatly exaggerated. Events took a similar course in post-reform Russia as well. True, in the latter there might seem to be more ground for the 'no alternative' claim—the replacement of Gaidar with Chernomyrdin, contrary to expectations, did not bring about a change in course but resulted in the waste of two years (1993–94), during which the government hesitated and waited until the autumn 1994 crisis forced the Prime Minister to choose the path of consistent implementation of Gaidar's 1991–92 ideas.

This episode can be seen as a confirmation that alternative economic policies do exist. It also, however, brings up the question of the extent to which alternative courses are possible, of the room for manoeuvre in the event of political victory by those forces (communists and/or nationalists) who are today proclaiming their intentions to radically review the economic and political orientation of the country.

When answering this question we should not confine ourselves to political slogans and radical opposition platforms (though they cannot be completely ignored either). We should look at theoretically acceptable and practically feasible alternative economic policies, i.e. alternative policies that take into account the inertia of the economic system, on the one hand, and the presence of real social groups with an interest in this or that course of development, on the other.

This article therefore aims at analysing realistic (i.e. those which could in principle be implemented) economic policy alternatives in Russia. We shall also look at the logic of stabilisation measures under different alternatives, and particularly at the problem of inflation, as the focus of economic policy debates to-day.<sup>1</sup>

This is true from both the general economic point of view (the inflation rate is the most important factor in the stability or instability of the economy) and the point of view of the balance of interests of different social groups. Indeed, inflationary processes are no more than processes of redistribution of financial resources among different groups of economic agents. Thus the inflation rate to-day is not only and

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not so much an economic indicator as a political one, the result of conflicting efforts by various economic and political groups.<sup>2</sup>

Besides, explaining the nature of inflation is a key factor in the logic of developing and interpreting various economic and political programmes. Is inflation in its essence a monetary phenomenon or is it primarily caused by structural and institutional characteristics of the post-Soviet economy?<sup>3</sup> Different answers to this question lead to diametrically opposite economic policy recommendations.

The first two sections of this article analyse the economic and political prerequisites, characteristics and consequences of the current economic course, as well as two alternatives that exist at present. We also examine the theoretical and social roots of different models for overcoming the economic crisis in post-communist Russia. The following two sections are mostly concerned with quantitative analysis and prognosis of the macroeconomic situation in Russia in the case of one or other model prevailing. The model proposed in the article shows that inflationary processes depend to a great extent on growth of the money supply, which provides an important theoretical argument in favour of the orthodox logic of macroeconomic stabilisation.

The conclusions we reach here seem all the more important since until recently arguments in favour of the orthodox model in Russia were limited to references to the experience of successful reforms in a number of post-communist states of Central and Eastern Europe.<sup>4</sup>

### **The Current Economic Policy Course**

We should first characterise the current government economic policy course being pursued today. Its key point is suppressing inflation as the main prerequisite for improving the socio-economic situation and beginning economic growth. This policy is based on the mainstream of modern economic theory, i.e. on recognition of the monetary nature of the high inflation rate and on the need to curb it by eliminating the budget deficit or at least funding it from non-inflationary sources. This course is also supported by the experience of similar measures in a number of countries (including some of the post-communist states), where elimination of the budget deficit brought about (with about a 2-year lag) the start of fast economic growth.

Another important element of this conception is the notion that the problems of industrial decline must be solved by stimulation of output growth on a qualitatively new industrial and technological basis, rather than maintenance or restoration of dying enterprises. Stimulation of this kind would allow deep structural economic changes within a relatively short period of time. In other words, the task of stimulating production growth in the government conception is not identical with overcoming the fall in production and in a sense even contradicts it. That is why easing the social consequences of economic (structural) reform, in this logic, is seen as giving support to workers formerly employed in dying enterprises (social support, retraining, aid for rehousing) rather than subsidising the enterprises to keep them going.

Finally, the principal role is given to maintaining economic liberalism, and above all freedom of external economic links. With a rather high degree of monopoly in the domestic economy it is external competition that appears to be the most important mechanism of internal price containment.

The natural supporters of this policy are those economic agents that in the last few years have managed to adapt to market conditions, are able to compete on

external and internal markets and are prepared to make investments in new activities. The main obstacle for the latter today is high inflation. The logical opponents of this policy are dying enterprises requesting massive injections of cheap money for their survival, as well as a considerable part of the trade sector, for which high inflation is a source of excess profits.

The financial services sector's approach to this policy is different. Until recently most banks opposed it since the availability of cheap money made this sector one of the most profitable in the country. However, we can observe an obvious split in the banking system: the biggest banks, on feeling a certain stability, changed their political orientation and now express their readiness to operate in a stable situation, to invest in production and be guided not so much by the rate of profit as by the total amount. Contradictions in the banking sector are most likely to deepen, since financial stabilisation will inevitably turn processes of restructuring in this sector in the direction of creating fewer but larger institutions. The acute crisis of late August 1995 was the first indication of this. (Similar crises and restructuring of capital are inevitable in the sphere of trade as well.)

The situation is not so simple if we look at the export–import orientation of enterprises. It is assumed that the current policy has clear advantages for exporters, and since the predominant exporters are the fuel and energy complex, they are usually seen as the main source of social support for the Chernomyrdin administration. However, developments in the period May to October 1995 clearly demonstrated the easily predictable fact that financial stabilisation and strengthening of the exchange rate make export operations less profitable and lead to deterioration of the country's trade balance. The situation also becomes more difficult for import substitution—when imports of competing goods become more profitable this aggravates the situation of domestic machine-building enterprises (above all conversion enterprises), which started adaptation to real market demand, found their 'window of opportunity' in the new economy and are now in the process of restructuring their production basis to satisfy potential demand for investment goods primarily from raw material and processing industries. Concurrently, it eases the situation for those industries and enterprises that traditionally depended on deliveries of foreign raw materials and equipment (there are quite a few exporters among them though).

As we see, the social basis for the current economic policy is formed through rather complicated interaction of the interests of various groups. This, however, always distinguishes the course being pursued from the potentially possible ones, which we shall now examine.

### **Alternative Economic Policies**

One alternative to the current economic policy might be a course aimed at open inflation. The main objective for the advocates of this course is to maintain and support existing production and restore production at enterprises that suffered a dramatic production fall and are in fact dying. The forces that favour this policy include, for obvious reasons, inefficient enterprises—both inevitably inefficient ones with no futures, like exhausted mines, and enterprises potentially capable of competing that found themselves in deep crisis owing to the inability of their management to measure up to modern requirements. This course is supported by most leaders of the traditional Soviet agro-industrial complex as well as a considerable part of trade and banking enterprises—mostly small ones.

Relying on inflationary feeding of the economy makes real restructuring most unlikely (the criterion of demand satisfaction disappears), which is why the course aimed at maintaining and aiding production turns out to be identical to maintaining the structural status quo.

The political forces favouring this policy are the leftist parties, above all the communist and agrarian parties. Clear pro-inflation statements were also characteristic of the Yavlinsky block, it is true, but they can be seen as populist rhetoric and demonstrate his desire to appear an advocate of a reformist political course differing from the one pursued by the government.

A policy like this is possible in principle, and was quite common in 1950 to 1970 in Latin American countries (mainly with populist military regimes). It is inevitably accompanied by a standard cycle of economic policy measures: seeking to maintain economic growth—increasing injections of money into the economy—slowing the fall in production (sometimes even speeding up output growth)—aggravating the situation on the hard currency market—dramatic rise in prices (many times)—an attempt at tougher monetary policy on an already unbalanced market—dramatic production fall and so on.<sup>5</sup>

Under Russian conditions, leftist forces implementing such a policy are likely to supplement it with something they are used to, something that is quite clear and ideologically close to them, i.e. a price freeze. Prices for a wide range of goods and services would be frozen, above all prices for raw materials and consumer goods. Theoretically this course would be explained by the alleged 'non-monetary nature of inflation', i.e. by the dependence of general price increases on higher prices in basic industries.

Thus a vicious circle is created, from which the populist government seeks to escape by using standard and repeatedly tested measures of 'nonmonetary economic policy'. Applying it to the situation in Russia, one can foresee the following chain of moves by which the pro-inflationary government would attempt to cope with growing macroeconomic problems. First of all, one can expect an attempt at introducing multiple hard currency exchange rates and/or a fixed exchange rate for the ruble at an artificially high level to help imports.

This will lead to a number of consequences. In the first place, relatively cheap hard currency provokes high hard currency demand, and to maintain a stable exchange rate, the government rapidly starts to eat into its currency reserves. In the second place, it inevitably results in a foreign currency shortage which, in turn, brings about the need for its administrative allocation by state institutions (which can only increase corruption). In the third place, a black market in hard currency arises. In the fourth place, exporting becomes unprofitable (owing to the artificially high exchange rate of the ruble) and dangerous (if the state imposes tough penalties for use of the black hard currency market). In the fifth place, reduction of imports leads to a dramatic rise in domestic prices, above all, on the market for consumer goods, since import competition at present is the most important restraining factor for domestic monopolists. A jump in inflation may force the government to impose state control over prices, resulting in the emergence of the familiar (but long forgotten) situation of goods shortage—and all this with practically exhausted hard currency reserves.

Taking into account the current state of the Russian economy, the negative effects of transition to a pro-inflation economic course will not become apparent until 6–12 months later (as was the case in 1993). The reasons for this can be found in the general inertia of economic processes, which are characterised by a definite lag (about 6 months), between changes in monetary policy and a shift in the

main macroeconomic parameters. Moreover, the reserves of currency accumulated by now allow the dangerous consequences of inflationary policy to be damped for a certain period of time.

We should not overlook the fact that a policy like this creates the most favourable conditions for corruption (much more favourable than those existing now). And it is not only a matter of currency allocation, since at the centre of economic decision making we always find a certain official in charge of distributing resources (whether it be rubles, foreign currency or the notorious 'funds' (allocations of scarce materials)). And a place in the queue for something scarce always costs money, i.e. some bribe.

Another relatively realistic alternative economic policy is connected with the position of the nationalist parties. It lays emphasis on maintaining and developing branches of the military-industrial complex of Russia, which is based on the concentration of state resources in the MIC, giving these enterprises (all or those on a certain list) stable support with investment or other financial resources.

A logical and necessary element of this policy is protectionism, and especially protection of home producers from foreign enterprises on the internal market. Among those with an interest in such protectionism are MIC enterprises proper and, more broadly, enterprises producing import-replacing products.

In such a macroeconomic policy MIC enterprises form the key industries of the economy. Support on the part of the state becomes a kind of engine stimulating the development of this sector which, in its turn, creates the demand needed for development of other branches of the industrial and social sphere.

In the version of this alternative with the lowest inflation and the tightest macroeconomic policy the prospects for civilian industries and particularly for the social sphere become most unfavourable as demand for their goods and services will be the last to form, and lack of state resources will bring back the residual principle of funding the social sphere that was so familiar in the Soviet economy.

We should not expect extreme economic populism from this type of alternative when comparing it with the 'left alternative'. The populism of the nationalists will be restricted, in the first place, to the political sphere. In the economic sphere the administration would try to pursue a cautious macroeconomic course. The government implementing such a policy is unlikely to resort to a large-scale price freeze, which might only apply to the production of raw materials, mainly the fuel and energy sector. Theoretically this is justified by the so-called 'costs inflation' (i.e. increase in prices in raw material industries), which is seen as the main reason for higher prices in the economy.

An important element of the conception under consideration now is a complex of organisational and institutional measures aimed at the formation of large monopolistic associations—financial-industrial groups (FIGs). It is assumed that they are to be formed 'from above', i.e. by the state itself, and be similar to the corresponding associations in Japan or South Korea. As a basis for state industrial policy, FIGs are seen as major subjects of state regulation and, concurrently, as the main recipients of state aid.

Strictly speaking, this model has a lot in common with the above-mentioned openly inflationary version. Limited state financial resources, which will not be sufficient for non-inflationary aid for all important MIC economic agents, will inevitably place the strongest pressures on the bureaucracy distributing these resources. On the one hand, this will inevitably result in a high level of corruption of the state apparatus, where clear 'incentives' for distributing the corresponding funds

will appear. On the other hand, the political leadership of the country, even with the firm intention to prevent inflationary boosting of the economy, will not be able to counter the powerful pressure of the financial-industrial groups (FIGs) it itself has formed. Without the means to satisfy the appetites of all politically influential lobbyists, the state will be forced to turn to the printing-press and inflation will soar.

From the point of view of the short-term prospects for this policy, two realistic scenarios can be predicted. In the first place, under an absolutely unrestrained macroeconomic policy (or with strong political influence on the nationalist government by the openly pro-inflation left political forces), the mechanism of inflationary funding is most likely to be switched on fast, resulting in immediate relapse into the category of a Latin American vicious circle described above (from mandatory exchange rate through fixed prices to goods shortage).

In the second place, it can be theoretically assumed that the nationalist government could pursue a more cautious policy in the monetary-financial sphere. This is fraught with more social tension, which, though not at the start, will constitute a serious danger for those in power. The latter, for some time, will be able to blame the social difficulties on the legacy of the 'accursed liberals, advocates of the market economy'. However, judging from political experience, the policy of nationalist populism pursued for a certain period of time will inevitably lead to the inflationary dead end and resort to 'non-monetary' anti-crisis measures. True, it does not happen as fast as in the case of the leftist version of developments.

Finally, in principle we must not overlook the probability of almost complete rejection of economic populism within the framework of this economic policy model. Practical experience shows that the likelihood of such developments is very low but cannot be disregarded. However, with this development of events the country finds itself in a very complicated situation. Relying on the MIC as the source of national economic growth presupposes the presence of a more or less high demand for military production, which means that the country must either expand its arms sales on the world market or start its own hostilities.

The former is most unlikely for economic reasons—the scale of arms deliveries to foreign countries by the Soviet Union was large because no payment was required and it was considered a sort of debt (which was never paid off), while the levels of real arms sales were similar to the current sales figures for Russia. In other words, Russia cannot rely on real (effective) demand on the world market. As to the variant which proceeds from the assumption of starting hostilities (which was the way chosen by Germany in the 1930s to restore its economy)—it requires no comment. So we can say that without inflationary funding this economic logic has very few prospects and even they look rather gloomy.

It is scarcely necessary to say that the prospects for any economic policy alternative today depend to a great extent on purely political factors, and first and foremost on the outcome of the elections to the State Duma in December 1995 as well as on the President of the Russian Federation.

The December 1995 parliamentary elections and the presidential election in summer 1996 enable us to add a number of important conclusions to this discussion of economic policies.

First of all, the absolute predominance of the inflationary alternative over the nationalist one has become obvious. It was the parties with an inflationary orientation that were victorious in the 1995 parliamentary elections, while the KRO (Congress of Russian Communities)—the most consistent expression of the nationalist alternative—suffered a crushing defeat. There is a clear pro-inflation majority of deputies

from the KPRF (the communist party) and Yabloko, who, with a certain development of events, will be supported by many representatives of the government NDR (Our Home is Russia), not to mention the Zhirinovskiy supporters who came from the Soviet *nomenklatura*.

However, the defeat of the KRO certainly does not mean the total defeat of the nationalist alternative. The two opposition models of economic development are closely interconnected. The left-populist doctrine of the KPRF includes many components of the nationalist model—protectionism, strict state control over production, strengthening the role of the largest (monopolist) economic organisations and so on. And the nationalist model, as we noted above, includes economic policy measures which leave practically no chance of its non-inflationary implementation.

In a word, the pre-election battle and its outcome clearly demonstrate the social and political readiness of contemporary Russia to adopt the logic and practice of economic populism, a model the effect of which extends far beyond the temporal and political limits of the pre-election battle. This is attributable to a number of factors, an analysis of which would take us beyond the framework of the present article.<sup>6</sup>

#### The Autoregression Model and its Application for Forecasting Scenarios

We base inflation forecasts on a simple autoregression model, taking account of price inertia. The inertia of inflation was a prominent feature of economic development in Russia in the period 1992–95, and especially in 1995. It can be explained by persistent inflationary expectations until the third quarter of 1995 and relative price rigidity. The model explains the current monthly inflation rate by the inflation rate in the previous month, the lagged increase in the nominal money supply  $M_2$ , and residual, i.e. non-monetary factors.

The autoregression equation is

$$p_t = a_1 p_{t-1} + a_2 m_{t-1,t-6} + \varepsilon_t \quad (1)$$

where  $p_t$  is the monthly CPI,  $m_{t-1,t-6}$  is the geometrical average of the monthly money growth rates during the previous 6 months,  $\varepsilon_t$  is other (nonmonetary) factors, and  $a_1$ ,  $a_2$  are the model parameters.

Equation (1) does not include an intercept. This corresponds to some theoretical models of sticky inflation with insufficiently flexible prices. These describe price setting under monopolistic competition among producers that are imperfectly informed about government policy.<sup>7</sup> The basic framework of this approach is based on the well known Dixit–Stiglitz model of imperfect competition.<sup>8</sup> Some other models with inflation inertia explicitly take account of bilateral labour contracts concluded for a fixed term and taking account of inflation.<sup>9</sup> The inflation rate can be derived from these models as a concave linear combination of growth rates of prices set in the previous period and the increase of money volume in the current period.<sup>10</sup> Taking into account the lag between money issue and the corresponding increase in aggregate real demand, and the influence of non-monetary factors, we obtain the autoregression (1).

Estimating the autoregression gives the following results:

$$p_t = 0.68 p_{t-1} + 0.36 m_{t-1,t-6} + \varepsilon_t \quad (2)$$

The values of the  $t$  statistic are 8.4 for the parameter for  $p_{t-1}$  and 3.9 for the parameter for  $m_{t-1,t-6}$ . Thus the estimates obtained are statistically significant. The multiple regression coefficient  $R^2$  equals 0.85. Consequently the contribution of non-monetary factors to the dispersion of rates of increase in prices is 15%.

We should note that the sum of the coefficients of the linear combination in (2) is close to 1. This property is also observed for all other specifications of the model with more complicated lag structures. This fact, on the one hand, corresponds to the theoretical dependence discussed above and, on the other, reflects the property of neutrality of money in the long-term.

As the estimates we obtained show, the inertia of prices is a significant factor determining the monthly rate of inflation. A change in the rate of inflation by 1 percentage point in the current month, *ceteris paribus*, causes a change by 0.68 percentage points in the rate for the following month. Our forecast of the rate of change of prices in 1995–96 on the basis of the autoregression model is shown graphically in Figure 1, which presents a short-term forecast of inflation one month ahead, based on the actual data on inflation in the current month and the growth of the money supply. Beginning from January 1996 we use forecast data on the growth of the money supply and monthly inflation indices constructed on the basis of them with the help of the model. In order to illustrate the prognostic properties of the model, Figure 2 presents a long-term retrospective forecast of inflation. Here we use not the actual increase in prices but iteratively estimated rates of inflation for the period from July 1992 to December 1996 based only on information on the growth of the money supply (as in the previous case, here the rates of growth of the money supply in 1996 correspond to the Declaration by the Government and Central Bank of the RF on medium-term strategy and economic policy for 1996). Thus the model simulates the rate of inflation (with a given initial value of the increase in prices for 1 July 1992) by using only data on the money supply. It can be seen from Figure 2 that the model captures the trend of inflation well, while the divergence of the forecast from the actual figures is explained by changes in the real demand for money, which are not taken into account in the model.

As can be seen from Figure 2, the model does not capture changes in the proportion of money to GDP connected with change in the real demand for money, which is determined by the expectations of economic agents, fluctuations in the volume of real product and so on (i.e. by factors on the side of demand for money). Changes in the proportion of money to GDP caused by the actual growth in the supply of money, on the contrary, are rather well reflected by the trajectory of the retrospective forecast in Figure 2.

Obviously, economic forecasts for 1996 can only be made on the basis of some set of political scenarios. The result of the presidential election completely determines the character of future economic policy. In Figures 1 and 2 we examined a favourable variant, in which the relative strengths after the summer presidential election do not change too much in favour of the communists, agrarians and nationalists. In this case the government will probably continue the policy of financial stabilisation, and the worsening of the composition of the Duma in December 1995 will hardly be able to exert a strong influence on economic policy in 1996.

In the estimate of the budget for 1996 given below in Scenario 1 we assume the government continues a tight financial policy. The inflation forecast used for this estimate is made on the basis of the autoregression model described above. When



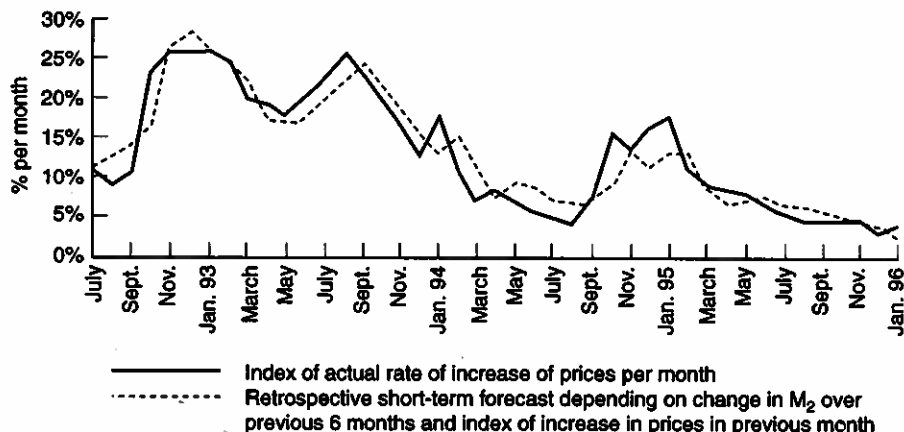


Figure 1. Actual index of increase in prices and short-term model.

making the forecast we started by assuming a figure for the growth of the money supply of 2.9–3.3% per month or 43% annually, taking account of the actual decline in M<sub>2</sub> in January and the planned increase in M<sub>2</sub> of 5% in February and 4.1% in March (see the Basic Directions of money and credit policy for 1996 and the Declaration of the Government and Central Bank of the RF on medium-term strategy and economic policy for 1996). These figures differ significantly from those on which the budget estimates were based (25% growth in M<sub>2</sub> for 1996 and 1.9% average monthly inflation).

If adherence to a consistent course of economic reforms and a policy of financial stabilisation is confirmed after the presidential election, then, on the basis of 1994–95 experience (the elasticity of the growth of demand for real cash balances with respect to inflation was around 0.25), we can forecast at least 5% growth in the demand for money in the second half of 1996.

Thus, assuming 43% growth in M<sub>2</sub> in 1996 and 5% growth in demand for

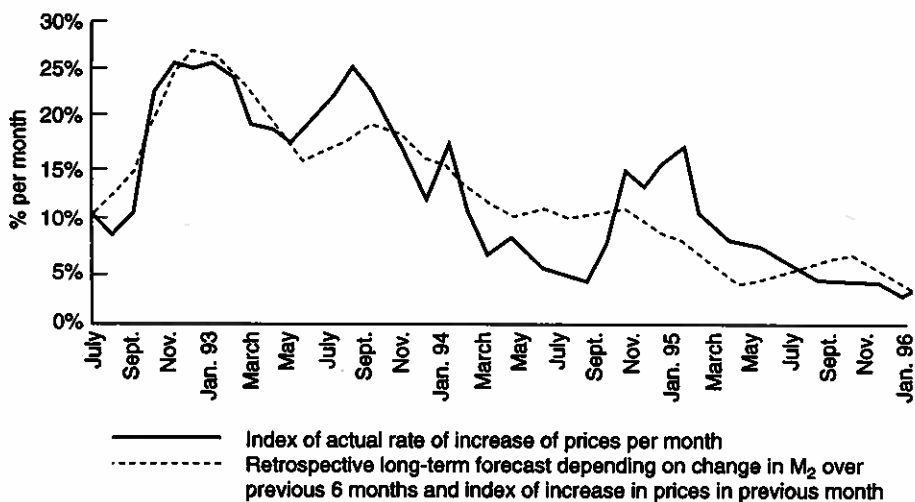


Figure 2. Actual inflation and autoregression forecast.

money, the result of our calculations is a level of inflation in 1996 of around 40%, or a monthly average of 2.8%. On the basis of this level of inflation, and the requirement laid down in the budget estimates to halt the fall in real GDP, our estimate of 1996 GDP comes to Rb. 2800 trillion, which is Rb. 500 trillion more than estimated in the budget law.

According to our estimates, a realistic figure for tax revenue in 1996 is a magnitude equal to 11.2% of GDP. This means it is possible to achieve budgetary tax revenue of around Rb. 310 trillion, revenue for specific budget funds of Rb. 30 trillion, and non-tax revenue of the amount provided in the law, Rb. 40 trillion. Thus, even taking account of higher inflation than was assumed in the draft budget, revenue could reach around Rb. 380 trillion, Rb. 30 trillion (1.1% of GDP) more in absolute terms than assumed by the law.

However, the level of inflation specified above means that indexation is necessary during the course of the year, at least for such items of state expenditure as the pay of those working in budget-financed sectors, stipendia, subsidies to the pension fund and so on. Moreover, we must not forget that the presidential election being held at the beginning of the summer of 1996 will inevitably lead to adoption of a number of populist measures. The corresponding increase in budget expenditure will evidently be greater than the amount by which the forecast budget revenue exceeds the figure set in the law.

This is confirmed by a whole series of major expenditure decisions taken in January–February 1996, which were not included in the 1996 budget. There are measures to reconstruct Chechnya (Rb. 16 trillion), the law on increasing the minimum pension and indexing and recalculating state pensions, adopted on 7 February (Rb. 15.8 trillion), and the law on increasing the minimum wage, adopted on 7 February (Rb. 11.5 trillion, of which Rb. 4.2 trillion from the federal budget). There was an announcement about allocating additional funds for defence and the coal industry, and paying arrears of wages due from the budget. Approximate estimates of the cost of implementing these measures come to Rb. 35–40 trillion of additional resources not included in the federal budget for 1996. Such escalation of spending decisions will inevitably create similar difficulties meeting budget expenditure in 1996 as in 1995, when greater than anticipated revenue was nonetheless insufficient to finance growing budget expenditure.

The budget situation in 1996 could change quite substantially if the government displays the necessary political will in preparing and implementing measures already foreshadowed to raise the level of tax collection. If the Ministry of Finance and the state Taxation Service succeed in stepping up their inspection and control work and sharply reducing the scale of unrecorded cash transactions, then a significant growth in tax receipts in 1996 can be assumed. (The estimates cited above allow for an increase in tax receipts equal to 0.2–0.3% of GDP.) It must be emphasised once again that the scenario of events in the budget sphere described is based on the precondition that strict budget and monetary policies are maintained in 1996.

Next we shall examine two other possible scenarios for the development of the situation in the budget and monetary sphere. For this we use the following modification of the model of inflation presented above, which in addition takes into account the influence of the dollar exchange rate as an indicator of inflationary expectations:

$$p_t = 0.61 p_{t-1} + 0.33 m_{t-1,t-6} + 0.25 d_{t,t-5} + \varepsilon$$

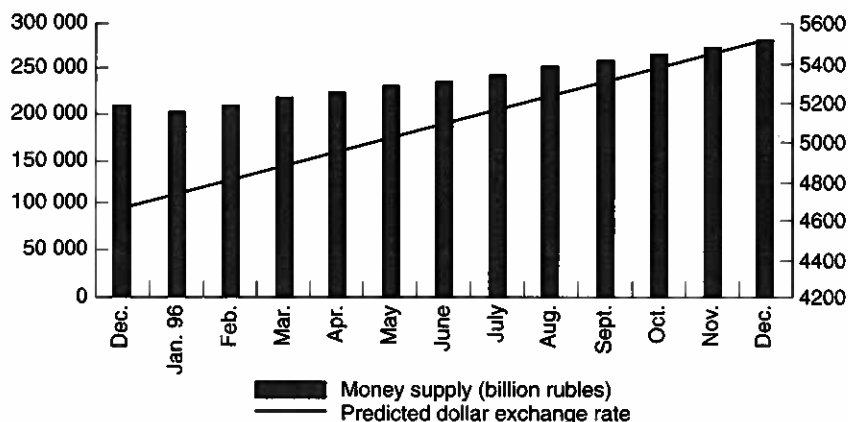


Figure 3. Scenario 1.

where  $p_t$  is inflation in month  $t$ ,  $m_{t-1,t-6}$  is the average rate of growth of the money supply over the previous six months,  $d_{t,t-5}$  is the rate of change of the dollar exchange rate over the previous five months, and  $\varepsilon_t$  is a stochastic variable reflecting the effect of inflationary expectations and non-monetary factors. The multiple regression coefficient  $R^2 = 0.893$ , the value of the  $t$  statistic is equal to 8.29 for the  $p_{t-1}$  parameter, 2.66 for the  $m_{t-1,t-6}$  parameter and 3.38 for the  $d_{t,t-5}$  parameter.

The switch to this model is due to the qualitative change in monetary policy in 1996 under the scenario we are examining, which, generally speaking, makes exogenous setting of the growth in demand for money incorrect. Estimates for the base scenario, which assumes continuation of the stabilisation policy, show that both modifications of the model give more or less the same results. Assuming, as in the scenario described above, a rate of growth of the money supply of 2.9–3.3% per month, a halt to the fall in real GDP (nominal GDP of Rb. 2300 trillion), and a rise in the dollar exchange rate of approximately 17% during 1996, the official forecast for inflation, as noted, is around 1.9% per month. The budget law is based on approximately these parameters for monetary policy, and furthermore they were agreed with the IMF when it granted Russia EFF credits of \$10.2 billion over a period of three years (\$4 billion in 1996).

Our estimates show, however, that on the basis of these figures the average monthly rate of increase in prices will be higher than 1.9% and will reach about 3% per month, or 40–43% for the year (see Figures 3 and 4 and the Appendix), which is practically the same as the results described above (Figure 1).

The rather high level of inflation which is implied by the strategy being pursued by the present government is close to the limit from the point of view of successful completion of financial stabilisation in 1996–97. If it is exceeded this will undermine the objective of creating conditions for future economic growth in Russia.

How realistic this variant of economic policy is depends to a certain degree on the interaction of monetary and exchange rate policy and the responses of economic agents. The experience of financial stabilisation in 1995 showed how hard it is to control the money supply in a highly dollarised economy with a high level of mobility of capital flows. In spring and summer 1995 the Central Bank could restrain the growth of the money supply only by allowing a faster rise in the real exchange rate of the ruble.

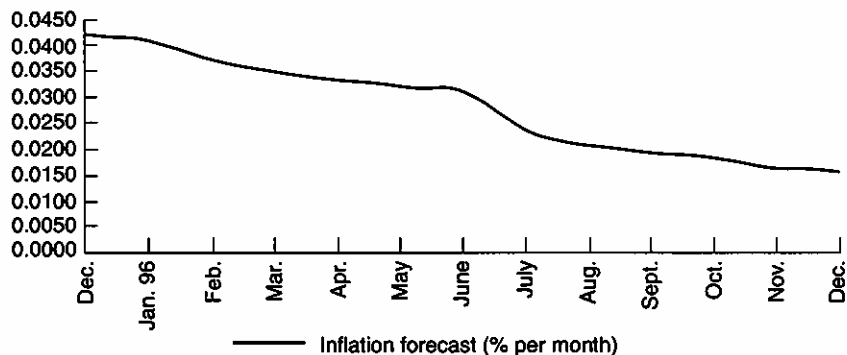


Figure 4. Scenario 1.

The effective rise in the real exchange rate of the ruble by 76.5% during 1995 (for comparison, in 1994 the real ruble exchange rate rose only 14%, and in the first quarter of 1995 only 4.4%) means that domestic production became considerably more expensive in real terms. By imposing the exchange rate corridor, the RF Central Bank prevented an even larger increase in the real ruble exchange rate, somewhat easing the position of the real sector of the economy. But this measure, which was appropriate from the macroeconomic point of view, affected the situation of the banking sector. The banking crisis of August 1995 is part of the logic of financial stabilisation. The first to suffer were those banks which had underestimated the effect of the policy pursued since the beginning of the year and not reduced their foreign currency positions. Underestimation of credit and interest rate risks also played a role, as did inability to match the time structure of assets and liabilities, higher administrative costs and so on. Tight monetary policy should make Russia's financial system healthier and change the style of management in the banking sector.

If we assume that the tendency for the real exchange rate of the ruble to rise will continue in 1996, we can anticipate a definite deterioration in the position of the export sector of the economy. At the same time the exchange rate corridor policy or fixing the exchange rate encourages further de-dollarisation of the economy. De-dollarisation is also promoted by the current high real interest rates on state securities, which it is extremely hard to reduce.

The prolonging of the process of rise in the real ruble exchange rate (bringing domestic prices closer to world prices) allows this to be done with less harm to the economy. If we accept the necessity to ensure a steadier rate of change in the real ruble exchange rate, there are several possible directions of economic policy: first, accumulation of foreign currency reserves in order to increase the demand for foreign currency and bring about a certain devaluation of the ruble. However, it is difficult to predict what inflationary effect the increase in the monetary base as a result of the growth of reserves, and also the rise in the cost of imports, would have. As a result of this effect the gain from slowing the real rise in the ruble may prove to be considerably less than expected.

The second possible policy direction consists in measures to reduce inflation, allowing a fixed nominal exchange rate to be combined with a slower rise in the real rate. This course assumes not only control of net domestic assets but also control of the increase in external reserves. In particular, the government must lower the rate of interest on treasury bills, short-term state loans (*gosudarstvennye kratkosrochnye*

*obligatsii*—GKO) and other securities so as to slow down the process of de-dollarisation and reduce the supply of foreign currency.

In order to stabilise the real exchange rate of the ruble the Central Bank will need to smooth changes in demand for ruble assets, using some form of control over interest rates in the money market. By allowing growth in domestic assets at certain times, the Central Bank will be able to hold back speculative pressure against the dollar effectively, preventing a substantial rise in external reserves. (As the experience of financial stabilisation in 1995 showed, the growth of external reserves can be very considerable in conditions of over-tight restrictions on the growth of net domestic assets.) When implementing a concrete monetary policy it will be possible to choose the optimal combination of measures for control of the money supply and management of interest rates.

Starting from the rather high inflation at the end of 1995 and the beginning of 1996, it seems to us that by July the Central Bank should try to draw the dollar exchange rate to the upper bound of the established corridor. In the second half of 1996 a more rational policy would be either to fix the exchange rate (with a once-for-all 5–10% devaluation of the ruble) or to establish a 'crawling' (sloping) exchange rate corridor, so as to reduce the incentive for rapid de-dollarisation, which is at present under discussion by the leadership of the Russian Central Bank. At the same time such a policy, entailing growth in external reserves, requires tighter control over net domestic assets by the monetary authorities.

In so far as the holding of the presidential election splits the current year into two parts, we must consider the next few months separately, since in view of the greater political risks they are the most uncertain at the macroeconomic level.

A number of features can be distinguished which are characteristic of developments on the financial markets in the first half of 1996. First, it is rather difficult for the state to attract the resources necessary to finance the budget deficit through short-term and other loans (GKO and OFZ—*obligatsii federal'nogo zaima*), since a tendency for demand for the 'long' part—OFZ and 6-month GKO—to fall has clearly emerged, as a result of the high degree of political uncertainty. The cost of servicing this security, on which the level of yield has jumped, raises the question whether the Ministry of Finance should issue 'long' securities before the election. In such a situation the Ministry must find an acceptable compromise between reducing the cost of servicing state securities and ensuring the attractiveness and stability of the market.

Secondly, it is quite logical to assume that in April–May 1996 a process of more or less intensive re-dollarisation of the economy will occur, the reverse of the events of spring–summer 1995. Economic agents expecting devaluation after the presidential election will transfer their assets out of rubles into foreign currency. This applies in the first place to the most liquid assets, like deposits and GKO. The size of the Central Bank's currency reserves seems sufficient to defend the ruble against possible attacks before the presidential election. Russian banks evidently do not have sufficient potential to rock the foreign currency market and cause a sharp fall in the ruble.

There could, however, be serious problems on the GKO market in the event of massive sales of this security in May–June. The run-up to the June election will divide all the participants in the financial markets into those inclined to take risks and those who are risk-averse. The former include those who consider that the exchange rate risk of investments in ruble assets is not great and, in addition, that redemption and interest payments on state paper will most probably continue to be made as

scheduled whatever happens. The latter group think there is a great probability of substantial changes in exchange rate policy after the election, taking into their calculations the possibility of sharp devaluation of the ruble. They seriously consider the consequences of changes in the procedure for redemption of state securities, and also of their partial devaluation as a result of a return to an inflationary policy. The tactics of cautious investors will be gradually to move out of state paper and convert the ruble proceeds into foreign currency. Participants in the market who are confident of the stability of monetary and exchange rate policy will buy up paper at low prices and receive their risk premium in the form of a high yield.

The Russian Central Bank's policy will be determined by the desire to achieve differing aims. On the one hand, ensuring stability in the market for state securities and maintaining their yield at a level acceptable to the Ministry of Finance will require an increase in purchases of GKO and OFZ on the open market. On the other hand, the established parameters of the monetary programme impose limits on the scale of such operations. Since in May–June the price elasticity of supply in the market will evidently be high, the Central Bank should not buy securities in advance at expensive prices in order to support quotations and prevent any fall in the market. But in the event of mass desertion of the GKO and OFZ market by investors and a collapse in prices, the Bank will need to support the market by intensive buying. In this way the Central Bank minimises the volume of money issue, although the Ministry of Finance will temporarily have to make new issues at a high rate of interest.

### **Forecasting the Consequences of 'Non-Monetary' Stabilisation**

The forecast of inflation for 1996 presented above is based on the assumption that there will not be any serious changes in the structures of executive power (the new president will maintain the course of continuing reforms and financial stabilisation), that is, that implementation of the economic policy conception discussed at the start of this article will continue. Now we shall try to forecast the course of inflation in the event of more or less serious political changes.

The strengthening of the position of the leftist and nationalist parties as a result of the elections to the State Duma in December 1995 may by itself have a substantial negative influence on economic policy in 1996—and that when the constitutional possibilities for the legislature to influence the executive are extremely limited. The result of the June 1996 presidential election will be of decisive importance for the prospects of Russian economic policy over quite a lengthy period.

Under a moderately negative political scenario (the worsening of the make-up of the Duma in December 1995 and maintenance of a rather cautious executive) we start by assuming that the government will seek to adhere to the guidelines set out in the 1996 state budget law and the Basic Directions of monetary policy for 1996. But under the political scenario we are examining a course of events is possible that would lead to revision of the tight budget for 1996.

This could occur, for example, as a result of implementation of some of President El'tsin's pre-election promises and populist social initiatives of the state Duma. Carrying out these spending decisions would require additional expenditure, not included in the budget, of around Rb. 40 trillion per year. This would mean an increase in the budget deficit from 3.9% to 5.4% of GDP (a rise of 1.5% of GDP).

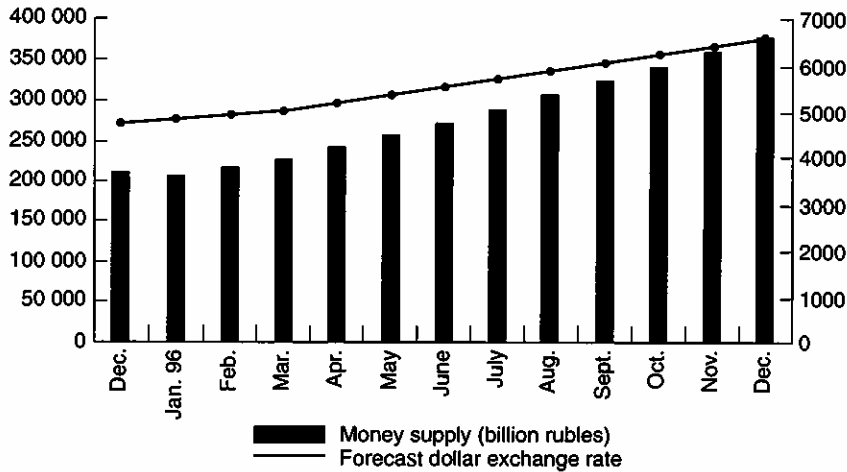


Figure 5. Scenario 2.

In the scenario we are considering, therefore, we assume that victory in the presidential election will go to a fairly responsible politician who is on the whole inclined to continue the course of deepening the reforms.

What at first glance seems an insignificant rise in budget expenditure in fact means a serious change in macroeconomic policy. The point is that, in our opinion, additional domestic borrowing amounting to 1.5% of GDP (Rb. 40–45 trillion, with a GDP, according to budget projections, of Rb. 2800 trillion) cannot be covered by the existing government securities market. If budgetary policy is softened in this manner, unscheduled additional monetary emission by the Central Bank will become necessary, for example in the form of buying state securities in the open market. On this basis the growth in the money supply in 1996 will come to around 80% instead of 40% (around 5% instead of 2.9% per month), and the rise in the dollar exchange rate, on our assumption, will accelerate to around 40% for the year. As a result, inflation the following year, according to our forecast, will be slightly over 4.5% per month or around 70% for the whole year (see Figures 5 and 6).

Such a policy in practice will mean that systematic indexation of incomes and

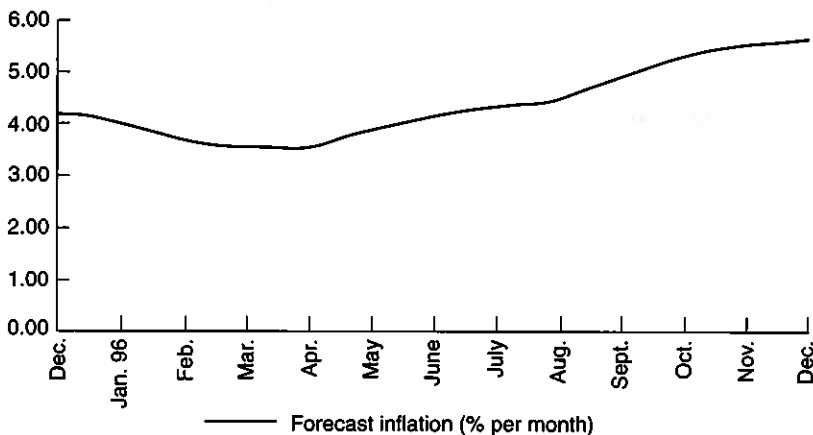


Figure 6. Scenario 2.

other nominal parameters in accordance with the rise in prices is inevitable and appropriate, which means a transition to a regime of permanent inflation at annual rates of 80–100%. This possibility was foreseen by Dornbusch as early as 1994.<sup>11</sup> The theoretical reasoning for the high probability of transition to permanent inflation is based on the thesis of the (inflationary) inflexibility of enterprises' prices and pricing policies in the short term. It is this factor, so clearly visibly in 1995, that impairs the effectiveness of monetarist stabilisation measures, which give very little result in the short run. Consequently, strong political will is essential in order to carry out stabilisation successfully—otherwise the outcome will be permanent inflation and systematic indexation of incomes.

It should be noted that in our examination of this moderately populist policy variant we have abstracted from at least two important circumstances. First, in the macroeconomic conditions described the fall in real GDP will scarcely be stopped, and second, the opportunities for both internal and external borrowing can be expected to be curtailed. Infringing the monetary policy parameters agreed with the IMF will lead to the halting of EFF credits, and will also complicate Russia's relations with her creditors.

For our third scenario of political developments we assume that up to the presidential election the current opposition will not be able to secure implementation of decisions that completely undermine the objective of stabilisation. In other words, the budget adopted for 1996 will be implemented and the monetary programme agreed with the IMF will be fulfilled. After the election, however, in this scenario, the situation will deteriorate further: a new pro-communist and/or national-patriotic president will change the government, and the Duma, supporting the president, will begin to pass laws that radically alter economic policy. To illustrate the possible consequences of such a change of economic course we assume implementation of only some (and the minimum version) of the measures contained in the pre-election rhetoric of the communist and nationalist leaders.

Most probably the primary measures in the field of price policy would include a freeze on prices of basic food products. We assumed that fixed prices would be set for approximately one-third of the goods in retail turnover. Then, with average monthly inflation which, according to our forecast based on these and subsequent assumptions, would reach 10–11% in the second half of 1996, the volume of subsidies necessary to maintain prices unchanged would amount to around Rb. 35 trillion.

The second price control measure would evidently be to fix prices for the output of the basic branches of industry—fuel and power. This is how the communists would fight the so-called cost-push inflation. The volume of budget subsidies needed for this would come to around Rb. 30 trillion.

In the area of foreign currency the most likely policy is introduction of multiple fixed exchange rates. This would inevitably lead to a need to subsidise the exchange rate for exporters. If the real exchange rate applied to exports were maintained at an unchanged level which held exporting enterprises' revenue at the summer 1996 level, subsidies of around Rb. 25 trillion would be required. Subsidies for imported food and equipment, to maintain stable domestic prices for them, would require Rb. 20 trillion.

Beside these measures we should assume growth in defence spending of a minimum of 1.5% of GDP, and increased expenditure on the economy (basically for investment, subsidies to loss-making enterprises and agriculture) of 2% of GDP. The escalation of spending decisions, of course, cannot be confined to the federal level,



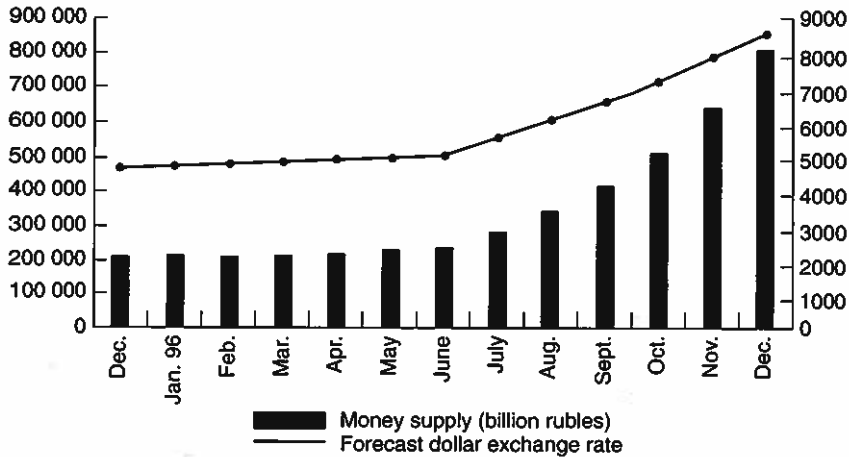


Figure 7. Scenario 3.

so we must also assume an increase in expenditure on assistance for regional budgets—1% of GDP. The total result would be a deficit on the federal budget of around 12% of GDP.

Under this new economic policy it would scarcely be possible to maintain borrowing from external and internal sources to finance the deficit in the second half of the year at the levels envisaged without resort to Central Bank credits. Consequently the monetised part of the deficit for the second half of 1996 would amount to around Rb. 300 trillion, or 9–10% of annual GDP (estimated GDP is Rb. 3200 trillion). This means growth in the money supply,  $M_2$ , in the second half of the year by 250% (a monthly average rate of 23%). Over the whole year the money supply would increase by 320% (a monthly average rate of 13%). The rate of rise of the dollar exchange rate we assume at 90% for the whole year (see Figures 7 and 8 and the Appendix).

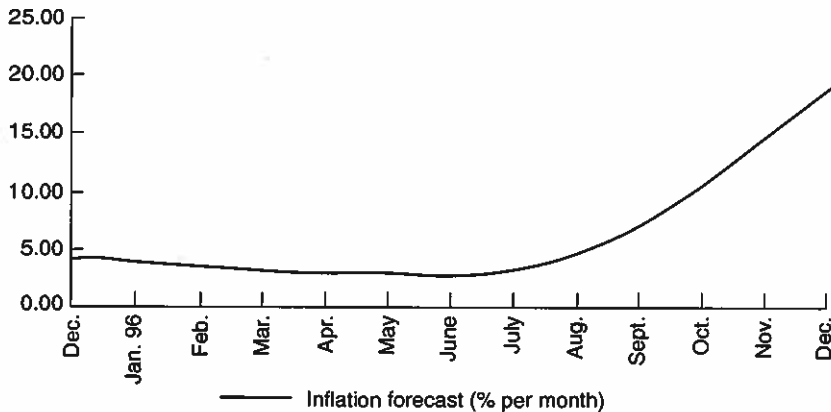


Figure 8. Scenario 3.

In these conditions the model described above gives an estimate of inflation in the second half of the year of around 80%, which is equal to a monthly average of 10.8%, but rising from 3.6% in July to 21% in December. For the year 1996 as a whole inflation would be around 130%. We also assume a rather sharp decline in the demand for money, beginning in July and gathering strength during the summer and autumn of 1996. Over the period July–December 1996 the demand for real money would fall, according to our estimate, by about 10–12%. Then, taking account of the inertia of prices, the main surge in inflation would be postponed to 1997. For some time, therefore, the new regime would enjoy the fruits of the 1995–96 stabilisation policy, increasing budget expenditure with relatively low inflation.

### Notes

1. This article does not deal with privatisation problems. The approach to privatisation is rightly considered to be one of the important elements of any economic policy doctrine. But this is a separate subject which deserves a special study, beyond the *macroeconomic* problems of post-communist transformation.
2. There are certain criteria for differentiating these interest groups, which in some economic situations may overlap or coincide. We should first mention economic agents (enterprises, firms etc.) capable or incapable (for various reasons) of adapting to a competitive market economy. Closely linked to this criterion is the subdivision of enterprises into those which do not need special, favourable financial conditions (i.e. those for which general financial stabilisation is sufficient) and those that cannot survive without permanent 'cheap money' aid (preferential loans, budget subsidies etc.). In Russia today there are considerable divergences in the interests of industrial, trade and, not infrequently, financial organisations, as well as enterprises (firms) manufacturing for export and those oriented to import substitution. Exporters' and importers' interests differ widely too. There are also corresponding territorial differences among different subjects of the Federation. We shall look at these differences later in relation to particular Russian economic policy alternatives.
3. See, for example, V. Pugachev & A. Pitelin, 'Rossiiskaya inflyatsiya: traktovka, modelirovanie, metody bor'by', *Voprosy ekonomiki*, 1994, 11; B. Ikes, 'Inflyatsiya v Rossii: uroki dlya reformatorov', *Voprosy ekonomiki*, 1995, 3; A. Afanas'ev & O. Vite, 'Inflyatsiya izderzhak i finansovaya stabilizatsiya', *Voprosy ekonomiki*, 1995, 3; D. Belousov & A. Klepach, 'Monetarnye i nemonetarnye faktory inflyatsii v rossiiskoi ekonomike v 1992–1994 gg.', *Voprosy ekonomiki*, 1995, 3; B. Granville, *The Success of Russian Economic Reforms* (London, Royal Institute of International Affairs, 1995); R. Skidelsky & L. Halligan, *Macroeconomic Stabilisation in Russia: Lessons of Reform, 1992–1995* (London, Social Market Foundation, 1996).
4. See, for example, A. Illarionov, 'Priroda rossiiskoi inflyatsii', *Voprosy ekonomiki*, 1995, 3.
5. For details see R. Dornbusch & S. Edwards (eds), *The Macroeconomics of Populism in Latin America* (Chicago, London, The University of Chicago Press, 1991).
6. V. Mau, 'Politicheskaya ekonomiya populizma', *Nezavisimaya gazeta*, 28 March 1996.
7. S. Fisher & O. Blanchard, *Lectures on Macroeconomics* (MIT Press, 1990), pp. 388–401.
8. A. Dixit & J. Stiglitz, 'Monopolistic Competition and Optimum Product Diversity', *American Economic Review*, 67, 3, 1977, pp. 297–308.
9. J. Taylor, 'Aggregate Dynamics and Staggered Contracts', *Journal of Political Economy*, 80, 1, 1980, pp. 1–24; J. Fuhrer & J. Moore, 'Inflation Persistence', *Quarterly Journal of Economics*, 110, 1, 1995, pp. 127–159.
10. Fisher & Blanchard; *Lectures on Macroeconomics*, p. 392.
11. R. Dornbusch, 'Ya by investiroval v Rossiyu, chtoby imet' kusok ee budushchego uspekha', *Kommersant*, 20 December 1994.

Appendix: Results of Calculations

Scenario 1.

|              | Exchange<br>rate at<br>end of<br>month (Rb./\$) | M <sub>2</sub><br>(billion<br>rubles) | Index of<br>actual rate<br>of growth<br>of prices<br>during month | Geometrical<br>mean monthly<br>rate of<br>growth of<br>M <sub>2</sub> over<br>previous 6 months | Forecast<br>under<br>scenario 1 |
|--------------|---|---------------------------------------|---|---|---------------------------------|
| January 1992 | 230   | 1 054                                 | 2.450   |   |                                 |
| February     | 139   | 1 204                                 | 0.380   |   |                                 |
| March        | 160   | 1 369                                 | 0.300   |   |                                 |
| April        | 144   | 1 506                                 | 0.220   |   |                                 |
| May          | 128   | 1 641                                 | 0.120   |   |                                 |
| June         | 113   | 2 093                                 | 0.186   |   |                                 |
| July         | 144   | 2 668                                 | 0.110   |   |                                 |
| August       | 205   | 3 422                                 | 0.090   | 0.142   | 0.113                           |
| September    | 254   | 4 515                                 | 0.107   | 0.190   | 0.145                           |
| October      | 398   | 5 722                                 | 0.231   | 0.220   | 0.209                           |
| November     | 447   | 6 038                                 | 0.261   | 0.249   | 0.271                           |
| December     | 415   | 6 400                                 | 0.255   | 0.243   | 0.285                           |
| January 1993 | 572   | 7 187                                 | 0.260   | 0.205   | 0.282                           |
| February     | 593   | 7 782                                 | 0.246   | 0.180   | 0.262                           |
| March        | 684   | 8 913                                 | 0.197   | 0.147   | 0.223                           |
| April        | 823   | 11 063                                | 0.191   | 0.120   | 0.198                           |
| May          | 1 024   | 13 460                                | 0.179   | 0.116   | 0.201                           |
| June         | 1 060   | 15 765                                | 0.201   | 0.143   | 0.190                           |
| July         | 987   | 18 482                                | 0.224   | 0.162   | 0.181                           |
| August       | 992   | 21 121                                | 0.258   | 0.170   | 0.170                           |
| September    | 1 169   | 21 771                                | 0.232   | 0.181   | 0.164                           |
| October      | 1 184   | 24 554                                | 0.195   | 0.160   | 0.143                           |
| November     | 1 231   | 26 788                                | 0.164   | 0.142   | 0.127                           |
| December     | 1 241   | 32 601                                | 0.124   | 0.122   | 0.117                           |
| January 1994 | 1 548   | 33 980                                | 0.180   | 0.129   | 0.126                           |
| February     | 1 659   | 36 900                                | 0.110   | 0.107   | 0.121                           |
| March        | 1 753   | 39 550                                | 0.069   | 0.095   | 0.117                           |
| April        | 1 832   | 46 401                                | 0.086   | 0.105   | 0.117                           |
| May          | 1 916   | 52 253                                | 0.072   | 0.112   | 0.122                           |
| June         | 1 989   | 59 414                                | 0.055   | 0.118   | 0.114                           |
| July         | 2 060   | 64 363                                | 0.050   | 0.105   | 0.105                           |
| August       | 2 197   | 70 970                                | 0.042   | 0.112   | 0.102                           |
| September    | 2 633   | 77 063                                | 0.076   | 0.118   | 0.109                           |
| October      | 3 975   | 80 359                                | 0.156   | 0.118   | 0.137                           |
| November     | 3 234   | 84 348                                | 0.135   | 0.096   | 0.133                           |
| December     | 3 550   | 97 800                                | 0.164   | 0.083   | 0.131                           |
| January 1995 | 4 048   | 93 800                                | 0.178   | 0.087   | 0.135                           |
| February     | 4 473   | 101 439                               | 0.110   | 0.065   | 0.127                           |
| March        | 4 899   | 107 300                               | 0.089   | 0.062   | 0.103                           |
| April        | 5 130   | 123 200                               | 0.085   | 0.057   | 0.102                           |
| May          | 4 990   | 138 200                               | 0.079   | 0.074   | 0.098                           |
| June         | 4 539   | 156 600                               | 0.067   | 0.086   | 0.085                           |
| July         | 4 445   | 165 000                               | 0.054   | 0.082   | 0.069                           |
| August       | 4 447   | 173 800                               | 0.046   | 0.099   | 0.059                           |

## Scenario 1.—Continued

|              | Exchange<br>rate at<br>end of<br>month (Rb./\$) | M <sub>2</sub><br>(billion<br>rubles) | Index of<br>actual rate<br>of growth<br>of prices<br>during month | Geometrical<br>mean monthly<br>rate of<br>growth of<br>M <sub>2</sub> over<br>previous 6 months | Forecast<br>under<br>scenario 1 |
|--------------|---|---------------------------------------|---|---|---------------------------------|
| September    | 4 499   | 179 700                               | 0.045   | 0.093   | 0.050                           |
| October      | 4 504   | 184 200                               | 0.047   | 0.090   | 0.045                           |
| November     | 4 581   | 195 200                               | 0.045   | 0.069   | 0.043                           |
| December     | 4 645   | 213 800                               | 0.032   | 0.059   | 0.042                           |
| January 1996 | 4 734   | 208 455                               | 0.041   | 0.053   | 0.041                           |
| February     | 4 818   | 214 709                               | 0.030   | 0.040   | 0.037                           |
| March        | 4 855   | 221 150                               |   | 0.036   | 0.035                           |
| April        | 4 926   | 227 563                               |   | 0.035   | 0.033                           |
| May          | 4 998   | 234 163                               |   | 0.036   | 0.032                           |
| June         | 5 070   | 240 953                               |   | 0.031   | 0.030                           |
| July         | 5 144   | 247 941                               |   | 0.020   | 0.027                           |
| August       | 5 220   | 255 131                               |   | 0.020   | 0.025                           |
| September    | 5 296   | 262 530                               |   | 0.029   | 0.026                           |
| October      | 5 373   | 270 143                               |   | 0.029   | 0.026                           |
| November     | 5 452   | 277 978                               |   | 0.029   | 0.026                           |
| December     | 5 531   | 286 039                               |   | 0.029   | 0.027                           |

Note: Data on M<sub>2</sub> and inflation up to January 1996 and the dollar exchange rate up to February are actual.

## Scenario 2

|              | Exchange<br>rate at<br>end of<br>month (Rb./\$) | M <sub>2</sub><br>(billion<br>rubles) | Index of<br>actual rate<br>of growth<br>of prices<br>during month | Geometrical<br>mean monthly<br>rate of<br>growth of<br>M <sub>2</sub> over<br>previous 6 months | Forecast<br>for 1996<br>under<br>scenario 2 |
|--------------|---|---------------------------------------|---|---|---|
| January 1996 | 4 734   | 208 455                               | 0.041   | 0.053   | 0.041                                       |
| February     | 4 818   | 218 878                               | 0.030   | 0.040   | 0.037                                       |
| March        | 4 855   | 227 852                               |   | 0.039   | 0.035                                       |
| April        | 5 025   | 243 801                               |   | 0.040   | 0.036                                       |
| May          | 5 200   | 258 429                               |   | 0.048   | 0.039                                       |
| June         | 5 383   | 273 935                               |   | 0.048   | 0.042                                       |
| July         | 5 571   | 289 002                               |   | 0.042   | 0.043                                       |
| August       | 5 766   | 307 787                               |   | 0.043   | 0.046                                       |
| September    | 5 968   | 326 254                               |   | 0.058   | 0.051                                       |
| October      | 6 177   | 344 198                               |   | 0.062   | 0.054                                       |
| November     | 6 393   | 363 129                               |   | 0.059   | 0.056                                       |
| December     | 6 616   | 383 101                               |   | 0.058   | 0.057                                       |

Note: Data on M<sub>2</sub> and inflation for January and dollar exchange rate for January–February are actual.

## Scenario 3

|              | Exchange<br>rate at<br>end of<br>month (Rb./\$) | M <sub>2</sub><br>(billion<br>rubles) | Index of<br>actual rate<br>of growth<br>of prices<br>during month | Geometrical<br>mean monthly<br>rate of<br>growth of<br>M <sub>2</sub> over<br>previous 6 months | Forecast<br>for 1996<br>under<br>scenario 3 |
|--------------|---|---------------------------------------|---|---|---|
| January 1996 | 4 734   | 208 455                               | 0.041   | 0.053   | 0.041                                       |
| February     | 4 818   | 214 709                               | 0.030   | 0.040   | 0.037                                       |
| March        | 4 855   | 221 150                               |   | 0.036   | 0.035                                       |
| April        | 4 926   | 228 890                               |   | 0.035   | 0.033                                       |
| May          | 4 998   | 238 046                               |   | 0.037   | 0.032                                       |
| June         | 5 070   | 247 568                               |   | 0.034   | 0.031                                       |
| July         | 5 578   | 297 081                               |   | 0.025   | 0.036                                       |
| August       | 6 135   | 356 497                               |   | 0.051   | 0.054                                       |
| September    | 6 749   | 434 927                               |   | 0.088   | 0.084                                       |
| October      | 7 424   | 534 960                               |   | 0.119   | 0.123                                       |
| November     | 8 166   | 668 700                               |   | 0.152   | 0.167                                       |
| December     | 8 983   | 842 562                               |   | 0.188   | 0.209                                       |

Note: Data on M<sub>2</sub> and inflation for January and dollar exchange rate for January–February are actual.