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A STABILIZATION FUND FOR RUSSIA

Problems and Prospects

Editor's Introduction

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Fund in the Russian Federation**

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The Prospects for Creating a Stabilization Fund in the Russian Federation

The state of the Russian economy is determined largely by the export sector. While export volumes (converted to rubles) were about 20-25 percent of GDP throughout 1993-98, the relative export volume rose sharply after the ruble devaluation in 1998-99. Export volume in 1999 was 41 percent of the Russian GDP. More than 80 percent of exports go to countries of the far abroad.

In value terms, raw materials (petroleum and petroleum products, gas, ferrous and nonferrous metals) dominate Russian Federation [RF] exports. According to RF State Customs Committee data, in 1999 they constituted almost 65 percent of the total exports (i.e., \$55 billion). That included 43 percent going to mineral products (42 percent to the fuel and energy complex) and 22 percent to metals and metal products. According to Ekspert RA rating agency data, the four largest Russian exporting enterprises

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in 1999 were in oil, gas, and nonferrous metallurgical industries: Gazprom, Noril'sk Nickel, LUKoil-West Siberia, and Surgutneftegaz NK¹ [oil company] (with total exports of US\$13,3 billion, or about 15 percent of total exports).

However, the prices for these goods are highly variable on world commodities markets, on which Russia acts as a "price-taker." World market prices for raw materials thus determine the situation and growth prospects of the Russian economy. In the opinion of World Bank experts, price shocks on world raw materials markets can cause:²

- fiscal and monetary-credit imbalances, and inflation;
- changes in the real exchange rate;
- low levels of investment in nonraw materials sectors of the economy;
- capital flight; and
- strong raw materials lobbies on decision making and economic policy.

The status of the RF state budget, especially the federal budget, is directly related to conditions on world commodity markets. According to our estimates, the fluctuations in federal budget revenues due to changes in oil prices have reached 2.2 percent of GDP (or 19 percent of total federal budget revenues). Favorable market conditions produce an influx of funds to the federal budget, which largely explains the federal budget surpluses of 1999 and 2000. On the other hand, a drop in prices in world commodities markets worsens the situation in the budgetary sphere, the most vivid example of this being 1998.

The experience of countries specializing in raw materials, including Norway, Chile, and Venezuela, shows that these governments can take advantage of periods of high export prices to accumulate temporary surplus revenues in a stabilization or a future generations fund. The resources in such a fund can be used to support budget spending and pay off foreign debt during periods of unfavorable prices, or after the country's mineral resources have been depleted.

Today's high prices for petroleum and petroleum products, gas, nickel, and aluminum (the average yearly price of oil, for example, reached a fifteen-to twenty-year high in 2000) create the economic preconditions essential for establishing a stabilization fund in the RE. Because of the high debt burden and the incompleteness of official reforms, we will consider the creation of a stabilization fund rather than a future generations fund. Even though problems of nonrenewable and limited reserves of natural resources are relevant to Russia (known reserves of many types of minerals will be depleted in 50-100 years), the question of creating a future generations fund seems to be a matter for the future, when the role of the raw materials sector in the economy will be less and the level of federal budget revenues more stable.

The principal aims of creating a stabilization fund in the Russian Federation are to accumulate revenues that are generated in the export sector during periods of high world prices, to use them to pay off foreign debt and support noninterest budget spending during periods of unfavorable market conditions, and to slow the rise in the real exchange rate during periods of high export receipts.

In the first part of this article, we analyze international experience with stabilization funds. We review the main mechanisms and principles used in accumulating resources in these funds, procedures for allocating resources in these funds, and the management of fund assets. In the second part, we examine the creation and operation of a stabilization fund from a theoretical macroeconomic standpoint. The draft RF federal law "On Stabilization Funds" is the focus of the third part of this article, while the legislative changes and amendments to the budget and the budgetary process associated with creating a stabilization fund are examined in part four. Part five includes tentative estimates of possible receipts to a hypothetical RF stabilization fund during 1993-2000, and an explanatory note to the draft RF federal law "On Stabilization Funds."

International experience in creating and operating stabilization funds

Stabilization funds and their analogues were operating in at least fifteen countries or subnational regions by the end of the 1990s. In this section, we consider the experience of various countries in the second half of the twentieth century in creating and operating stabilization funds, including the basic mechanisms and principles for accumulating and spending fund resources, and methods of managing fund assets. This section has been prepared using materials and studies of the International Monetary Fund, the World Bank, and the United Nations.³

Funds that are formed from "surplus" (relative to a level defined by national legislation) or supplemental (in the event of high export prices) budget revenues and receipts from natural resource exports may be divided into three types:

- (1) stabilization funds (Alaska, Venezuela, Colombia, Kuwait, Nigeria, Norway, and Chile);
- (2) future generations funds (Alberta, Alaska, Kiribati, Kuwait, Oman, and Papua New Guinea); and
- (3) budget reserve funds (Hong Kong, Singapore, Estonia, and the Republic of South Africa).

The last type of fund is associated with revenues accumulated during years of state budget surpluses, as well as additional sources of state savings (e.g., revenues from privatization). The goal in creating such funds is to stabilize state spending during years of recession and economic decline or unfavorable conditions for raw materials in world markets.

The first two types of funds are associated with accumulating revenues generated in one way or another through nonrenewable resource exports. These funds differ mainly in the purposes for which they are created: stabilization funds are created to even out fluctuations in state budget revenues and expenditures, and to provide additional financing for state spending in the areas where resources are being extracted. Future generations funds are designed for use once the natural resource has been depleted, or for

making additional (quasi-rent) payments to the population of territories where minerals are being extracted. The funds perform a mixed role in a number of cases (e.g., in the Canadian province of Alberta, the state of Alaska, and in Kuwait, Norway, and Papua New Guinea).

The Revenue Equalization Fund of Kiribati was created in 1956 as a trust fund for future generations after the expected depletion of phosphate fields.⁴ The Alberta Heritage Savings Trust Fund⁵ was created in the Canadian province of Alberta in 1976. Some of the resources in the fund are saved for future generations (a portfolio of allotted resources, the Endowment Portfolio), while some are used to finance ongoing government programs and state services (a Transition Portfolio). Funds similar in structure and purpose are operating in Alaska (see below) and Papua New Guinea.

An Oil Stabilization Fund was founded in Colombia in 1993. One distinguishing feature of that fund is its decentralization (an analogous system is operating in Venezuela, see below). Receipts to the fund are distributed to regional budgets and the state oil company according to rules stipulated ahead of time. A Petroleum Trust Fund was created in Nigeria in 1995 in order to provide additional revenues for state budget financing of health care, education, and other state services.

We will consider below the experience and functional principles of six of the more successful and secure stabilization funds: Alaska, Venezuela, Kuwait, Norway, Oman, and Chile. The principal characteristics and specific features of those funds (with regard to the purpose of their creation and the procedure for their formation, utilization, management, and size) are presented in Table 1.

Norway. The Norwegian State Petroleum Fund was founded in 1990. Its creation was made necessary by the aging of the population and a decline in petroleum extraction volumes. Simultaneously a savings and stabilization fund, it is supposed to provide long-term budgetary stability.

Resources are only contributed to the fund in years of state budget surpluses, which in turn are determined by oil price levels and the size of the budget deficit (less budget revenues from

Table 1

Principal Characteristics of Six **Successful Stabilization Funds**

	State Petroleum Fund of Norway	Copper Stabilization Fund of Chile	Macroeconomic Stabilization Fund of Venezuela	Petroleum Funds of Alaska	Oil Fund of Kuwait	Oil Fund of Oman
Year of creation	1990 (no receipts before 1996)	1985 (no receipts before 1987)	1998	1976 (Alaska Permanent Fund, SFA) 1990 (Constitutional Budget Reserve Fund, CBRF)	1960	1980
Purpose	Formation of financial reserves during periods of stable or high prices for oil or general expansion of the economy, due to the aging of the population and depletion of petroleum reserves	Stabilization of the real exchange rate and state budget revenues in the face of fluctuations in world copper prices	Protection of state budget and economy against oil price fluctuations	SFA—accumulation of revenues for future generations; CBRF—to even out short-term fluctuations in state budget revenues	Accumulation of revenues for future generations	Accumulation of revenues for future generations
Formation	Share of aggregate state budget revenues in the	Under conditions of central government budget surplus,	From three sources: central government budget,	SFA—not less than 25 percent of the rents from fields,	50 percent of oil revenues of the budget	A portion of state revenues

event of a surplus of central government budget

deductions are proportional to the gap between current prices for copper and the long-term level of copper prices as as determined each year

regional budgets, state oil company. For the central government: all tax revenues from the oil sector, royalties, dividends of the state oil company above a five-year average level, minus mandatory transfers to the regions and to the foreign debt repayment fund. Regional budgets: if the five-year average level of the transfer from oil revenues is exceeded. The state oil company: when current prices for oil exceed a five-year average level

royalties, and other payments paid by the oil sector to the budget. CBRF—a share of tax receipts from the oil sector stipulated annually when the state's budget is adopted

during periods of high prices plus 10 percent of all state budget revenues plus a portion of the revenues of state oil companies

from the oil sector (taxes and revenues of the state oil company), depending on the amount by which the current price for oil exceeds the level of \$15 per barrel

Size

4.8 percent of GDP in the first year (1996), 17.7 percent of GDP in 1999

Accumulated size of \$3.9 billion (in 1997), maximum annual gain \$1.056 billion (in 1989)

\$1.7 billion (by the beginning of 2000)

SFA—\$27.1 billion (1999)
CBRF—\$6.1 billion (1999)

Receipts as much as \$4 billion in individual years

Receipts as much as \$1.5 billion in individual years

(continued)

Table 1 (continued)

	State Petroleum Fund of Norway	Copper Stabilization Fund of Chile	Macroeconomic Stabilization Fund of Venezuela	Petroleum funds of Alaska	Oil Fund of Kuwait	Oil Fund of Oman
Utilization	In the short run—as a "financial cushion" when budget revenues drop. In the long run—as intergenerational equalization to the extent of depletion of petroleum reserves and increased social spending caused by the aging of the population	The government has the right to draw resources from the fund when current prices for copper are below a long-term level as determined annually, right up to the complete utilization of the fund. At the end of the 1980s, the fund was used to repay government debt of the Bank of Chile and to subsidize domestic gasoline prices	Only in the short run, by all three levels (central government, regional governments, state oil company), if the current indicators are below prescribed five-year averages, or if the size of the fund exceeds 80 percent of the average annual receipts from the petroleum sector over the preceding five years. In the latter case, the fund may be used to repay foreign debt or for capital investments of the regional budgets	SFA: determined annually by the legislative authorities of the state and the governor. Since the time of creation 42 percent has been paid to living generations, with the rest invested for future generations. CBRF: a "ceiling" for the utilization of the funds is set annually by the state's legislative body when the budget is adopted, is often reviewed during the year, and is usually used for budget deficit financing (including during the fiscal year). Resources from the fund are given to the government on terms of repayment during periods of budget surplus	To the extent of government needs to finance budget deficits	Financing of budget deficit, investments in the development of oil fields

Management	Procedure and nature of investment of fund resources are determined by the government; investments in nonmonetary foreign assets (to stabilize the real exchange rate), as well as in the shares of companies not associated with the raw materials sector	Government of Chile - ~	Utilization of funds— with the permission of parliament. Management of the funds—by the Central Bank of Venezuela. Investments—in foreign assets and investments that could cause obligations to arise for the fund are prohibited	SFA—self-managed investments in a portfolio of financial assets CBRF— state government	Kuwait Investment Administration (since 1982, up to then, the Ministry of Finance); no constraints on types of investments	Ministry of Finance. A large portion of the funds is invested in foreign assets, and a small portion is placed in currency deposits at the Central Bank of Oman
Specific features	Size of contributions is determined annually in the process of budget approval by parliament	Government operates according to a permanent rule defined in the law	Currently being reformed for medium-term goals, but simultaneously easing the rules for utilization of the funds	—	Information on the size of the fund and the nature of the investments is not made public by law	—

the petroleum sector). There is no definite rule or formula in Norway for determining contributions to the fund, and each contribution is approved separately by the country's parliament in the context of the overall budget process.

The mechanism for accumulating resources is analogous to the procedure for using the fund's resources. The government may request permission from parliament to use the funds both for short-term purposes (to compensate for a drop in budget revenues) and for the long-term intergenerational leveling of budget revenues, when oil production volumes drop and social spending rises.

The government (the Ministry of Finance) determines the general guidelines for investing the fund's resources and for establishing the basic portfolio; the yield on this portfolio is the basis for assessing the effectiveness of the utilization of fund resources. Currently managed by the Central Bank, the fund's assets consist of foreign financial assets (state bonds, securities of companies not associated with oil), which helps slow the growth in the real exchange rate.

The ten years of fund operations have proved exceptionally successful. The balanced budgets made possible by the fund have helped smooth fluctuations in aggregate demand, reduce inflationary pressures, and slow the pace of real exchange rate appreciation. A negative correlation has been achieved between current revenues and budget spending due to the counter-cyclical policy for utilizing fund resources. However, it must be noted that the fund has existed under conditions of tight, conservative fiscal policy and economic expansion in the country. Total annual receipts to the fund have been positive since 1996⁶ (including in 1998, when oil prices were minimal). Total fund resources had reached US\$26 billion by the end of 1999 (18 percent of Norwegian GDP). The maximum annual fund transfers from the budget reached 6 percent of GDP.

Chile. The Copper Stabilization Fund was created in 1985 in order to protect the real exchange rate and state budget revenues from fluctuations in copper export receipts.

Accumulation and expenditures of fund resources are based on estimates of long-term copper prices as determined annually by the government of Chile. Total fund receipts are calculated according to a formula reflecting the difference between current copper prices in export contracts and a base long-term price. The government is permitted to use fund resources when the current price is below the base. The total allotments the government can take out of the fund are calculated according to the same formula, until the fund's resources are used up. Although the principles for accumulating and utilizing fund resources are aimed at insulating them from the effects of political forces and lobbies, fund resources were nonetheless used to subsidize domestic gasoline prices (as well as pay foreign debt) at the end of the 1980s.

One specific feature of Chile's stabilization fund is that the rules are applicable only to the revenues of the state copper company (CODELCO), and essentially serve as an additional tax on the company. Fund resources are treated as illiquid foreign exchange reserves (like gold), and are managed by the Central Bank.

As in Norway, the Chilean fund has functioned primarily under conditions of tight fiscal policy. However, fluctuations in the size of the fund have been larger in Chile, with the maximum value of the fund achieved in 1997 (at about \$3.9 billion, or about 5 percent of GDP). The fund had declined by approximately \$800 million by the beginning of 2000.

Venezuela. The Macroeconomic Stabilization Fund was created in November of 1998, when world oil prices had reached a minimum. The goal was to protect the economy and state budget against fluctuations in oil prices. The fund has become part of the Venezuelan government's program to stabilize state finances and improve efficiency in managing state property (the state petroleum company, *Petroleos de Venezuela*). Fund allocations are decentralized: its resources are used to smooth out fluctuations in oil export revenues for both the central and regional governments, as well as for the state petroleum company itself.

The principle for accumulating and spending fund resources is

simple: all revenues received from each of the three beneficiaries (the central and regional governments and the state petroleum company) over and above stipulated base revenue amounts are deposited in the fund. The formula for calculating the base revenue values differs somewhat for each beneficiary, but is based in all cases on a five-year average level of oil prices. The fund's resources may be allocated (with the approval of the Congress) in two cases: when revenues from petroleum exports are below the base value, or when the amount of fund resources exceeds 80 percent of the average annual amount of oil export revenues for the past five years. In the latter case, the central government has the right to utilize the fund's resources to pay off foreign debt, while the regional governments can use them for capital spending. The fund thus exclusively serves the goals of short-term macroeconomic stabilization.

Legislative changes made in 1999 weakened the fund's macroeconomic stabilization role. Very low base values were set, only half the funds over and above the base levels were directed to the fund, and allocations from the fund for social spending and state investment were permitted on the basis of presidential decisions. The fund has effectively been replenished by state borrowings since 1999, meaning that the budget deficit has been sustained.

The Central Bank of Venezuela manages the resources of the fund, which are invested in international financial assets. Investments in financial operations, loans, or guarantees, or the issue of debt that could cause obligations to arise for the fund are prohibited.

Total fund resources at the beginning of the year 2000 were about \$1.7 billion (including \$700 million from the central government, \$400 million from the regional authorities, and \$600 million from the state petroleum company).

Alaska. There are effectively two funds operating in Alaska: a savings fund called the Alaska Permanent Fund, and a stabilization fund called the Constitutional Budget Reserve Fund.

The Alaska Permanent Fund was established in 1976 as a trust fund for future generations. Its principal aim is the creation of an

investment base that can provide revenues for future generations, when the state's petroleum reserves have been depleted.

Fund revenues come from a 25 percent levy on payments for usage of mineral resources, royalties, and federal revenue sharing payments from mineral resources and transfers received by Alaska. A significant portion of the revenues from the oil sector thus goes around the state's budget, and the revenues of the fund depend neither on oil prices nor on the state's budget balance. The fund's principal is invested permanently, and may not be used without an amendment to the state's constitution in a referendum.

The state governor and legislature determine the annual plans for fund expenditures. A portion of the funds (42 percent since 1982) has been paid in the form of "dividends" to all citizens of Alaska, while the rest goes for reinvestment (to compensate for inflation) and to increase the fund principle.

The resources of the fund are under the management of the public Alaska Permanent Fund Corporation, and are invested in a portfolio of equities and fixed-rate securities. Fund principal had reached US\$27.1 billion by the end of 1999, with "dividends" of \$1,770 per person.

The Constitutional Budget Reserve Fund was created in 1990 in response to the sharp drop in oil prices at the end of the 1980s, and the resulting drop in state spending and economic activity. The principal goal of the fund is to compensate for declines in state budget revenues, by financing annual budget gaps, among other things.

However, fund revenues do not fluctuate with changes in oil prices. Their amount is determined annually by the state's Congress as part of tax revenues and royalties, as well as by the fund's revenues from investments. The fund's resources are also allocated by decision of the legislature, and the maximum (upper) amount has to be approved by three-quarters of the votes in each chamber. The fund's resources are furnished to the state government as credit that is to be repaid during a period of budget surplus.

The total amount of revenues to the fund in 1991–99 reached \$6.1 billion.

Kuwait. The Oil Fund of Kuwait was founded in 1960, in the form of a General Reserve Fund to accumulate funds from budget surpluses resulting from oil export revenues. However, the rules for using fund resources were not clearly defined, so they are used to finance all types of state spending.

The Reserve Fund for Future Generations, aimed at providing a revenue stream for future generations, was created in 1976. The fund was initially formed by reallocating 50 percent of the resources in the General Reserve Fund and 10 percent of annual state revenues, as well as revenues from the assets of the fund. Thus, as in the case of the Alaska Permanent Fund, the revenues of Kuwait's General Reserve Fund are insulated from oil price fluctuations. Some of the fund's resources were used during the Persian Gulf crisis in 1990-91 (with the approval of the national assembly).

Since the Reserve Fund for Future Generations was created, the General Reserve Fund has been used for stabilization functions, as well as for servicing state debt and state investments. Clear-cut rules for forming the fund and for its utilization are still lacking. The funds may be spent on the approval of the Council of Ministers.

Both funds are managed independently of the government by the Kuwait Investment Authority. The resources of the fund are invested in foreign financial assets.

One distinguishing feature of the Kuwaiti funds is the ban on disseminating information about the amount of their resources. However, the resources in the funds must be significant, since Kuwait's budget surplus has exceeded 10 percent of GDP in recent years.

Oman. Since Oman's proven oil reserves are relatively small (enough for fifteen to twenty years of production), the State General Reserve Fund was established in 1980 to serve as a source of funds for future generations to replace oil revenues. Its resources are often used for current state spending nonetheless.

Fund revenues, which were initially stipulated at 15 percent of all oil revenues, were later reduced to 5 percent (in 1986). All oil revenues over and above \$15 per barrel have been directed into the fund since 1989.

Policy regarding the stabilization fund in Oman was altered in 1990, and a Contingency Fund was founded and later renamed the Oil Fund in 1993.

The Oil Fund finances investments in the oil sector. The fund is formed out of that portion of oil revenues that accrues when export prices exceed \$15 per barrel. As in Kuwait, there is no explicit mechanism for disbursing fund resources, and total fund resources are not reported.

The fund is managed by the Ministry of Finance of Oman, and its resources are invested in foreign assets and currency deposits in the Central Bank of Oman.

* * *

This description of how stabilization funds function in various countries suggests the following conclusions:

First, it is important to differentiate between two types of funds—stabilization and savings (future generations) funds. The revenues of the former, as a rule, depend on world prices for natural resource exports, while the sources of funding for the latter are defined on a permanent basis depending on the given territory's natural resource endowment.

Second, the goals for creating the funds are either to balance state budget revenues and expenditures, or to provide future generations with a stream of income after the depletion of mineral resource reserves.

Third, principles for generating and allocating the resources in the funds are usually tied to the price of an exportable raw material (oil, copper, phosphates).

Fourth, stabilization funds are created primarily in countries where a single state company exports natural resources.

Fifth, the assets of these funds are managed by the central banks or by independent state institutions.

Sixth, stabilization funds in Arab countries are distinguished by their closed nature and the absence of transparent principles for accumulating and disbursing their resources.

Seventh, it is possible to create decentralized funds whose resources are used either by regional authorities or state companies, apart from the central government.

Theoretical aspects of stabilization funds

The previous section shows that the basic goals of stabilization funds are balancing state budget revenues and spending and accumulating funds for future generations when income producing resources have been depleted. This section is devoted to the theoretical aspects of creating stabilization funds.

In discussing the possible theoretical approaches to creating a stabilization fund, we will consider a small, open economy with the following characteristics:

- state budget revenues come from the proceeds of export sectors, which are determined by world market prices for the basket of resources being exported; these prices vary stochastically and cannot be very accurately predicted;

- * the government wishes to regulate budget spending against a backdrop of changing revenues, but is forced to do so in a unigenerational context, that is, it is unable to borrow to finance spending during periods of unfavorable market conditions.

With revenues varying stochastically, the government encounters a whole series of problems. First, there are political problems associated with changes in state spending. While it is quite easy to increase state spending when market conditions are favorable, reducing it when revenues drop is much more difficult, since such reductions require complex negotiations with parliament. If additional revenues generated by high prices do not finance traditional budget expenditures (subsidizing and furnishing social benefits),

but are instead used for investment purposes at the government's discretion, reductions in spending can be accomplished relatively easily. Additional revenues may be easily used for planned repayment of foreign and domestic debt when periods of high revenues coincide directly with periods of peak payments. If that is not the case, the failure to accumulate additional revenues during favorable periods aggravates the situation—by increasing spending during favorable periods and encountering significant debt payments during periods of low revenues, the government is forced either to default on its obligations to creditors or to reduce for obligations that are central to the budget.

Second, significant fluctuations in revenues for the government and economic agents can generate "Dutch disease" effects. When world market conditions are favorable (high export prices), growing incomes in export-oriented sectors leads raises demand within the country, causing an income effect for the economy as a whole. The propensity to invest in export sectors, along with a stronger real exchange rate, can reduce growth rates in other sectors and in the economy as a whole (in the long term). This problem can be attenuated if, when world market prices are favorable, a significant portion of the additional revenues are extracted by the state through taxes and accumulated in a special asset account—a stabilization fund. Besides evening out spending when export prices are low, the savings or stock of resources of the stabilization fund formed in this way could also be used to pay off the country's foreign debt. It is often more appealing to use accumulated savings not for planned foreign debt repayment (which transfers budget obligations to the stabilization fund), but rather to raise the well-being of future generations through unplanned debt reductions and buybacks.

Due to the political factors mentioned above, the government does not have a neutral attitude toward risk. A relatively constant amount of spending (without considering cutbacks planned as a result of reforms) will help support economic and political stability. When the financial markets to which the government has

access are immature—when it is impossible to insure against the risks associated with fluctuations in revenues—the government can create its own insurance institution, a stabilization fund, using some portion of the insurance reserves specially allocated for the purpose of regulating spending.

This approach to creating and operating a stabilization fund raises problems often associated with insurance, including issues of sampling and unobservable behavior. The former problem is apparent in the fact that the desire to stabilize spending and even out revenues using savings mechanisms generally arises only when government revenues start to decline or are already low. When market conditions are favorable, there are no incentives for saving. Problems of unobservable behavior manifest themselves in the fact that allocations from the stabilization fund can weaken incentives for the government to increase tax revenues through, for example, improvements in tax administration.

The implementation of the insurance approach to forming a stabilization fund is also made more difficult by the fact that a large one-time allocation of a significant amount of funds is needed to form the initial insurance reserves. Detailed theoretical analyses of the insurance approach to forming a stabilization fund can be done on the basis of the classical insurance model, by adding the assumption that declines in government spending below an average level will elicit additional reductions in utility.⁷ Depending on government preferences and the characteristics of the random process for income realization, this model makes it possible to calculate the size of the insurance reserves and payments to the stabilization fund.⁸

A stabilization fund can be established in another way—by starting from zero through transferring funds during years when market conditions are favorable, or by regular payments. In this case, all additional revenues over and above a base level are credited to the fund in favorable periods; when revenues are low, a portion of spending is covered by deductions from the fund, provided there are sufficient resources in the fund.

A simple model for spending and saving funds without liquid-

ity constraints—that is, with the opportunity to borrow funds as necessary—can be solved by keeping spending constant over time (assuming equal norms for discounting and interest rates). If the government does not encounter liquidity constraints—if it does not borrow during periods of unfavorable market conditions when faced with negative revenue shocks after the assets of the stabilization fund are depleted—there will be no transfers from it to the budget; that is, spending will have to be reduced to the level of revenues received, which are low during that period. This will continue until a favorable situation ensues.

A separate set of questions affecting a stabilization fund's ability to even out expenditures becomes apparent if world market prices for resources, and, accordingly, budget revenues, are fixed.

We will assume that revenues are fixed, that is, that the mathematical expectation and variance of the corresponding random process is not a factor of time.⁹ One characteristic feature of fixed processes is that they quite often return to their average value. If that feature is characteristic of budget revenues, then a stabilization fund created through accumulating additional revenues could be used successfully for this leveling task. If the average spending value (resource price) is determined correctly, funds will accumulate in the budget during times of positive fluctuations in revenues, and later the accumulated funds, including the interest received from investing them, will be sufficient to stabilize expenditures around the average value. Even in this case, there will be no unconditional stabilization, because with a nonzero probability one can always expect periods when the stabilization fund will be depleted entirely and expenditures will be equal to revenues at a low level. Such a situation is not so likely for negatively autocorrelated revenues, that is, for revenues that very often shift from high to low values, but it is entirely possible for the positively autocorrelated values that are seen in practice, and will be seen if periods of negative shocks are long enough.¹⁰

The situation is even worse when export prices, and thus budget revenues, are a random walk. In this case, it is even more likely

that the resources of the stabilization fund will be depleted, because periods of low revenues (negative shocks) can last quite a while. At the same time, significant amounts of funds can accumulate in the stabilization fund during prolonged periods of positive shocks. This occurs in countries exporting significant quantities of oil, since price trends in the second half of the twentieth century, as well as single-root tests, reveal the nonfixed nature of oil prices for prolonged periods (the hypothesis of the presence of a single root in the data is refuted only for the 1987-98 subperiod). The results are similar in a study of world price trends for nonferrous metals (which were checked using annual and monthly data).

The following example illustrates how fund resources are generated according to the formula for deviation from the mean. We will assume that export and budget revenues have been below average for a long time and that there are no resources in the stabilization fund, but that current period revenues are markedly higher than previous periods, albeit still below average. If we know that things will be even worse in the future, we should set aside part of the current period's resources to even out spending in the future, when revenues will drop even lower. However, since the current price is still lower than the long-term average value, funds will not be formally accumulated, the stabilization fund will remain empty, and spending will be equal to revenues in both the current period and the future. This contradiction could be eliminated by choosing a dynamic indicator for the base revenue level, for example, using an average level of the past few years or months. In that case, even if there are available resources in the fund, spending will vary over time and the change will be less than in the longer period over which the average is taken for calculating base revenues.

Periods in which the stabilization fund is entirely depleted can be avoided by moderately lowering the average level of base revenues. While in the long run this will lead to the overaccumulation of resources in the stabilization fund, it will also reduce the likelihood that fund resources would be fully deleted.

Another, more complex option for forming the fund is based on

forecasting future revenues. The above arguments are based on the belief that price and revenue trends are hard to predict, and that the government does not have expectations about future revenues. If the average price and revenue levels can be forecast accurately enough, then the possibility of an unfavorable situation where both revenues and savings are low can be sharply reduced or eliminated, increasing the fund's efficiency.

We can make a theoretical analysis of the mechanisms for forming a stabilization fund using classical or modified models of savings theory.¹¹ The accumulation of resources in a stabilization fund differs markedly from the ordinary savings of economic agents, both in the former's macroeconomic dimension, and in the institutional challenges associated with creating and administering stabilization funds.¹²

Despite the apparent conceptual simplicity of forming a stabilization fund—as a way of getting additional revenues for use in unfavorable situations—in practice, organizing effective ways of generating and utilizing fund resources is quite a difficult task. Limited government funds and significant random influences on budget revenues can render simple mechanisms (formulas) for fund formation ineffective, and can even out expenditures only under relatively favorable (the fund is established at the beginning of a prolonged period of high revenues) and predictable conditions.

We will consider now in more detail a number of applied aspects associated with establishing and operating a stabilization fund in the RE. The goal of creating such a fund is to stabilize federal budget revenues, which are influenced by fluctuating prices for Russian exports. Revenues are to accumulate in a stabilization fund in particular during periods when the current prices are higher than the long-term average level. During periods when current prices are lower than the long-term average level, fund resources are used to stabilize budget revenues. A number of conditions must be met to achieve this goal:

- one (or several) commodities should represent a significant portion of exports;

Table 2

[Structure of Russian Federation Exports to AH Countries in 1996–1999 (in gross terms, as percent)]

	1996	1997	1998	1999
Energy	48.1	48.5	44.8	41.5
Natural gas	19.4	20.8	22.4	—
Petroleum and petroleum products	28.7	27.7	22.4	—
Metals and metallurgical products	21.5	22.4	24.0	22.1
Aluminum	4.9	4.8	5.9	—
Copper	1.4	1.5	1.4	—
Nickel	1.5	1.9	1.7	—
Ferrous metals	13.7	14.1	15.1	—
Other commodities	30.4	29.1	31.2	36.4

- price movements for those commodities should correspond to a random process with a return to an average, or to a “random walk.” Otherwise, budget revenue trends will not be fully offsetting when prices rise and fall due to changes in export prices (assuming constant physical export volumes); and

- the country's economy is small in relation to the market for the given products, that is, the country's exports do not (or only slightly) influence world prices.

We will consider the first two conditions in greater detail.

Table 2 shows the aggregate structure of RF exports to all countries in 1996-99 in cost terms. There are four major commodity groups (petroleum and petroleum products, natural gas, and non-ferrous and ferrous metals), comprising about 70 percent of total exports from year to year.

Fluctuations in the value of Russian exports (and thus tax revenues from the export sector) depend largely on changes in the prices of natural gas, oil, steel, and several nonferrous metals (aluminum, copper, and nickel).¹⁷ As shown in Figure 1, the prices for Russia's principal exports (aluminum, copper, oil, and nickel) have fluctuated significantly over the past twenty years.

However, in order to set the rules for the functioning of a stabilization fund, it is sufficient, in our opinion, to use the price of only one commodity—oil. First, petroleum and petroleum products are Russia's single biggest export, making up about 25-30 percent of total export revenues. Second, oil is also a commodity for which there are acknowledged world trading sites (e.g., the London and New York exchanges) and price indicators for all grades depending on quality and delivery conditions. Third, the commodities in the next two biggest commodity groups (natural gas, along with base and refined ferrous metals) are not traded on exchanges in the same way, which makes determining objective indicators for prices of those goods problematic. In the Russian case, contract prices cannot be used because they can be manipulated by exporters, or because the long-term series of contract prices needed to calculate a long-term average price are not available. Fourth, the share of other commodities (aluminum, copper, nickel) in Russian exports is significantly lower (by five to fifteen times) than the share of oil. Comparable fluctuations in nonferrous metals prices affect overall exports by an order of magnitude less than analogous fluctuations in petroleum prices.

Three different sections can be delineated in oil price trends over the past fifty years (see Figure 2): the period 1950–72 shows a smooth upward trend; 1973–86 shows sharp rises (with oil shocks in 1973–74 and 1979–80) and drops (the beginning of the 1980s); and since 1986, broad price fluctuations without any clearly pronounced trend.

During the most recent period, which is of interest for our analysis, movements in oil prices were reminiscent of a "random walk," with powerful shocks giving rise to price fluctuations across a broad range. There is no clear trend in the series. Even though the number of points in this period are too small for carrying out statistical tests or formally determining the properties of the series (a series with a return to average, a "random walk," a fixed series of a relatively determinate trend), the trend is broadly consistent with the required price behavior.

Here we must focus on the question of determining the "long-

Figure 1. Price Trends for the Principal Russian Export Exchange Commodities in 1980-2000

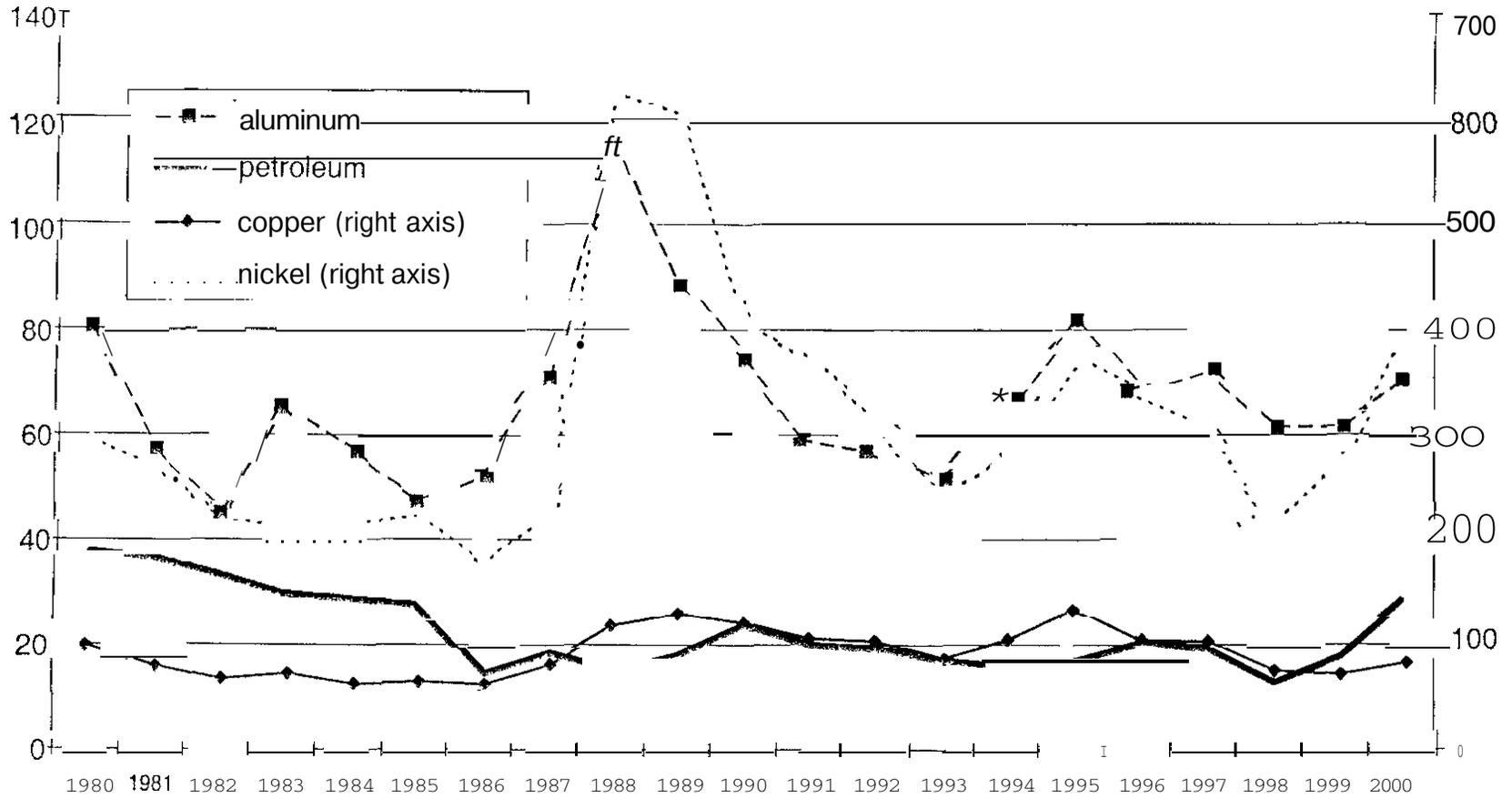
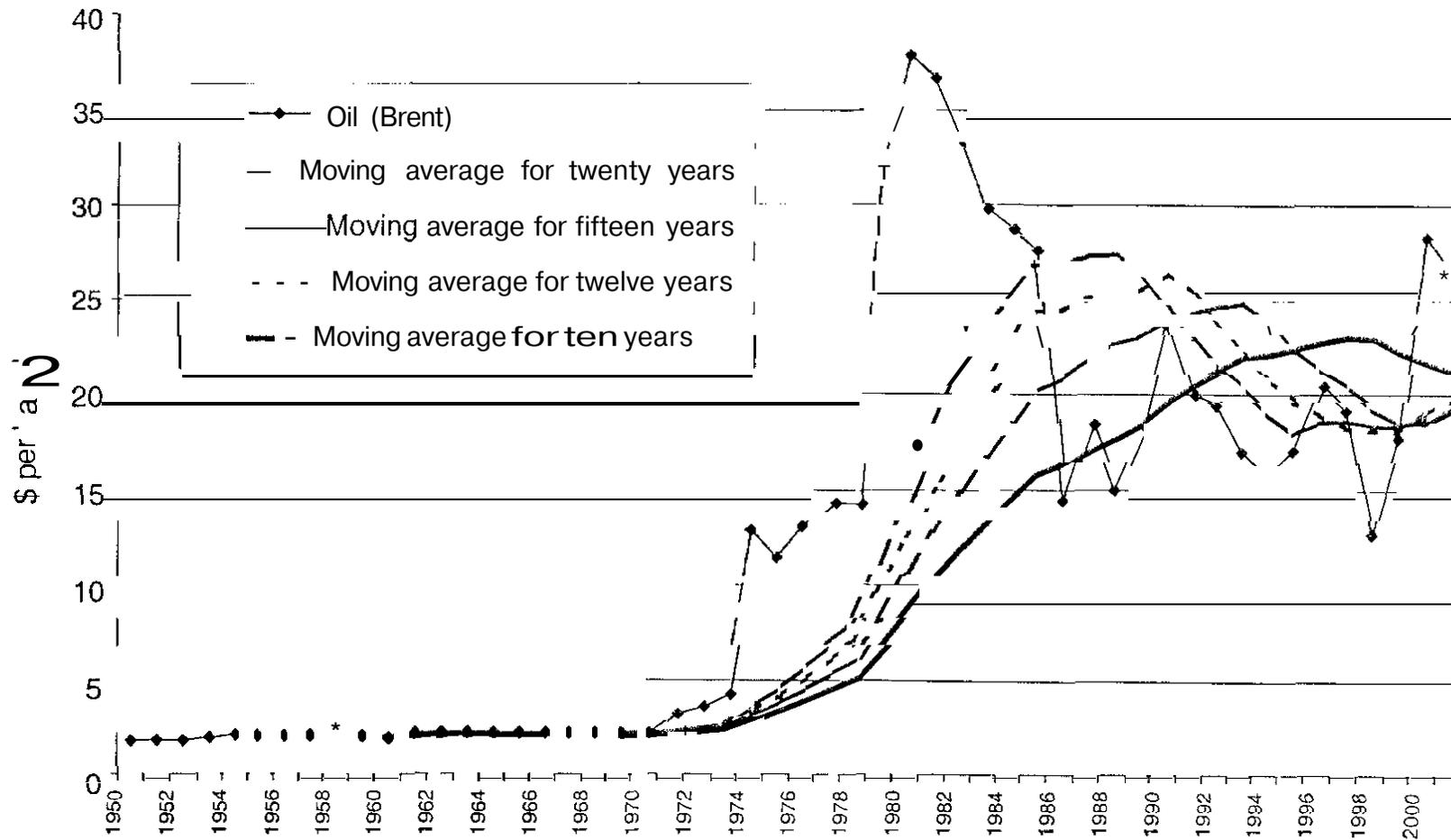


Figure 2. Price Trends for Brent Crude Oil in 1950–2001



Note: Estimate for 2001 based on data for January-February.

term average level,” (particularly in terms of time period), the average price above which may be taken as some long-term level¹⁴ used to determine the technique for forming the stabilization fund. Figure 1 shows average prices over ten, twelve, fifteen, and twenty years (a rolling average for the preceding ten, twelve, fifteen, and twenty years). Clearly, the price trends of the 1970s and 1980s (the “oil shocks”) should not be taken into account, so the period for determining the long-term average level should not exceed fifteen years. In our opinion, the optimal period is ten years, since mean prices for this interval provide more years in which prices exceeded average levels in 1986-2001, compared to the average for twelve or fifteen years (see Figure 2). Overall deviations of current oil prices from ten-year average levels during 1960-2001 are shown in Figure 3.

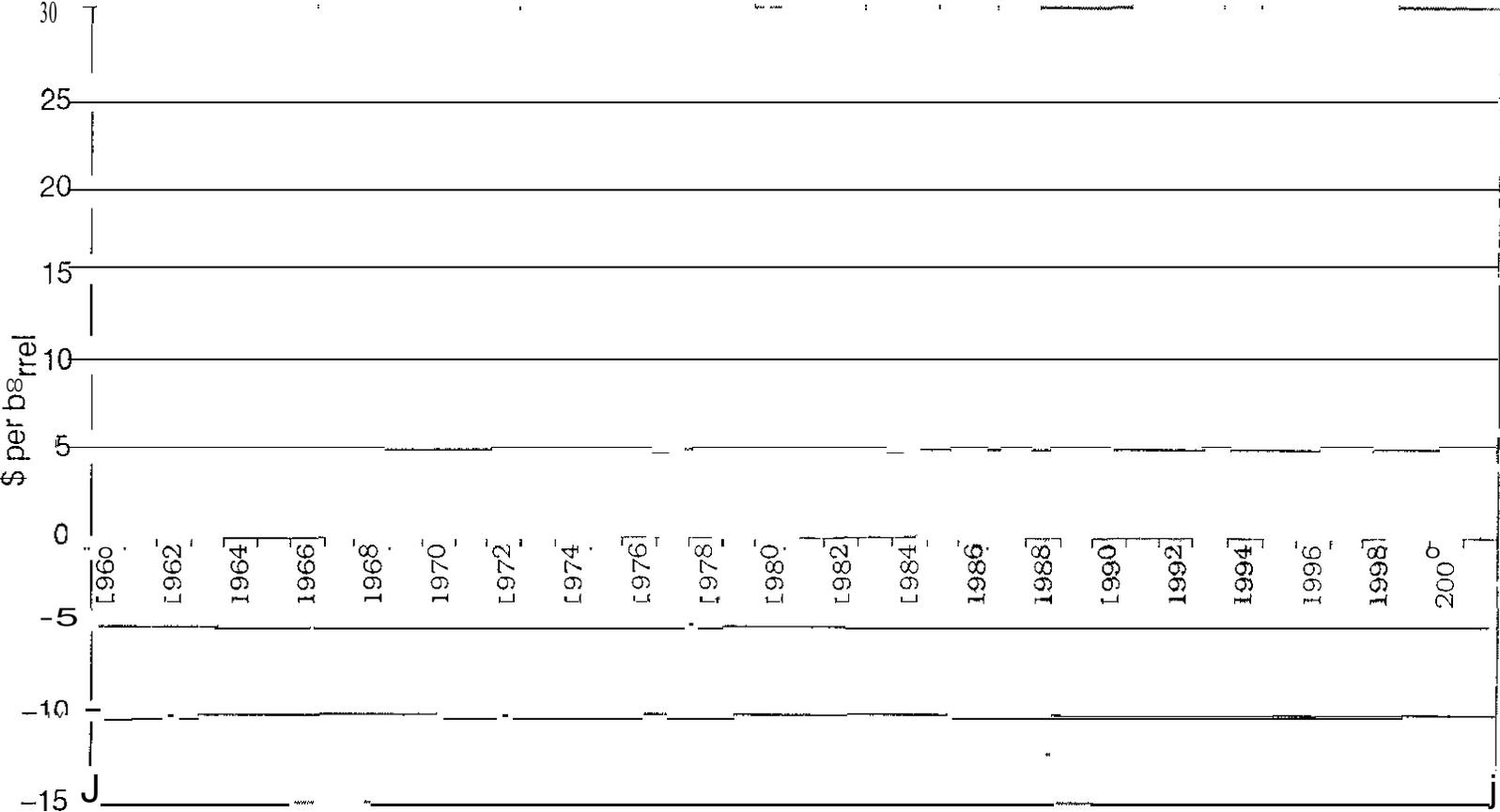
Even though the number of years with current prices below the long-term average exceeds the years of high oil prices over the past fifteen years, this does not preclude evening out budget revenues among intervals. Since there are no clear trends in oil price dynamics, the situation we are seeing results from the fact that the long-term period under consideration (ten years) includes the time of a second oil shock (at the beginning of the 1980s), which raised the average price. In the second half of the 1990s, the long-term average price of oil was determined by the low prices at the end of the 1980s, and the number of years with above- and below-average prices was identical (higher in 1996, 1997, and 2000, and lower in 1995, 1998, and 1999).

If we want net transfers to the stabilization fund to smooth out actual federal budget revenues at average world oil prices over the past ten years, then the formula for determining the share of transfers will vary depending on trends in federal budget revenues and oil price deviations from the long-term average level.

Federal budget revenues are influenced by world market conditions in several ways.

First, through receipts from export duties, the rates for which (petroleum and petroleum products) are directly pegged to current oil prices.

Figure 3. Deviations in Current Oil Prices from Average Prices over the Prior Ten Years



Note Estimate for 2001 based on data for January–February.

Second, through growth in receipts from the profits tax paid by export companies. Since production costs for oil (or other raw materials commodities) can be considered constant throughout the period under consideration (in real terms), price fluctuations in world markets determine the profitability of exporting companies, and therefore their taxable profits.

Third, through increases in general tax receipts resulting from the overall increase in economic activity across the country. Increased profitability in the export sector raises exporters' demands for capital goods, first and foremost for the expansion of production and export infrastructure. The experience of the past two years shows that a significant share of capital orders goes to domestic industry. The classical multiplication of spending in the economy is thus observed, leading to increased amounts of output, aggregate income, and tax receipts.

These influences of world prices on tax revenues apply not only at the federal level but also to regional budgets. As was previously demonstrated, Alaska and the province of Alberta have experience with successful "regional" stabilization funds. Regional stabilization funds may be created in any region where a significant portion of the gross regional product is generated by enterprises exporting raw materials. These regions include Tiumen Oblast (and the autonomous okrugs [AO] in it), the Taimyr AO, Murmansk Oblast, and the Republic of Sakha-Yakutia, among others. Since budget revenues in each of these regions depend on the composition of exports, periods for the accumulation and utilization of the resources in a regional stabilization fund may not coincide with analogous periods for the federal budget. This can play an important role in interbudgetary relations: if prices for oil and other commodities that play a key role in the regional stabilization fund are moving in opposite directions, during periods of low oil prices (and high prices for key regional exports), borrowings from the regional stabilization fund can be partly replaced by transfers from the Federal Financial Support Fund, reducing the burden on the federal budget. In our opinion, transfers to the stabilization fund

should be made in proportion to total federal budget tax revenues, and not just to the revenues received from oil-exporting enterprises. The following factors explain this.

First, the prevailing tax legislation does not rigidly tie world oil prices and tax rates.

Second, changes in the profitability of the export sector and the total taxes being paid by exporters affect the whole economy, especially through multipliers of net exports and state expenditures. Thus, in defining the contributions to the stabilization fund as a share of all federal budget tax revenues, we must take into account changes in aggregate output—and the corresponding changes in tax revenues—in the whole economy rather than in one sector.

A simple form of this alternative is transferring to the stabilization fund all additional federal budget revenues accumulated in the federal budget accounts at the RF Central Bank. However, in our opinion, this principle could create an artificial cash gap during the execution of the current budget, in that the balances in the federal budget accounts could also be used to smooth out seasonal fluctuations in budget revenues. Second, this approach could stimulate the legislative and executive authorities to raise planned budget spending in order to minimize budget surpluses. Third, this rule could allow the government to manipulate current budget revenues and expenditures so as to minimize account balances and to ensure that transfers to the fund would not be made.

The existence of a stabilization fund is also an incentive for the government to remain vigilant about tax collection. The draft bill recognizes the necessity of transferring resources into the fund at high current oil prices even if the tax revenues are lower than the level stipulated in the federal law "On the Federal Budget," for example, due to a reduction in financial discipline.

Falling tax revenues due to reduced economic activity in the trough of the domestic business cycle pose more difficult questions. However, in our opinion, under the present Russian economic structure, the trough of the business cycle cannot coincide with a period of high oil prices. Export sectors (particularly the oil

sector) are the leading sectors in the economy, and although such a situation cannot be denied, it is more a hypothetical than a realistic option.

To substantiate the proposed formula for resource formation and expenditure in a Stabilization Fund [SF], we will consider several alternative relationships between current oil prices and federal budget revenues. The following symbols are used below:

I —current oil price;

T —actual current tax revenues;

I_0 —average oil price over the ten preceding years;

T_0 —tax revenues at an oil price equal to the average ten-year level;

F —amount of transfers to the stabilization fund (or from the stabilization fund);

γ —the share of actual tax revenues transferred to the fund (the ratio of transfers from the stabilization fund to actual current tax revenues).

1. Proportional dependence.

$$T = \alpha_1 I$$

The following amount of resources should accrue to the stabilization fund (or be withdrawn from the stabilization fund, if negative):¹⁵

$$F = T - T_0 = \alpha_1 I - \alpha_1 I_0.$$

The share of current revenues accruing to the SF as stipulated in the law is determined by the equation:

$$\gamma = \frac{F}{T} = \frac{\alpha_1(I - I_0)}{T} = \frac{I - I_0}{I}.$$

2. Linear dependence.

$$T = \alpha_1 I + \alpha_2$$

The following amount of resources should accrue to the stabilization fund (or be withdrawn from the stabilization fund, if negative):

$$F = T - T_0 = \alpha_1 I - \alpha_2 - \alpha_1 I_0 - \alpha_2 = \alpha_1 (I - I_0).$$

The share of current revenues accruing to the SF as stipulated in the law is defined by the equation:

$$\gamma = \frac{F}{T} = \frac{\alpha_1 (I - I_0)}{\alpha_1 I + \alpha_2} = \frac{I - I_0}{I + \alpha_2 / \alpha_1}.$$

3. Dependence with constant elasticity.

$$m = \beta_1 I^{\beta_2}$$

The following amount of resources should accrue to the stabilization fund (or be withdrawn drawn from the stabilization fund, if negative):

$$F = T - T_0 = \beta_1 I^{\beta_2} - \beta_1 I_0^{\beta_2} = \beta_1 (I^{\beta_2} - I_0^{\beta_2}).$$

The share of current revenues accruing to the SF as stipulated in the law is defined by the equation:

$$\gamma = \frac{F}{T} = \frac{\beta_1 (I^{\beta_2} - I_0^{\beta_2})}{\beta_1 I^{\beta_2}} = 1 - \left(\frac{I_0}{I} \right)^{\beta_2} \approx (\min I - I_0) \approx \beta_2 \frac{I - I_0}{I}$$

We made econometric assessments of the relationship between RF federal tax revenues and oil prices (Brent grade) in 1992-2000 (using annual data). Bearing in mind all the limitations associated with the use of econometric methods (a small number of observations—nine points, qualitatively nonfixed, the presence of several modes in the processes, obvious poor statistical properties of the balances and the replaceability and ineffectiveness of the resulting estimates), we nevertheless assume the possibility of using them to accomplish the task of approximating this relationship. The (statistically) best assessments were obtained for the linear dependence:

$$T_t = a_0 + a_1 I_t + \varepsilon_t,$$

where T_t are federal tax revenues as a share of GDP, I_t are the average prices for oil (Brent) in U.S. dollars per barrel, and ε_t are random errors. The values obtained are $a_0 = 0.058089$ (p -value -

0.10), $a_1 = 0.002963$ (p -value = 0.10), and $\bar{R}^2 = 0.23$.

The final formula for transfers to the stabilization fund from the budget thus takes the form:

$$F_t = \frac{I_t - I_0}{I_t + 19.6} \cdot T_t,$$

and transfers from the stabilization fund to the budget are determined as:

$$P_t = \frac{1}{2} \frac{I_t - I_0}{I_t + 19.6} T_t''$$

Before moving on to scenario calculations of the relationship between hypothetical receipts to withdrawals from the stabilization fund in 1992-2002, we will focus on two other questions associated with the utilization of the indicator of oil prices in formulas.

We assume that the nominal values of oil prices in current U.S. dollars can be used in this formula without any regard for inflation in the United States. First, the scope of the fluctuations of inflation in the United States and fluctuations for oil prices cannot be compared with each other. Second, because we use a dollar index for oil prices to calculate the receipts to (withdrawals from) the stabilization fund within the country, we can ignore the difference between nominal and real dollar prices, taking U.S. inflation to be zero. Third, considering the inflation rates in the United States imposes additional limitations on the time frames that can be used for determining amounts of transfers to and withdrawals from the fund associated with the times of publication of statistical information in the United States.

As Figure 4 shows, deviations between nominal and real oil prices were significant in the period preceding the oil shocks and during the times of those shocks, when U.S. inflation rose into the double digits. The deviations between real and nominal dollar prices for oil have been minimal over the past fifteen years.

In these formulas, we use oil prices for the Brent grade, which is of higher quality than the oil exported by Russia (Urals grade).

The price of Brent grade oil is accordingly higher than the price for Urals grade. But the ratio between the prices is effectively constant, and when using the indicator of relative price changes (as in the formulas), the selection of the grade of oil does not influence the size of current oil price deviations from the long-term average level. Because prices for Brent grade oil are considered a better indicator of world market trends, their utilization seems more justified.

Figure 5 depicts hypothetical receipts to the stabilization fund calculated according to the proposed formulas. Until 1996, contributions to the stabilization fund would have been zero because current oil prices were below average levels for the preceding ten years. Applying the proposed formulas in 1996–97 would have provided contributions amounting to 0.4 percent of GDP for two years. According to our calculations, about US\$2 billion would have been used to pay off or buy up foreign debt.

Current oil prices in 1998-99 were below the ten-year average level, so transfers to the fund would not have been made. Furthermore, the accumulated funds would have been transferred to the budget in 1998, which would have increased federal budget revenues that year by 4.6 percent (0.2 percent of GDP for two years).

High oil prices in 2000 would have supported a transfer of about 2.9 percent of GDP to the stabilization fund, including 1.45 percent of GDP to the accumulating portion of the fund and about US\$3 billion for repaying and buying up foreign debt.

Figure 5 also shows our estimates of possible transfers to the stabilization fund in 2001 and 2002. The average annual oil price in 2001 was taken to be \$25 per barrel (\$26.53 per barrel in January-February), and, in 2002, \$22 per barrel. The total federal budget tax revenues were estimated in light of the tax reforms being introduced: 15 percent of GDP in 2001 and 16 percent of GDP in 2002, versus 13.9 percent of GDP in 2000. By the end of 2002, the total amount in the stabilization fund could have reached about 3 percent of GDP (up to US\$7 billion). The same amount (\$7 billion) could have been used to buy up and repay debt in 2001-3.

Before ending the description of the formula proposed for cal-

Figure 4. Price Trends for Brent Crude Oil in Nominal and Real U.S. Dollars

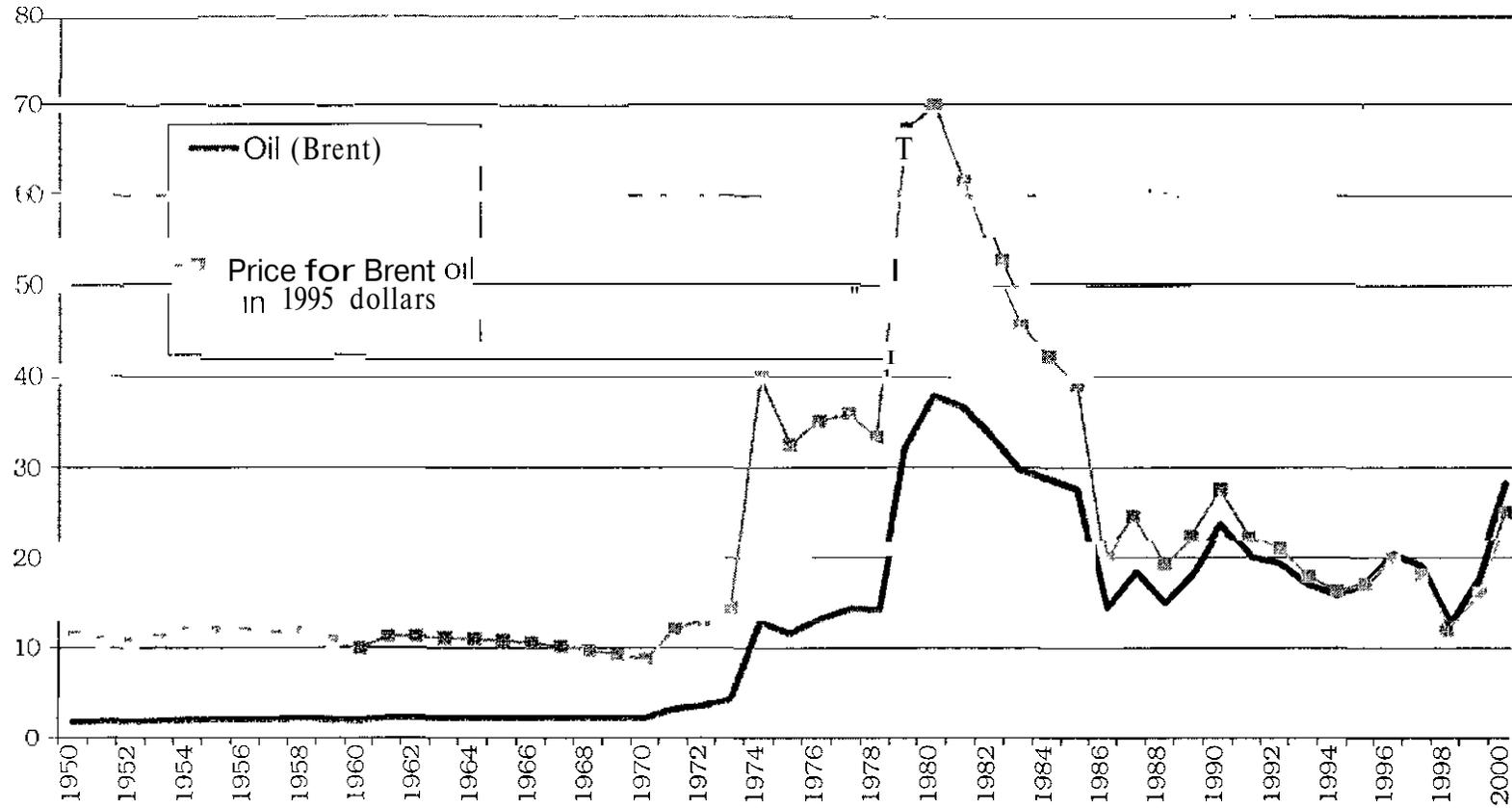


Figure 5. Hypothetical **Transfers into** (from) **Stabilization Funds [SF]**

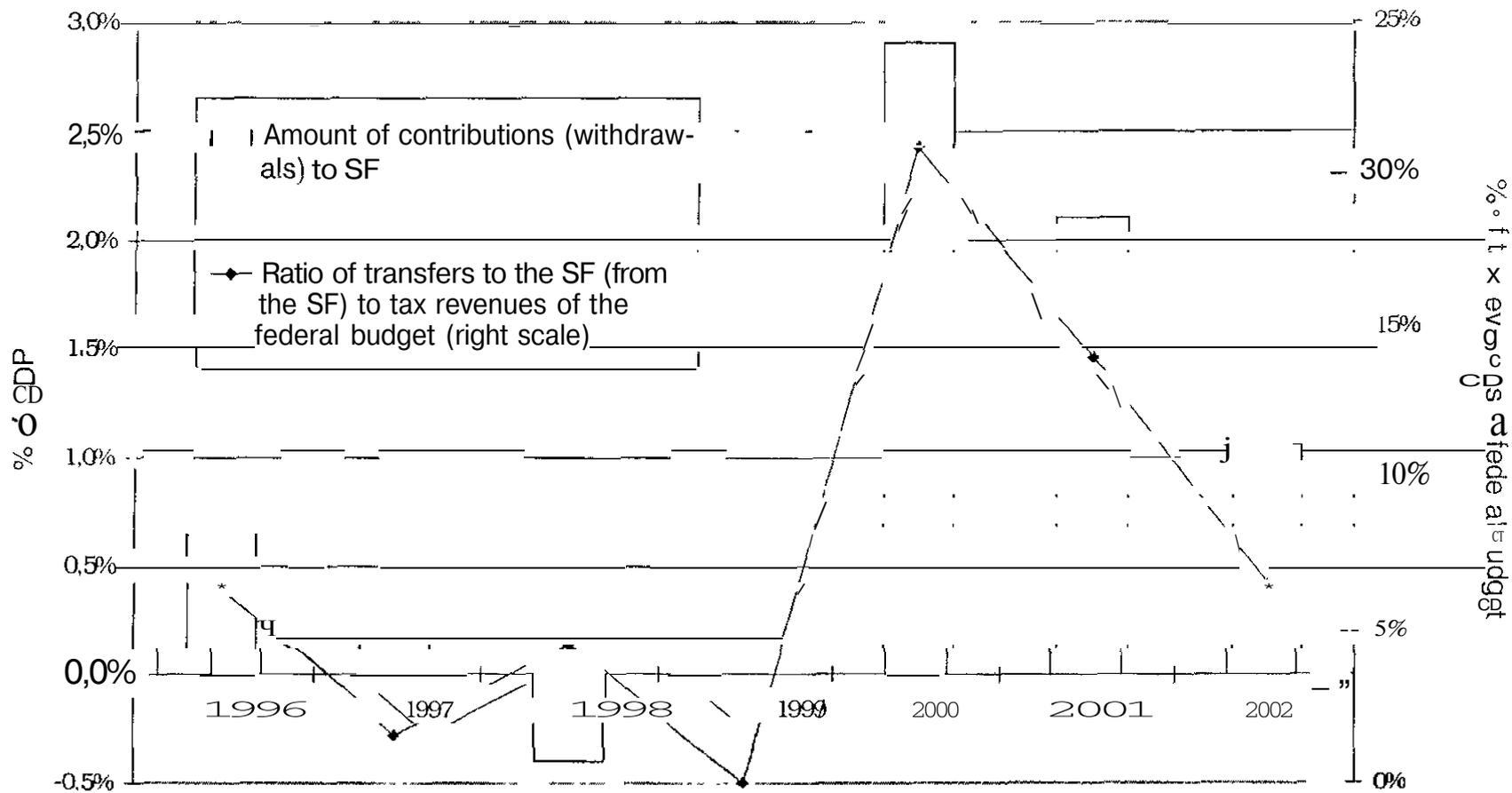


Table 3

[Contributions to the Stabilization Fund as a Share of Federal Budget Tax Revenues (as percent)]

Average oil price/ current oil price	25	27	30	33	35	37	40
15	22.4	25.8	30.2	34.2	36.6	38.9	41.9
17	17.9	21.5	26.2	30.4	33.0	35.3	38.6
20	11.2	15.0	20.2	24.7	27.5	30.0	33.6
22	6.7	10.7	16.1	20.9	23.8	26.5	30.2
25	0.0	4.3	10.1	15.2	18.3	21.2	25.2

culating stabilization fund contributions and disbursements, we will analyze the possible range of contributions to the stabilization fund as a share of federal budget tax revenues. As can be seen in Table 3, within a realistic range of oil prices—up to \$40 per barrel—total transfers could reach 40 percent of tax revenues with sharp price jumps from the average of \$15-17 per barrel. If there are smoother changes in prices, the amounts of transfers will not exceed 25–30 percent. In our opinion, oil price fluctuations are likely to generate additional tax revenues, and there is no need to establish an upper limit on the amounts of transfers to the fund. In particular, in 2000, when average annual prices were more than \$28 per barrel in the face of a long-term average price of about \$18.30 per barrel, total contributions to the fund would not have exceeded 21 percent of federal budget tax revenues, or 2.9 percent of GDP, which would roughly correspond to the amount of additional budget revenues received in that year.

These estimates of the share of budget revenues accruing to the fund under various ratios of long-term average and current prices demonstrate the danger of artificially understating the long-term average price during periods of high current prices for oil (e.g., by having established a base price that is 80 percent or 90 percent of the long-term average price). The share of contributions is nevertheless quite high (each additional dollar of gap between the average long-term and current prices causes an increase in contributions to

the fund by the equivalent of approximately two percentage points of tax revenues to the federal budget). We run the risk of artificially reducing current federal budget reserves, which could have negative consequences for the whole economy (through the multiplier of state spending despite the reduction in the real exchange rate of the ruble, causing growth in net exports).

As mentioned above, a stabilization fund should also stabilize the real exchange rate during periods of favorable world market conditions by increasing demand for foreign exchange. This additional demand comes from the need to convert the resources accruing to the fund as rubles from the federal budget into the foreign exchange needed to make investments in foreign assets. The extent of the stabilization fund's influence can be estimated using a simple example under the conditions of 2000: since foreign exchange market turnover totaled about US\$70 billion in that year, contributions to the stabilization fund for 2000 should have been about US\$6 billion. The need to form a stabilization fund would have increased the demand for foreign exchange by approximately 8.6 percent. Furthermore, \$6 billion is roughly half of the increase in foreign exchange reserves of the RF Central Bank over the year. Had a stabilization fund been created in 2000, the total emissions of the Bank of Russia would thus have been approximately half as much as they were, while the rise in the ruble's real effective exchange rate would not have exceeded 6-7 percent (versus 13 percent).

Having determined the mechanisms for accumulating resources in the fund and determining the amount of withdrawals from the fund, we now turn to the problem of the effective and optimal use of the fund's resources.

The law assumes that half of the annual transfers to the fund will be used to repay and buy back the Russian Federation's debt. Using fund resources thus helps to manage the RF's state debt, optimize its structure, and smooth out the peak debt payment loads. This allows the stabilization fund to function partly as a future generations fund (by smoothing out the peaks of debt payments and changes in the maturity structure of debt in accordance with

the condition of Ricardian equivalence), although we have not made that our task. Our idea of using the resources in the stabilization fund to repay and buy back the state debt of the RF is built on the following principles.

First, the resources in the fund can be used only to repay and buy back the foreign debt of the RF, which poses a greater threat to the Russian economy than the domestic debt of the RF in the next ten years.

Second, the early buyback and repayment of foreign debt are additional tools for stabilizing the noninterest federal budget spending not only in connection with oil price fluctuations but also with the schedule of payments on the foreign debt of the RF.

Third, using the fund's resources for early debt buyback is a priority, and it is preferable to using funds for the planned repayment of debt and the interest payments on it. An exception could be made only in the years in which the peaks on foreign debt payments fall (e.g., 2003), and only if the RF government did not have the opportunity to make early buybacks of debt because of a lack of resources in the fund.

Fourth, the schedule for using the fund's resources to buy back debt throughout the year should be determined by the RF Ministry of Finance without announcing it. Otherwise, there will be a threat of price manipulation for Russian debt obligations during periods around the dates of proposed debt buyback operations.

The next exceedingly important issue is the procedure for managing the resources in the fund. The most optimal and effective option for the current management of free resources in the fund, in our opinion, is the transfer of the functions for its operational control to the Bank of Russia.

First, the opportunities to invest fund resources and investment yields are significantly higher in this case than under any alternatives for managing fund resources. Once transferred to the RF Central Bank, the fund's resources would be mixed with the RF's gold and foreign exchange reserves and invested at yields equal to the average return on the Bank of Russia's portfolio, regardless of the investment maturities of fund resources. Moreover, the resources

transferred into the fund throughout the year can be invested at once and will yield income until settlements for the year are completed.

Second, the stabilization fund's monetary task—stabilizing the real exchange rate—is simplified because the fund's resources do not get into the currency market.

Third, the transaction costs associated with the need to repeatedly convert fund resources into foreign exchange are reduced when they are in a ruble account of the RF Ministry of Finance or a specially created agency.

Fourth, transparency in the investment of fund resources increases because the RF Central Bank are subject to independent audit findings in addition to undergoing verification by the RF Comptroller's Office.

Fifth, the RF Ministry of Finance does not have sufficient experience in managing financial assets and an investment portfolio, except, perhaps, for managing a portfolio of state obligations (i.e., debt management).

Thus, transferring the operational management of fund resources not to the RF Central Bank but to the RF Ministry of Finance or a new state agency for managing the stabilization fund's assets increases the risk of nonprofessional management of fund resources, drags out the time for placing funds, reduces the choice of instruments in which fund resources may be invested, and reduces the transparency of operations with fund resources (in the case of creating a special agency and company to manage fund assets). At the same time, the fund resources used to repay or buy back debt are used exclusively by the corresponding department of the RF Ministry of Finance.

Conceptual framework of the draft RF federal law "On the Stabilization Fund"

The draft law "On the Stabilization Fund" is intended to create a mechanism for accumulating additional federal tax revenues during periods of favorable world market prices for oil.

The resources of the Stabilization Fund should be used for two

purposes: first, to sustain a relatively stable level of noninterest federal budget spending during periods of unfavorable world market prices, and second, to repay state foreign debt. It seems fundamentally important to combine these two areas of Fund expenditures because without reducing the size of state debt, only a short-term stabilization impact will be attainable. Meanwhile, the nonrenewable nature of the natural resources that are essentially the source of the additional budget revenues presumes using them for the interests of future generations.

The principal elements of the conceptual framework of the draft law "On the Stabilization Fund" are set forth below.

Sources for forming the Fund

As has been noted, the Fund should be endowed from federal budget revenues that result when oil prices are above average when calculated over a certain time period (the "base level").

Two approaches to endowing the Fund are possible in this regard. The first is to direct to the Fund additional tax receipts generated primarily in export-oriented sectors. This condition will be met if we credit to the Fund, say, a certain share of the receipts from excise taxes on oil or from export duties. However, this approach ignores the effect of the indirect stimulus on the national economy as a whole caused by the growth in world prices for energy resources.

It therefore seems more appropriate to endow the fund with a certain share of aggregate federal tax revenues according to the formula:

$$R = \frac{(P_t - P_0)}{P_t + 19.6} T, \text{ where } P_t > P_0.$$

Sample form of the formula: $R = 0$, where $P_t \leq P_0$
where

R = contributions to the Stabilization Fund;

P_t = the current world oil price;

P_0 = the base world oil price;

T = aggregate federal budget tax revenues; and
19.6 = the computational factor indicating the share of tax revenues contributed to the Stabilization Fund.

The base price in the foregoing example signifies the average world oil price over the past ten years. The source of information on the average world price for those resources should be the quotes for marker grade of Dated Brent oil in the Mediterranean and Rotterdam crude oil markets. At the end of each calendar year, the ten-year period for computing the base price is shifted forward a year.

Procedure for generating and disbursing Fund resources

The Fund's purpose also suggests the main conditions for generating and disbursing its resources. Obviously, the Fund should be formed when oil prices exceed the base level, and its resources should be spent when oil prices drop below that level. However, observing these principles in the budget process is quite complex, since future oil prices are not known at the time when the budget is developed and approved. Once the oil price has become known, budget settlements for the current year are already being made. This causes problems in determining the optimal moments to accumulate and disburse Fund resources. These moments must be based on one of three options: contributions to and withdrawals from the Fund based on the (1) oil price forecast during the compiling and approving of the budget; (2) oil price recorded at the end of the fiscal year; or (3) actual step-by-step oil prices realized in the process of budget execution.

We will consider each of the options successively.

(1) If the fund is formed and disbursed according to forecast oil prices, contributions to the Fund should be made when the forecast price is higher than the base level. This means that budget spending can in principle be supplemented by the amounts accruing to the Stabilization Fund. If the forecast oil price is below the base level, a certain amount of budget revenues should be deducted

from the Stabilization Fund. To ensure that budget obligations to the SF will actually be executed when the forecast oil price exceeds the base level, budget expenditures should not exceed the revenues corresponding to the base price. On the other hand, when the forecast oil price is below the base and there are resources in the Stabilization Fund, budget expenditures could be supplemented by Fund disbursements, the magnitude of which would reflect the difference between the base and forecast prices. Again, budget expenditures should not exceed the budget revenues that correspond to the base price.

Forecast and actual oil prices can differ markedly. If the contribution to the Fund prescribed in the development and approval of the budget takes the form of an absolute figure, both over- and underestimated oil price forecasts will generate incorrect contributions to the Fund. If the actual oil price proves lower than forecast, more funds will be directed into the Fund than should have been. If the actual price is lower than both the forecast and the base price, contributions to the Fund will be made when resources should instead be disbursed. The intentional underestimation of the oil price forecast could be used to circumvent the law "On the Stabilization Fund," since if the forecast price is below the base level, contributions to the Fund would not generally be made. All above-forecast budget revenues received in this way would be considered "additional revenues," and could be expended throughout the year for any purposes.

Disbursements from the Fund under this option should be based on an accounting of transfers from the Fund to the draft budget intended to cover the shortfall associated with the difference between the forecast and the base price for oil. In this case, actual budget revenues should equal the revenues forecast on the basis of forecast prices. Actual budget revenues should be determined by the formula for disbursements from the Fund, and should not exceed the revenues computed according to the base price. However, this approach entails some significant problems. First the draft budget will reflect disbursements from the Fund only if the

Fund contains sufficient resources. But, at the time the budget is compiled, the previous year's Fund balance is unknown. Second, discrepancies between forecast and actual oil prices could lead to the disbursement of Fund resources for other than their intended purposes. Third, if the forecast oil price is equal to or exceeds the average but the actual price is below the average, there will be no leveling of budgetary expenditures.

In the interest of clarity, we will consider the practical consequences of approving contributions to and disbursements from the Fund under different relationships between base, forecast, and actual oil prices:

1. The forecast oil price exceeds the base level.

Budget expenditures should equal the revenues corresponding to the base oil price. In the process of adopting the budget, contributions to the Fund should be approved reflecting the forecast difference of the forecast over the base price. Five different situations are possible, in terms of budget execution:

- 1.1. The actual oil price corresponds to the forecast price. Then the correct amount of contributions accrue to the Fund, but this situation is not very likely.

- 1.2. The actual oil price exceeds the base price, but is below the forecast level. Then excessive contributions would be made to the Fund. These could be returned as budget revenues for the following year, but the budget for the current year would be underfunded (by the amount of revenues corresponding to the difference between the forecast and actual oil prices).

- 1.3. The actual oil price exceeds both base and forecast levels. Then insufficient contributions would have been made to the Fund. (In reality, revenues that could have been used to create the Fund were expended for other purposes during the year, as stipulated in the Budget Law on Rules for the Expenditure of Additional Revenues.) Of course, the shortfall in Fund receipts could be compensated by revenues from the following year's budget, but if oil prices in the following year are unfavorable, fulfilling obligations to the Stabilization Fund could prove to be a burden on the budget.

1.4. The actual oil price is equal to the base price. In this case, contributions to the Fund should not be made at all. "Unjustified" contributions to the Fund could be returned to the budget for the following year, but current year expenditures would be funded at a below-average level. At the same time, a transfer from the Fund back to the federal budget for the following year could create an unplanned budget surplus if oil prices are favorable.

1.5. The actual oil price is lower than the base level. Then contributions to the Fund are made even though there are grounds for withdrawing resources from the Fund. Budget spending for the current year would accordingly drop sharply below the average level for prior years, while the return of "unjustified contributions" made to the Fund for the following year, given favorable oil prices in that year, will lead to a considerable surplus. So in this case, the Fund not only fails to smooth out fluctuations in noninterest budget spending: it actually increases their size.

2. The forecast price for oil equals the base price.

Then budget expenditures should equal revenues reflecting the base price for oil. That is, budget expenditures for the current year should correspond to their average level. There are no planned contributions to and withdrawals from the Fund. There are three possible scenarios here:

2.1. The actual oil price corresponds to the forecast. This ideal situation does not distort the budget process.

2.2. The actual oil price exceeds the base price. The consequences of this situation are analogous to those described in 1.3 above. The only difference is in the scope of unfulfilled obligations to the Fund. Obviously, the greater the positive deviation of the actual price from the forecast, the more difficult it is to make up for the shortfall in receipts to the Fund from the following year's revenues.

2.3. The actual oil price is below the base level. In contrast to the situation described in 1.5 above, contributions to the Fund should not be made and are not made. However, there are also no disbursements from the Fund (i.e., evening out the noninterest budget expenditures) despite legitimate grounds for such disbursements.

3. The forecast oil price is below the base level.

Then tax revenues should be forecast according to the forecast oil price. In the process of budget adoption, withdrawals from the Fund should be approved in order to cover the difference between the revenues corresponding to base and forecast oil prices. (These withdrawals cannot, of course, exceed the actual balance in the Fund.) Five scenarios are possible here:

3.1. The actual oil price corresponds to the forecast. This ideal situation does not distort the budget process.

3.2. The actual oil price is below the base but higher than forecast. Then withdrawals are drawn from the Fund and expended throughout the year, permitting the use of additional revenues to increase noninterest budget spending. This could cause an above-average rise in budget spending during the relevant period. Returning receipts that had been withdrawn from the Fund "unwarrantedly" in the following year under unfavorable oil prices could prove difficult.

3.3. The actual oil price is below the base and forecast prices. Then insufficient receipts are withdrawn from the Fund, which causes actual budget spending to drop below the average level for the relevant period. It does not seem practical to compensate for such a decline in spending in the following year, since world oil prices in the following year could be favorable.

3.4. The actual oil price equals the base price.

Then revenues are withdrawn from the Fund without justification. It could prove difficult to return these to the Fund in the following year if there is a significant deviation of predicted from actual oil prices in the current year.

3.5. The actual oil price is above the base.

Then resources may be disbursed from the Fund if there are grounds for making contributions to the Fund. In practice, it is unrealistic to make large transfers to and from the Fund in the current year that are based on estimates of future budget revenues without reducing future-year spending below the nominal average level. This is because future spending will have to compensate not only for contributions not made to the Fund, but also for the un-

warranted disbursement of Fund resources. Thus, in this situation, the legislatively stipulated aims of the Fund, which consist of leveling the fluctuations in noninterest spending, will not be achieved either.

(2) The second approach lies in funding and disbursing the Fund on the basis of actual oil prices according to end-year results. If contributions are made to the Fund at the end of the year, then financing it according to a formula will generally be impossible, even if the revenue portion of the budget was established according to a base price. This is because the budget revenues that correspond to the base oil price are also a notional value. Actual budget revenues at the base oil price could differ from the notional for a number of reasons. First, the relationship between oil prices and tax revenues is not very accurate. While the argument linking energy price increases to higher tax revenues is very strong, it might not be met in practice, as presumed in our very simple model. But even if the coefficient linking price increases and tax revenues were absolutely objective, the revenue portion of the budget could be underfunded for reasons totally unrelated to the price for oil (e.g., unfavorable changes in tax legislation that open up new opportunities for tax evasion, the poor effectiveness of tax administration, weaker tax discipline, etc.).

We will take an ideal situation where the forecast oil price equals the actual price, and both exceed the base level. At the end of the year, all the revenues generated by these high oil prices should be directed to the Fund. However, if there is a shortfall in tax revenues for reasons unrelated to oil prices, the balances in budget accounts could be lower than what would have been the case. In this case, the Fund cannot be financed according to the formula. Instead, resources that could have been allocated to the Fund will go to cover a deficit not associated with the price for oil. This problem may be avoided by stipulating that contributions to the Fund based on the year's results are determined according to the formula but may not exceed the actual balances in budget accounts. However, the possible manipulation of federal budget revenue

forecasts calculated according to the base oil price is a major shortcoming of this approach. As a result, the residual balances in budget accounts will always be insufficient to form the Fund according to the formula.

In this variant, even greater problems arise with disbursements from the Fund. The allocation of Fund resources according to the results of budget execution prevents the designation of the appropriate period for using receipts from the Fund. This also prevents the real leveling of the expenditure portion of the budget at the average level.

(3) The shortcomings of the first two options considered above argue for step-by-step financing and managing of the Fund based on the actual oil price, simultaneously with the process of budget execution, and with a final settlement based on the fiscal year results.

This approach precludes the approval of an absolute amount for contributions to the Fund in the process of compiling the budget. It also connotes the transfer of authority to finance the Fund to bodies that execute the budget. These bodies will make contributions to the Fund automatically without amending the budget law when the actual oil price for a certain period of the fiscal year (or month) exceeds the ten-year average. The current level of oil prices, and thus the amount of advance contributions to the Stabilization Fund, are determined according to the results for each month. Contributions to the Fund are actually financed by the following month's budget revenues. A month was selected as the nominal period because of the practice of transferring resources to the Fund during the nominal period based on the revenues of the following period. The shorter the computational period, the smaller the resulting distortion from fulfilling federal budget obligations to the Stabilization Fund in the following settlement period.

The proposed method for approving budget spending (in the form of a share of tax revenues rather than absolute amounts) has precedents in Russian budget practice of recent years. In the law

"On the Federal Budget for 1999" (Article 37), the size of the Federal Financial Support Fund for Constituent Entities of the Russian Federation was set not as an absolute amount but rather as a percentage (14 percent) of total federal tax revenues, except for revenues controlled by the State Customs Committee of the Russian Federation. The formation of the Federal Financial Support Fund for Constituent Entities of the Russian Federation (hereinafter, the FFPR) "is accomplished by cumulative total as of the last reporting date preceding the planned month, proceeding from the actual receipts of tax revenues to the federal budget . . . with the simultaneous clarification of the planned indicators for 1999 for constituent entities of the Russian Federation."

The government had an imputed obligation to inform the constituent entities of the Russian Federation monthly of the total amount of funds in the FFPR, and to submit monthly reports to the State Duma monthly regarding the execution of the FFPR. At the same time, appropriations for the section "Financial Assistance to Budgets at Other Levels" in the budget law for 1999 treated the planned size of the FFPR as an absolute amount (see Appendix 20 of the corresponding law), subject to specification in the process of budget execution. This is entirely natural, because otherwise it would be impossible to balance planned budget spending. Therefore, a refusal to approve contributions to the Stabilization Fund in the process of budget adoption implies only the establishment of priorities for appropriations as reflected in the form of a share of actual tax revenues over appropriations expressed as an absolute amount.

The following example illustrates the process of generating contributions to the Fund. We will assume the base price for oil over the past ten years (P_0) is \$20 per barrel. In order to simplify the calculations, we will consider that advance contributions to the Stabilization Fund are made quarterly rather than monthly. The oil price was \$22 per barrel in the first quarter, dropped to \$21 in the second quarter, rose to \$23 in the third, and was \$22 in the fourth. Table 4 gives estimates of budget revenues at those oil

prices as a percentage of GDP in billions of rubles received from calculations based on actual annual data on federal budget revenues for 2000.

Contributions to the Stabilization Fund each quarter and annually can be calculated based on the formula given in item 1 of Table 5.

This assures that the Fund is financed in strict conformity with the formula, regardless of possible errors in oil price forecasts and (or) the amount of tax revenues to the federal budget. The principal advantage of this solution is that it precludes the evasion of contributions to the Stabilization Fund by reducing the forecast prices for oil and (or) federal budget revenues.

This approach also eliminates the influence of budget revenue trends on the financing of the Stabilization Fund. Since contributions to the Fund are calculated as a share of actual revenues from the prior month and are credited to the Fund from the revenues of the following month, excess budget revenue will result not in smaller contributions to the Stabilization Fund, but rather in the sequestration of budget expenditures. So the question of which oil price is used to calculate the revenue portion of the budget ceases to be relevant—obligations to the Fund will be met in any case. This sequestration can be avoided by establishing certain rules in the draft legislation concerning the Stabilization Fund's accounting in the process of budget compilation. In compiling the draft federal budget, the total amount of spending (after deducting expenditures covered out of receipts from deficit financing sources) at the forecast oil price in the next fiscal year at or exceeding the base price could be made to correspond to the amount of revenues corresponding to the base oil price. When the forecast oil price is below the base level, the total amount of spending at the forecast oil price in the next fiscal year at or exceeding the base price could be made to correspond to the revenues computed proceeding from the forecast oil price. The exclusion of total expenditures covered from deficit financing sources in determining the expenditure portion of the budget reflects the fact that the prevailing

Table 4

[Estimated Budget Revenues Based on Actual Annual Data on Federal Budget Revenues for 2000]

	Oil price	Federal budget revenues (% of GDP)	Federal budget revenues (GDP for 2000, billions of rubles)
First quarter	22	12.3	180.1
Second quarter	21	12.0	197.6
Third quarter	23	12.6	253.0
Fourth quarter	22	12.3	241.1

Table 5

[Quarterly Contributions to the Stabilization Fund Based on the Year's Results]

	First quarter	Second quarter	Third quarter	Fourth quarter	Year
1. Average price of oil for quarter, dollars/barrel	22.0	21.0	23.0	22.0	22.0
2. Average price of oil for year to date, dollars/barrel	22.0	21.5	22.0	22.0	22.0
3. T —quarterly tax revenues, billions of rubles	180.1	197.6	253.0	241.1	—
4. Cumulative tax revenues since beginning of year, billions of rubles	180.1	377.7	630.6	871.8	871.8
5. Share of tax revenues deductible to Fund (percent)	4.8	3.6	4.8	4.8	4.8
[6.] Running total of deductions to Fund for year to date (R), billions of rubles	8.7	13.8	30.3	41.9	41.9
[7.] Deductions to Fund in current quarter, billions of rubles	8.7	5.1	16.5	11.6	—
[8.] Budget tax revenues minus deductions to Fund, percent of GDP (after rounding; percent)	11.7	11.7	11.8	11.7	11.7

Budget Code provides for the potential of a budget deficit (in an amount not exceeding the total amount of budget investments and spending for servicing state debt—item 3 of Article 92 of the Budget Code). The inclusion in the draft legislation for the Stabilization Fund of requirements that the federal budget have no deficit could have significantly complicated its adoption in the Duma.

Contributions to the Fund are computed using a cumulative total because of possible oil price fluctuations throughout the year, including seasonally. Accordingly, it is possible that contributions to the Fund during the early months of the year will exceed contributions in the following months. Such a situation could arise if the oil price is higher than average at the beginning of the year, or has dropped below average at the end of the year. In this case, the draft legislation envisions a rule to return excessive amounts of Fund revenues. This situation is considered in the example below. We will assume that the values of the oil prices and federal budget tax revenues, respectively, will be as shown in Table 6.

Accordingly, contributions to the Stabilization Fund will be made as shown in Table 7.

As can be seen from Table 7, the contributions to the Fund in the third and fourth quarters of a year when the price has dropped below the base price will be negative, but they do not constitute disbursements from the Fund because they are made only within the framework of the resources credited to the Fund in the course of that year (and not prior years). Resources from the Stabilization Fund are used according to a special procedure set forth below.

The procedure for disbursements from the Stabilization Fund is more complex. As was indicated above, the receipts from the Fund cannot be guaranteed from budget revenues either in the stage of its compilation or based on the results for the year.

The best compromise seems to be to defer disbursements to the end of the current year (e.g., to the fourth quarter), when the actual price for oil is already relatively clear and the risk of overallocating Fund resources because of mistakes in the price forecast is mini-

Table 6

[Quarterly Trends in Oil Process and Federal Budget Revenues]

	Price	Federal budget revenues (% of GDP)	Federal budget revenues (GDP for 2000 taken as base, billions of rubles)
First quarter	22	12.3	180.1
Second quarter	22	12.3	202.4
Third quarter	18	11.1	223.3
Fourth quarter	18	11.1	217.9

mal. However, in this case, using Fund resources for expenditures that have not first been legislatively defined requires either that the executive authorities be authorized to raise all approved expenditures proportionally or that the budget law be amended.

The first option seems preferable because at the end of the fiscal year many expenditures cannot be increased automatically. For example, seasonal spending cannot be proportionately increased, while spending on labor cannot take the form of wages, but rather of bonuses or other discretionary payments. It is impossible to write an all-encompassing indexing mechanism into the budget law.

At the same time, this procedure for disbursing Fund resources presumes that the legislature is completely free in determining the areas for their expenditure. This could lead in practice to the use of the Fund primarily for paying noninterest spending. In this case, the strategic aim of the Fund, namely, reducing the debt burden on future generations, will not be achieved. Provisions requiring that the government direct half of the receipts credited to the Fund based on the results for each year automatically to debt repayment should be included in the draft legislation. This would be entirely consistent with the logic of the prevailing Budget Code. Thus, Article 232 of the Budget Code governing additional budget revenues envisions their use mainly for reducing the budget deficit

Table 7

[OM Price, Federal Budget, and Estimated Stabilization Fund Trends (2000)]

	First quarter	Second quarter	Third quarter	Fourth quarter	Year
1. Average price of oil for quarter, dollars/barrel	22.0	22.0	18.0	18.0	20.0
2. Average price of oil for year to date, dollars/barrel	22.0	22.0	20.67	20.	20.0
3. T—quarterly tax revenues, billions of rubles	180.1	202,4	223.3	217.9	—
4. Cumulative tax revenues since beginning of year, billions of rubies	180.1	382.5	605.8	823.8	823.8
5. Share of tax revenues contributed to Fund (percent)	4.8	4.8	1.7	0.0	0.0
[6.] Running total of deductions to fund for year to date (Я), billions of rubles	8.7	18.4	10.0	0.0	0.0
[7.] Contributions to Fund in current quarter, billions of rubles	8.7	9.7	-8.4	-10.0	—
[8.] Budget tax revenues minus contributions to Fund, percent of GDP (after rounding; percent)	11.7	11.7	11.6	11.7	11.7

and for debt repayment. Only in the event that expected actual revenues exceed the approved annual appropriations by more than 10 percent is their use for other purposes permitted through amendments to the budget law.

Since Stabilization Fund resources are essentially additional federal budget revenues, it is natural and logical to make their expenditure for reducing debt obligations a priority. At the same time, the use of the Stabilization Fund's resources for these purposes should not replace corresponding budget spending. Planned debt repayment should continue to be made primarily using ordinary budget resources, since it is impossible to rely on additional

revenue sources to cover the state's debt obligations. Stabilization Fund resources should therefore be used primarily for the long-term buyback of debt obligations, rather than for planned repayments of state debt.

As for using the Fund's resources for leveling noninterest budget spending when world oil prices are unfavorable, we are convinced that this should be done by means of amendments to the federal budget law. The RF government under the draft legislation would submit a draft law on the use of Stabilization Fund resources as federal budget revenues to the State Duma based on the results of budget fulfillment for the first nine months of the current year no later than October 1. This would occur when the following conditions are present simultaneously:

- there are resources in the Stabilization Fund;
- the average monthly oil price during the first nine months of the current year is lower than current world oil prices; and
- forecast budget expenditures for the current year, computed as a percentage of GDP, are at least 5 percent lower than the average annual actual spending of the federal budget as a percentage of GDP for the preceding three fiscal years.

These conditions for disbursing Fund resources to level noninterest budget spending reflect the following considerations. On the one hand, conditions for accruing and disbursing Fund resources should be as symmetrical as possible. This seems important especially from the political standpoint. In order to ensure that legislators will support the draft legislation, the Stabilization Fund should not in any way constrain the budgetary powers of the legislative authorities. Monies transferred from the budget to the Stabilization Fund in the event of relatively high oil prices are returned to the disposal of the legislators when oil prices become unfavorable in the future. On the other hand, it is possible to have a situation where, despite low oil prices, actual budget revenues are no lower than those usually collected when oil prices are not below the base price (e.g., as a result of reducing the forecast level of inflation or the size of GDP). In our opinion, in this case Fund

resources should not be disbursed, since noninterest budget expenditures are not threatened. For this reason the draft legislation specifies that real federal budget spending must decline by at least 5 percent in the current year (compared to average annual federal budget spending over the preceding three fiscal years) before Fund resources may be disbursed.

In order to ensure harmony between the accrual and disbursement of Fund resources, the draft law envisions that transfers of Fund resources to the federal budget during the year be determined according to a formula analogous to that used for calculating contributions to the Stabilization Fund, but may not exceed the actual balances in Fund accounts.

At the same time, in disbursing Fund resources, the draft law requires that half of Fund revenues accruing based on current year results be used to reduce foreign debt. So the formula for calculating Fund disbursements intended to level out noninterest spending should include an additional reduction factor to ensure symmetry between Fund revenues and expenditures in the medium term.

The following example clarifies this. Assume that the oil price in the first year exceeds the base price by a certain amount, as a result of which Fund contributions based on current year results are, say, 100 million rubles. Assume that, in the following year, the oil price drops below the base level by the same amount, so that the resources withdrawn from the Fund should be the same 100 million rubles. However, 50 million rubles of Fund revenues accumulated in the prior year have already been disbursed to pay off state debt, so that actual balances remaining in the Fund will only finance half of the noninterest expenditures computed according to the formula. In this case, Fund revenues and expenditures are asymmetric. However, if the period of revenue accumulation in the Fund exceeds one year, the balance in Fund accounts in the first year of unfavorable oil price conditions will make it possible to fund noninterest expenditures in full. This will cause an overexpenditure of Fund resources.

Moreover, it may not be possible, given such a drastic drop in the oil price, to disburse all the Fund's resources in the very first year of unfavorable prices (with the exception of resources held back to pay off debt) while still maintaining an average level of budget spending over prior years. A limitation on annual borrowings from the Fund may need to be stipulated. But the Fund is intended to maintain average budget expenditures *for prior years*. If limitations are established on the yearly amounts of disbursements from the Fund, sharp drops in budget revenues may not be prevented, since the leveling will not be based on average budget spending for prior years, but rather on below-average spending.

Of course, in the event of a prolonged decline in export prices, this could lead to the disbursement of all Fund resources in the very first year of unfavorable conditions, making the avoidance of a drastic drop in future budget revenues impossible. However, since the duration of low export prices is impossible to predict in advance, establishing limitations on the annual amount of withdrawals from the Fund seems overly cautious. Such a decision would be equivalent to establishing a stabilization fund to stabilize the expenditures of the stabilization fund.

The above considerations suggest that the following formula for computing transfers from the Fund to the federal budget to level off noninterest expenditures should be:

$$E = 0.5 \frac{(P_0 - P_t)}{P_t + 19.6}, \text{ where } P_t < P_0.$$

The formula takes the form: $E = 0$, where $P_t > P_0$, where

E —is transfers from the Stabilization Fund;

P_t —is the current world oil price;

P_0 —is the base world oil price;

T —is the aggregate tax revenues of the federal budget;

19.6—isa computational factor; and

0.5—is the reduction factor to ensure the symmetry of Fund revenues and expenditures to level off noninterest revenues, since

half of the accumulated annual contributions to the Fund are used to repay foreign debt.

The legal nature of Stabilization Fund revenues and expenditures

In order to utilize Stabilization Fund resources they must be separated from other federal budget funds. This can be done in two ways: within the federal budget, by creating a dedicated budget fund, or outside the federal budget, by allocating the Stabilization Fund's resources to a special account that is not a federal budget account. In the first case, Fund revenues and expenditures are revenues and expenditures of the federal budget itself, while in the second case, Fund revenues are essentially federal budget expenditures (although they could be shown in budgetary reporting in various ways). In this case Fund expenditures could act as federal budget revenues (when reciprocal transfers from the Fund to the budget are credited) or be realized independently of the federal budget.

1. The Stabilization Fund within the federal budget.

In accordance with the Budget Code (Article 17), a dedicated budget fund consists of monetary resources formed in accordance with the legislation of the Russian Federation as part of the budget, from revenues or receipts used for a dedicated purpose. Dedicated budget fund resources may not be used for purposes that do not conform to the fund's designated purpose. The Stabilization Fund could therefore be treated as a dedicated budget under existing Russian legislation.

The accounting of Stabilization Fund revenues and expenditures as revenues and expenditures of a dedicated budget fund can be illustrated using a simplified example. We will assume that planned and actual monthly federal budget receipts consist entirely of taxes and total 100 units, and that expenditures also total 100 units. Consider the operations that must be performed in February if in January there was a price increase for oil compared to the

base price that led to a revenue increase of 20 units. For the sake of simplicity, we will assume that all additional revenues are credited to the Fund.

If the Stabilization Fund is defined as a dedicated budget fund formed out of total budget revenues and not from specific taxes, the accounting for SF revenues could be organized along the lines of the accounting for the revenues and expenditures of the Federal Dedicated Fund for Restoring and Protecting Water Management Facilities. In this case Fund revenues will be counted as federal budget revenues with a minus sign and as revenues of the dedicated budget fund with a plus sign. Fund expenditures will be treated as federal budget expenditures (see Table 8).

This approach has drawbacks. First of all, dedicated budget funds are falling out of favor, because their expenditures are traditionally reflected in budgetary classification by a single line item without any specific details. From this standpoint, dedicated budget funds reduce the transparency of federal fiscal policy. Second, the cycle of Stabilization Fund accumulation and disbursement does not coincide with the budget cycle (since by its very definition, the Stabilization Fund is intended to accumulate budget funds). Consequently, creating the Stabilization Fund as a dedicated budget fund can raise problems of providing for the long-term preservation of those funds. So it seems more appropriate to separate Fund resources from federal budget resources in a special off-budget account.

2. The Stabilization Fund outside the federal budget.

If the Stabilization Fund exists as a monetary fund separate from the unified federal budget, its "relationship" with the federal budget is structured through the mechanism of contributions from the federal budget to the Fund and receipts (transfers) from the Fund back to the federal budget. Three possible treatments for contributions to and receipts from the Fund are possible.

Contributions to the Fund may be counted as deficit financing with a reverse sign, as budget expenditures, or as budget revenues with a reverse sign. Fund receipts may be considered as receipts

Table 8

[Stabilization Fund as a Dedicated Budget Fund]

Federal budget revenues	120, including revenues transferred to Stabilization Fund - -20, revenues of Stabilization Fund = 20
Federal budget spending	120, including expenditure to Stabilization Fund 20
Deficit	0
Financing	0

from deficit financing sources, or as nontax federal budget revenues (for the second and third options). The advantages and drawbacks of the various options are considered below.

2.1. Accounting for contributions to the Fund.

(a) The first variant, of accounting for contributions to the Fund as deficit financing with a reverse sign¹⁶ (and receipts from the Fund as receipts from sources of deficit financing) has two subvariants.

The first subvariant boils down to equating Fund disbursements and contributions to a form of borrowing that is similar to changes in amounts of surplus revenues remaining on budget accounts. In this case, as when the Fund functions as a dedicated budget fund, its expenditures and revenues are not distinguished from other federal budget revenues and expenditures. The Fund exists only as a special set of rules for using surplus revenues (or financing budget deficits). However, this approach gives rise to two problems. First, the concept of "surplus revenues remaining on budget accounts" is difficult to reconcile with the possibility that Fund resources could accumulate *before* planned expenditures are made. In this approach, only those additional revenues that were not expended in the process of budget execution would be credited to the Fund. This makes the creation and financing of the Stabilization Fund dependent on subjective factors. Second, this approach raises the problem of preserving the balances in budget accounts that accumulate during periods of favorable oil prices. If Fund resources are not separated from other balances in budget accounts, they

carry over as revenue balances in the budget for the following year (Article 242 of the Budget Code). As indicated above, Fund resources could be used in full to cover budget deficits, regardless of why they arose. In order to avoid the unwarranted expenditure of Fund revenues accumulated during years of high oil prices, special rules for using the surplus balances in budget accounts corresponding to Fund resources must be set. But this is essentially equivalent to separating out Fund resources into a special account that is not a part of the unified federal budget account.

The second possibility is to treat disbursements from the Stabilization Fund as a particular type of deficit finance, amending Article 94 of the Budget Code accordingly. This option would separate Stabilization Fund resources from other federal budget funds, and, in this sense, it seems acceptable.

The logic of treating contributions to the Stabilization Fund as federal budget financing with a reverse sign is illustrated below using a simplified example with the preconditions described in subvariant 1 above. In this case, federal budget revenues, representing both planned revenues and revenues generated by a rise in oil prices over the base level, will exceed federal budget expenditures by the magnitude of the unplanned revenues subject to transfer to the Stabilization Fund. These unplanned revenues will accrue in a manner analogous to a gain in the federal budget's "financing" section, and their transfer to the Stabilization Fund account is assumed therein. The change in residual federal budget balances will thus be influenced by the Fund account.

The transfer of budget revenues to the Stabilization Fund described above is reflected in the federal budget as shown in Table 9.

(b) The second approach consists of treating contributions to the Fund as federal budget expenditures. In this case, Stabilization Fund contributions are reflected as a transfer to the Stabilization Fund and as a budget expenditure. Total planned revenues and revenues generated by increased oil prices will thus equal planned expenditures and transfers to the Stabilization Fund. Accordingly, the deficit will be equal to zero. The mechanism for reflecting contribu-

Table 9

[Stabilization Fund as an Off-budget Fund (transfers as deficit finance)]

Federal budget revenues	120
Federal budget spending	100
Excess revenues over spending	20
Financing	-20, including gain in balances in unified federal budget account—0, gam in
balances	in Fund account—20

tions to the Stabilization Fund in budget reporting in terms of the example considered above is shown in Table 10.

Treating contributions to the Stabilization Fund as budget expenditures is also compatible with keeping the Fund independent of the budget. Fund resources can be spent without these allocations being reflected as budget spending since, having approved the law "On the Stabilization Fund," the targets for Fund disbursements, and the formula for contributions to the Fund, parliament conveys the right to make the corresponding expenditures to Fund management. This reduces the risk that Fund resources will be used at the whim of legislators for purposes not envisioned by the law. One shortcoming of this approach is that it establishes a sequence of contributions to the Fund that is identical to other federal budget spending. Actual budget revenues, after regular expenditures based on the results of the reporting period (this could be a month, quarter, or year) are subtracted, could be insufficient for making contributions to the Fund calculated according to the formula. Moreover, by being equated to other federal budget spending, Fund contributions could be sequestered when there are insufficient receipts for reasons unrelated to oil price market conditions.

(c) In order to ensure that contributions to the Fund take priority over other federal budget expenditures, contributions could be counted as federal budget revenues with a reverse sign. In this case, regardless of the moment in which the contributions are ac-

Table 10

[Stabilization Fund as an Off-budget fund (contributions as federal budget expenditures)]

Federal budget revenues	120
Federal budget spending	120, including deductions to Stabilization Fund 20
Excess revenues over spending	0
Financing	0

crued, their amount will not depend on the results of budget execution for other expenditure line items. This mechanism is represented in Table 11. Contributions to the Stabilization Fund are shown as revenues with a minus sign, thereby reducing the overall amount of revenues collected by the amount of unplanned revenues associated with the excess of oil prices over the base price. Then the revenues, reduced by the amount of Fund contributions, will be equal to planned federal budget expenditures. As in the previous case, the deficit will be equal to zero (see Table 11).

This method of accounting for contributions to the Fund is similar to treating them as budget expenditures. The difference is only that 20 units of contributions to the Stabilization Fund are not counted as expenditures, but rather reduce the revenues of the federal budget.

2.2. Accounting for disbursements from the Fund.

Depending on which option for accounting for contributions to the Fund is chosen, Fund disbursements to the federal budget may be considered either as receipts from sources of deficit financing or as nontax revenues. We will illustrate both approaches using a simplified example. Assume that the forecast price for oil is below the base level, and that tax revenues of 100 units are approved. If the unfavorable oil price forecast is borne out during the first nine months of the current year, in the fourth quarter the government submits to the Duma a draft law to draw on the Stabilization Fund to increase the noninterest budget spending. Assume that the funds

Table 11

[Stabilization Fund as an Off-budget Fund (contributions as federal budget revenues)]

Federal budget revenues	100, including all revenues 120; revenues deductible to Stabilization Fund 20
Federal budget spending	100
Excess revenues over spending	0
Financing	0

withdrawn from the Stabilization Fund according to the formula equal 20 units. If transfers from the Fund are treated as receipts from deficit financing sources, this operation will appear as shown in Table 12, part a. If the disbursement from the Fund is counted as nontax budget revenues, this operation will appear as shown in Table 12, part b.

We may consider accounting for Stabilization Fund expenditures on repaying state foreign debt as a separate problem, since increases in noninterest budget expenditures are to occur through reciprocal transfers from the Stabilization Fund to the federal budget. As with Fund expenditures for repaying debt, these disbursements may be accounted in two alternative ways: as expenditures in the federal budget and as changes in the RF's debt obligations (the State Debt Ledger of the Russian Federation), or only as changes in debt obligations. One drawback of the first option is that it is impossible to make those expenditures directly from the Stabilization Fund account because a preliminary transfer must be made to the federal budget from the Stabilization Fund. This transfer is reflected either as part of nontax revenues or as receipts from sources of deficit financing. If they are used to repay state debt, these transfers increase budget spending by the amount of interest spending, the budget surplus, and, simultaneously, negative financing, resulting from the repayment of foreign debt principal. The budgetary reporting mechanism for these operations in terms of the prescribed example is represented in Table 13.

Table 12

[Stabilization Fund as an Off-budget Fund (transfers as deficit finance)]

(a) Accounting for receipts from Fund in sources of financing

Revenues	100
Spending	100 + 20
Excess revenues over spending	-20
Financing	20, including drawing of funds from Stabilization Fund—20

(b) Accounting for receipts from Fund as part of nontax revenues

Revenues	100 + 20
Receipts from Stabilization Fund	20
Spending	100 + 20

One obvious shortcoming of this option is the lack of guarantees that transfers from the Stabilization Fund will be used specifically to repay debt, because those funds end up at the disposal of legislators.

In this sense, the second option for accounting for these expenditures is preferable: bypassing the federal budget, the government dictates that the funds for debt repayment be sent from the Stabilization Fund directly to creditors. Information regarding the execution of debt obligations is entered into the State Debt Ledger of the Russian Federation.

In the event no changes whatsoever are made in the reporting of federal budget execution, the expenditures for repaying foreign debt are reflected in the reporting of the Stabilization Fund as shown in Table 14. The fact that 18 units of state debt principal and 2 units of interest obligations have been repaid is accordingly reflected in the State Debt Ledger of the RF.

This approach does not contradict the overall logic of budget legislation because, in accordance with the Budget Code, in the process of voting on the budget law, the parliament approves spending for debt service and repayment, as well as the upper limit (but

Table 13

[Stabilization Fund as an Off-budget Fund (disbursements as budget expenditures)]

Nontax revenues	20, including receipts from Stabilization Fund—20
Spending	100 + 2, including spending to service state debt—2
Excess revenues over spending (surplus)	18
Financing	–18, including repayment of debt principal = –18

not the absolute amount) of state debt as of January 1 of the following year. Budget legislation thus does not rule out situations where the debt on January 1 of the following year is less than the approved limit. This can result from reduced borrowings in the current year or from debt repayment from off-budget sources. Article 119 of the Budget Code should be amended to permit spending to place, pay income on, and repay debt obligations not only from federal budget funds but also from the Stabilization Fund.

The management of Fund resources

The choice of operational manager of the Fund is of fundamental importance. The following alternatives may be proposed: the Central Bank of the RF, the Ministry of Finance, or a governmental agency specially created for the purpose.

The selection of the Central Bank can be justified by Article 155 of the Budget Code, and by Article 23 of the federal law “On the Central Bank of the Russian Federation (Bank of Russia),” which endows the Central Bank with a whole series of budgetary powers. These include: developing the basic guidelines for monetary and credit policy in conjunction with the RF government and submitting them to the State Duma for consideration; servicing federal budget accounts, the budgets of constituent entities of the Russian Federation, and local budgets, as well as off-budget funds; exercising general agent functions for state securities; and

Table 14

[Stabilization Fund as an Off-budget Fund (disbursements as changes in foreign debt)]

Revenues of Stabilization Fund	N
Spending of Stabilization Fund	20, of which for payment of interest on debt—2, for repayment of principal—18

conducting, without commission compensation, operations to service state debt and operations with the foreign exchange reserves of the Russian Federation. The Central Bank's authority to manage Russia's foreign exchange reserves is directly analogous to the powers to manage the Stabilization Fund. The foreign exchange reserves and revenues of the Stabilization Fund have a common source of origin (federal budget revenues), a common legal regime (they are under federal ownership and are disbursed for purposes defined by law), and a common purpose (they are a form of accumulating and saving state financial resources). Foreign exchange reserves and Stabilization Fund resources also differ from other state assets in that it is not practical to subject them to direct parliamentary management. While the government can (and should) monitor the observance of legislation pertaining to those reserves, allowing parliament to dispose of them would inevitably reduce the effectiveness, or even block the making, of management decisions.

Even though there is no special regulatory act regarding Russia's foreign exchange reserves, the powers separate from those belonging to the Central Bank in this area are clarified by the federal law "On Precious Metals and Precious Stones." In accordance with Article 8 of this law, the foreign exchange reserves of the Russian Federation "intended for the exercise of state financial policy and the satisfaction of the emergency requirements of the Russian Federation in emergency situations" include a gold stockpile consisting of refined gold in federally owned ingots. A portion of this gold reserve is stored in turn at the Central Bank of the Russian

Federation and is carried in its accounts.

The decision to expend that portion of the gold stockpile of the Russian Federation is made by the Central Bank of the Russian Federation under a procedure that has been coordinated with the Government of the Russian Federation. A report regarding the status of the portion of the gold stockpile of the Russian Federation being carried on the accounts of the Central Bank of the Russian Federation is submitted by the Central Bank of the Russian Federation to the State Duma as a constituent element of the report of the Chairman of the Central Bank of the Russian Federation regarding the activity of the Central Bank of the Russian Federation.

The State Duma thus does not oversee disbursements from the gold stockpile. However, in a case where the actions of the executive authorities in this area prove to be illegitimate or ineffective, the Duma has the right to hold the guilty parties politically or legally liable. In our opinion, the operational management of Stabilization Fund resources should be handled analogously.

Naturally, Fund resources cannot be expended for any purposes other than those stipulated by law. But, in our opinion, the application of Article 236 of the Budget Code, which prohibits "the receipt of additional revenues in the process of budget execution through placing budgetary resources in bank deposits and transferring the revenues received to trust management" to the management of Fund resources, would be inappropriate. There are two reasons for this prohibition pertaining to budgetary resources. The first is the lack of significant time lags between the receipt and utilization of budget revenues. Most budgetary expenditures are regular, and disrupting the steady schedule for their implementation could lead (and in practice has led) to the accumulation of arrears in the routine maintenance of state institutions and the payment of wages to employees in the budget-financed sphere. However, this argument does not hold with regard to the Stabilization Fund, since disbursements from the Fund for noninterest budget spending could occur during a short period of time at the end of the year. Consequently, the bulk of Stabilization Fund resources is

free for most of the year. Expenditures to buy back debt obligations are limited to half of the contributions to the Fund that were accumulated over the prior year. Moreover, when world oil prices are favorable for many years, a prolonged accumulation of unexpended residual revenues in the Fund may result. In this situation, it seems irrational not to use the available resources in the Fund to derive additional revenues.

The second reason why the Budget Code precludes placing budgetary funds in bank deposits is the risk of their loss. This risk was especially high at the beginning of the 1990s, when most regional and local budgets held their accounts in commercial banks at a time when the rights, obligations, and liability of the banks servicing those accounts were not regulated effectively. Losses from highly risky operations with budgetary resources often fell to the budget, while profits were appropriated by commercial banks. In permitting the investment of the Stabilization Fund's free resources, it is essential to establish clear-cut legislative limitations and procedures.

Limitations should be established particularly concerning the assets comprising the Fund's free resources. Such assets should be sound, highly liquid, and diversified. From this standpoint, it does not seem advantageous to invest Fund resources in ruble assets that are subject to exchange rate risk. Moreover, investing Fund resources in domestic assets precludes their use in stabilizing the real exchange rate. Investing Fund resources in investment projects is also unacceptable, in our view, because they are highly risky and illiquid. Investing Fund resources in the RF government's debt obligations is categorically impermissible because, in this case, the Fund's resources are essentially being used to finance federal budget deficits not associated with the deviations of oil prices from base values. Furthermore, state debt accumulates at the expense of the Stabilization Fund, which is intended to reduce this debt.

It would instead be desirable to focus on the quotes of international rating agencies when investing Fund resources. In our opinion, the acceptable level of soundness and liquidity can be assured

by investing in securities having AAA ratings from Standard and Poor's and Moody's. In any case, the RF government should determine what types of financial instruments are acceptable for the investment of Fund resources.

The investment of Fund resources should not impede their use for the purposes stipulated by law. This is the principal advantage, in our opinion, of transferring Fund resources to the operational management of the Central Bank. Because it possesses significant financial assets of its own, the Central Bank can execute the Fund's expenditure obligations by crediting accounts without having to resort to early sales of financial instruments, which usually entail financial losses. In this case, the yield on Fund resources would be equal to the average yield on the Central Bank's entire portfolio. Payment of commissions for the management of Fund resources could be envisioned, derived from the revenues received on the Fund's invested resources. The amount of such commissions should be defined by a separate agreement between the RF Ministry of Finance and the Bank of Russia.

Operational management of the Stabilization Fund could be transferred to the Ministry of Finance. The legal grounds for this approach are completely obvious: the Ministry of Finance is responsible for executing the federal budget, that is, it exercises operational control over federal budget resources. Since Fund resources are accumulated from the federal budget, it would be logical to transfer them to the operational control of the body performing corresponding functions in terms of federal budget resources. But this argument "in favor" is also equally an argument "against" this solution.

Combining the management of the budget and the Stabilization Fund in the same entity risks the de facto merger of those resources, which could lead to improper disbursements from the Fund. Instead of being invested, the Stabilization Fund's free resources could be used to cover current cash shortfalls. In contrast to the Central Bank, the Ministry of Finance does not have other portfolios of foreign financial assets, so opportunities to invest Fund resources

would be reduced accordingly. The risk of losses on budget revenues transferred to the Fund is higher under Finance Ministry operational management. If funds are invested for only a few months, the slightest fluctuations in interest rates can cause short-term losses. The Ministry of Finance would be forced to sell assets if total Fund resources are reduced based on the results for the year compared to the amount credited during the year. Finally, in contrast to the Central Bank, the Ministry of Finance does not currently possess a team of professional portfolio managers, so that the investments made could be more risky and less efficient.

The third option for resolving the matter—the creation of a special governmental agency to manage the Stabilization Fund—is also distinguished by similar shortcomings. As in the case of management by the Ministry of Finance, the issues boil down to limitations on the selection of assets (by maturities) and the increased risk of losses in short-term investments, because such an agency would not already possess another portfolio of financial assets. Such an agency would be able to fulfill the expenditure obligations of the Fund stipulated by law only at the price of the early sale of the investments made. The only advantage of this approach over management by the Ministry of Finance is that this option precludes the use Fund resources for the current financing of budget spending.

The arguments cited above lead to the conclusion that the optimal variant for managing the resources in the Stabilization Fund is their transfer to the Central Bank of the Russian Federation.

Appendix

Draft federal law of the RF "On the Stabilization Fund"

This federal law defines the legal and organizational foundations for the formation and expenditure of the resources of the Stabilization Fund of the Russian Federation, intended for the stabilization of federal budget revenues in the face of fluctuations in world mar-

ket prices for strategic enterprise resources that are items of Russian export, by means of accumulating a portion of federal budget tax revenues during periods of high world prices for exported energy resources and using them to maintain a real level of noninterest state budget expenditures and to pay off state foreign debts during periods of low world prices for exported energy resources.

Article 1. The concept of the Stabilization Fund of the Russian Federation.

The Stabilization Fund of the Russian Federation is a fund of monetary resources formed from federal budget tax revenues during periods of favorable world market prices for oil, and used to repay the state foreign debt of the Russian Federation and to maintain a stable level of noninterest federal budget spending during periods of unfavorable world oil prices.

The resources of the Stabilization Fund of the Russian Federation are federal property and are held in a separate account of the government of the Russian Federation in the Central Bank of the Russian Federation.

Article 2. Sources and procedure for generating resources of the Stabilization Fund of the Russian Federation.

1. The Stabilization Fund of the Russian Federation is formed through the following sources:

- a share of federal budget tax revenues during periods of favorable world market prices for oil as defined under the procedure stipulated by this article; and
- the revenues from investments of the Central Bank of the Russian Federation of temporarily available resources of the Stabilization Fund in highly liquid and sound financial assets under the terms envisioned by Article 6 of this federal law.

2. The Stabilization Fund of the Russian Federation is financed from federal budget tax revenues determined according to the formula:

$$R = \frac{(P_t - P_0)}{P_t + 19.6} T, \text{ where } P > P_0,$$

$$R = 0. \text{ where } P_t < P_0,$$

where

R = contributions to the Stabilization Fund;

P_t = the current world market oil price;

P_0 = the base world market oil price;

T = aggregate federal budget tax revenues; and

19.6 = the computational factor correcting the share of tax revenues contributed to the Stabilization Fund.

The base price in the foregoing example is the average world oil price over the ten years preceding the current fiscal year, as annually determined by the government of the Russian Federation in the approval of the draft law on the federal budget for the next fiscal year on the basis of quotes for marker grade of Dated Brent oil in the Mediterranean and Rotterdam crude oil markets in U.S. dollars per barrel.

3. The size of the advance contributions to the Stabilization Fund is determined monthly by the Ministry of Finance of the Russian Federation during the fiscal year by a cumulative total according to the formula given in item 2 of this article, on the basis of data on the results of federal budget execution for each month of the current fiscal year.

The size of contributions to the Stabilization Fund based on the results for the past year is determined by the Ministry of Finance of the Russian Federation according to the formula given in item 2 of this article, on the basis of data on the results of federal budget execution for the past fiscal year.

For the purposes of computing the advance contributions to the Stabilization Fund, the current price for oil is understood to mean the average price on the world market as determined on the basis of quotes for marker grade of Dated Brent oil on the Mediterranean and Rotterdam crude oil markets in U.S. dollars per barrel over the period of the current fiscal year that has been completed. In computing contributions to the Stabilization Fund based on the results for the past year, the current price for oil is understood to mean the average monthly price for oil on the world market as determined on the basis of quotes for marker grade of Dated Brent

oil on the Mediterranean and Rotterdam crude oil markets in U.S. dollars per barrel.

For the purposes of computing advance contributions to the Stabilization Fund, the aggregate tax revenue of the federal budget is understood to mean the actual aggregate tax revenues of the federal budget over the period of the current fiscal year that has been completed. For the purposes of computing contributions to the Stabilization Fund based on the results for the year completed, aggregate federal budget tax revenues are understood to mean the actual aggregate federal budget tax revenues over the fiscal year that has been completed.

4. Contributions to the Stabilization Fund calculated under the procedure envisioned in item 3 of this article are made by the Ministry of Finance of the Russian Federation when the current price of oil exceeds the base price for oil on world markets, by transfer of funds from the unified federal budget account to the account of the Stabilization Fund in the Central Bank of the Russian Federation. Contributions to the Stabilization Fund are accounted as federal budget revenues with a reverse sign. Advance contributions to the Stabilization Fund based on the results of the most recent month that has been completed are made out of federal budget revenues of the following month not later than the fifteenth of that month. Contributions to the Stabilization Fund based on the results for the past year are made not later than January 15 of the following year out of the federal budget revenues for that year.

5. In the event the advance contributions to the Stabilization Fund based on the results for a certain month as calculated by cumulative total in accordance with item 3 of this article are less than the amount of contributions credited to the Stabilization Fund based on the results for prior months of the current year, the total contributions credited in excess to the Stabilization Fund are subject to return from the account of the Stabilization Fund at the Central Bank of the Russian Federation to the unified account of the federal budget not later than the fifteenth of the following month.

In the event the advance contributions to the Stabilization Fund based on the results for the past year as calculated by cumulative total in accordance with item 3 of this article are less than the amount of advance contributions credited to the Stabilization Fund during that year, the total excess contributions credited to the Stabilization Fund are subject to return from the account of the Stabilization Fund in the Central Bank of the Russian Federation to the unified account of the federal budget not later than January 15 of the following year, and are counted as revenues for the following year.

Article 3. Accounting for contributions to the Stabilization Fund in the process of compiling and implementing the budget.

1. In the compiling of the draft federal budget, the total amount of expenditures (after subtracting spending covered from receipts from sources of deficit financing) when the forecast price for oil in the next fiscal year is equal to or greater than the base price for oil in the world market should correspond to the amount of revenues computed proceeding from the base price for oil in the world market, and when the forecast price for oil is less than the base price, to the amount of revenues computed proceeding from the forecast price for oil in the world market.

2. In the event the contributions to the Stabilization Fund made under the procedure envisioned by this law lead (or could lead) to the incomplete financing of spending by not more than 10 percent of annual projections compared to the federal budget law as approved, the government of the Russian Federation shall have the right to decide to impose a spending cutback regimen under the procedure defined by Article 229 of the Budget Code of the Russian Federation.

3. In the event the contributions to the Stabilization Fund made under the procedure envisioned by this law lead (or could lead) to the incomplete financing of spending by more than 10 percent of annual projections compared to the federal budget law as approved, the government of the Russian Federation shall submit for the consideration of the State Duma a draft federal law to amend the fed-

eral law on the federal budget under the procedure defined by Article 213 of the Budget Code of the Russian Federation.

Article 4. Areas and procedure for utilization of funds from the Stabilization Fund of the Russian Federation.

1. The funds of the Stabilization Fund of the Russian Federation shall be used:

- to repay the state foreign debt of the Russian Federation in accordance with item 2 of this article; and

- to maintain a stable level of noninterest federal budget spending during periods of unfavorable world market price conditions for oil in accordance with items 3-6 of this article.

2. The Central Bank of the Russian Federation, by instruction of the government of the Russian Federation, shall direct half of the contributions credited to the Stabilization Fund based on the results for the past year to payments reducing the state foreign debt of the Russian Federation. A report of the utilization of the funds of the Stabilization Fund of the Russian Federation to repay state foreign debt of the Russian Federation shall be submitted by the government of the Russian Federation to the State Duma at the same time as the report on the execution of the federal law on the federal budget for the first quarter of the current fiscal year.

3. Funds from the Stabilization Fund of the Russian Federation to maintain a stable level of noninterest federal budget spending during periods of unfavorable world oil prices shall be utilized by means of an amendment to the federal law on the federal budget. The draft federal law on the amendment of the federal law on the federal budget in connection with the drawing of funds from the Stabilization Fund of the Russian Federation as federal budget revenues (hereinafter in the text, "the draft law on the expenditure of funds from the Stabilization Fund") shall be submitted by the government of the Russian Federation to the State Duma not later than October 1 of the current year when the following conditions are present simultaneously:

- there are monetary resources in the Stabilization Fund;
- the average monthly price of oil over the first nine months of

the current year has been below the base price for oil in the world market; and

- the predicted expenditures of the federal budget for the current year computed as a percentage of gross domestic product are not less than 5 percent below the average annual actual spending of the federal budget computed as a percentage of gross domestic product for the three fiscal years preceding the current one.

4. The total funds drawn from the Stabilization Fund of the Russian Federation as federal budget revenues over the year under the procedure envisioned by item 4 of this article are computed according to the formula given below, but may not exceed the actual fund balances remaining in the Stabilization Fund account in the Central Bank of the Russian Federation as of the moment the draft law to expend the resources of the Stabilization Fund is passed.

$$E = 0.5 \frac{(P_0 - P_t)}{P_t + 19.6} T, \text{ where } P_t < P_0.$$

The formula takes the form: $E = 0$, where $P_t > P_0$, where

E —is receipts from the Stabilization Fund;

P_t —is the current price of oil in the world market;

P_0 —is the base price of oil in the world market;

T —is the aggregate tax reserves of the federal budget; and

19.6—is a computational factor.

In compiling the draft law for the expenditure of resources from the Stabilization Fund, the current price of oil is understood to mean the forecast average price for oil in the world market in the current year, while the aggregate tax revenues of the federal budget are understood to mean the forecast aggregate tax revenues of the federal budget for the current year.

5. The draft law on the expenditure of resources from the Stabilization Fund shall be considered by the State Duma under the procedure defined by Article 213 of the Budget Code of the Russian Federation, with the withdrawals stipulated by this item. If

that draft law is not adopted within the time period stipulated by Article 213 of the Budget Code of the Russian Federation, the government of the Russian Federation shall have the right to draw on the resources of the Stabilization Fund in the amount defined by the law on the expenditure of resources from the Stabilization Fund, and shall evenly index the federal budget expenditures in all areas.

6. In the event that the actual average monthly price for oil in the world market or the actual aggregate federal budget tax revenues in the current year based on the results for the year have deviated from the forecast values used for calculations in compiling the draft law on the expenditure of resources of the Stabilization Fund, causing the overexpenditure of funds from the Stabilization Fund, the amount of the funds credited in excess from the Stabilization Fund to federal budget revenues shall be subject to return to the Stabilization Fund from the federal budget revenues of the following year not later than February 1 of the following year.

[Variant: supplement item 6 with a second paragraph as follows: "In the event that the actual average monthly price for oil in the world market or the actual aggregate federal budget tax revenues in the current year based on the results for the year have deviated from the forecast values used for calculations in compiling the draft law on the expenditure of resources from the Stabilization Fund, as a result of which less funding was drawn from the Stabilization Fund than could have been drawn with a correct forecast, the shortfall in the amount of funds transferred from the Stabilization Fund shall be subject to transfer to the unified account of the federal budget not later than February 1 of the following year, and counted as revenues in the following year's budget."]*

Article 5. Management of the Stabilization Fund.

1. The Stabilization Fund shall be managed by the government

*Brackets included in original text—Ed.

of the Russian Federation in accordance with this federal law.

2. At the direction of the government of the Russian Federation, the Central Bank of the Russian Federation shall exercise the operational management of the Stabilization Fund, including:

- accounting for the resources of the Stabilization Fund in a special account and completing operations with those resources without collecting commission remuneration;
- placing temporarily available resources of the Stabilization Fund in highly liquid and sound financial assets under the procedure envisioned in item 3 of this article; and
- directing the funds of the Stabilization Fund to the repayment of state foreign debt of the Russian Federation under the procedure envisioned in item 2 of Article 4 of this federal law.

3. The types of assets in which the temporarily available funds of the Stabilization Fund may be invested are determined by the government of the Russian Federation. The placement of temporarily available resources of the Stabilization Fund into highly liquid and sound financial assets does not prevent their utilization for the purposes defined by this federal law. The income received from the placement of temporarily available resources of the Stabilization Fund into highly liquid and sound financial assets shall be subject to crediting in full to the revenues of the Stabilization Fund.

4. A report on operations with the resources of the Stabilization Fund shall be submitted by the Central Bank of the Russian Federation to the State Duma as a constituent element of the report of the Chairman of the Central Bank of the Russian Federation on the activity of the Central Bank of the Russian Federation.

Article 6. Monitoring the utilization of resources from the Stabilization Fund.

1. The utilization of resources from the Stabilization Fund for the purposes of maintaining a stable level of noninterest federal budget spending during periods of unfavorable world oil prices shall be monitored analogously to the monitoring of the federal budget's implementation. A report on the utilization of resources

from the Stabilization Fund for the purposes of maintaining a stable level of noninterest federal budget spending during periods of unfavorable world market price conditions for oil shall be submitted to the State Duma of the Federal Assembly of the Russian Federation as part of the report on the implementation of the federal budget.

2. The utilization of resources of the Stabilization Fund for the repayment of state foreign debt of the Russian Federation shall be monitored by the Comptroller's Office of the Russian Federation at the direction of the State Duma. A report on this verification shall be submitted to the State Duma.

3. The operations of the Central Bank of the Russian Federation with the resources of the Stabilization Fund shall be verified by the Comptroller's Office of the Russian Federation at the direction of the State Duma. A report on this verification shall be submitted to the State Duma.

Article 7. Enactment of this federal law.

This federal law shall be enacted as of the day of its official publication.

President of the Russian Federation

Notes

1. I. Shuvalova, "Top-100. Rossiiskii eksport" [The Top 100. Russian Exports], *Eksport*, no. 24, June 26, 2000, pp. 53-62.

2. S. Montenegro, "Macroeconomic Risk Management in Nigeria: Dealing with External Shocks," in *Macroeconomic Risk Management—Issue and Options*. Report no. 11983-UNI, Western Africa Department (Washington, DC: World Bank, 1994).

3. Montenegro, "Macroeconomic Risk Management in Nigeria"; *Basic Problems of Improving the Capacity of Developing Countries and Economies in Transition to Capture the Maximum Economic and Social Benefits of Their Potential for Mineral Production*. Report of the Economic and Social Council, UN, March 10-19, 1998; U. Fasano, "Review of the Experience with Oil Stabilization and Savings Funds in Selected Countries," IMF Working Paper, 00/112 (2000). The authors express their gratitude to R. Conrad for furnishing the materials.

4. The experience of Kiribati could be considered the most successful example of a stabilization fund. Its maximum size reached four times the nation's GDP.

5. Its charter was changed and supplemented in 1997.
6. Until 1996, the fund existed nominally, because the grave fiscal situation made it impossible to make any contributions to it.
7. See, for example, the following works: F. Gul, "A Theory of Disappointment Aversion," *Econometrica*, vol. 59 (1991), pp. 667-86; Joshua Aizenman, "Optimal Buffer Stocks and Precautionary Savings with Disappointment Aversion," NBER Working Paper 5361 (Cambridge, MA: National Bureau of Economic Research, 1995).
8. This question was considered in more detail in the work by P. Kadochnikov, "Teoreticheskie aspekty sozdaniia stabilizatsionnogo fonda i optimal'nye pravila ego sozdaniia i nakopleniia sredstv [The Theoretical Aspects of Creating a Stabilization Fund and Optimal Rules for Its Creation and the Accumulation of Funds] (Russian-European Centre for Economic Policy, mimeo, 2001).
9. The following is a stricter definition of stationarity (a definition of weak stationarity). A process y_t is called weakly stationary if: 1. $E[y_t]$ is not a factor of t ; 2. $\text{Var}[y_t]$ is not a factor of t ; and 3. $\text{Cov}[y_t, y_s]$ is a factor only of $(t - s)$.
10. This is valid for a small economy that does not influence world market prices. If we consider the economy that can influence world market prices, and can use its market power to determine its own export revenues (e.g., can maximize its export revenues), such an economy could better predict future revenues. In this case, the Stabilization Fund could be formed, for example, by establishing cut-off prices, the additional revenues above and beyond which would be directed into the Fund.
11. See, for example, Angus S. Deaton, "Saving and Liquidity Constraints," vol. 59, no. 5 (1991), pp. 1221-48; J. Schechtman, "An Income Fluctuation Problem," *Journal of Economic Theory*, vol. 12 (1976), pp. 218-41.
12. These questions were considered in greater detail in the work by Kadochnikov, "Teoreticheskie aspekty sozdaniia stabilizatsionnogo fonda."
13. Here we call each of the commodity groups only base groups, and the prices for other goods (e.g., petroleum products, various grades and types of steel and cast iron) are pegged to prices of the base goods cited and fluctuate accordingly with them.
14. We actually determine the price trend over some long preceding period.
15. Since the law assumes that half the contributions to the Fund will be disbursed to repay (buy back) foreign debt of the RF, an amount equal to half the value computed according to the formulas cited will be withdrawn from the Stabilization Fund.
16. Strictly speaking, since the time of enactment of the Budget Code [BC] until the present, when amendments were made to the BC, this interpretation has been incompatible with the budget classification, which proposed only one type of source for deficit financing—borrowing, that is, the method of financing with repayment. Meanwhile, Fund resources are nothing but earmarked federal budget revenues and, consequently, receipts from the Fund can be only on a nonreimbursable and nonrepayable basis. The illusion of the repayable nature of receipts from the Stabilization Fund to the federal budget arises only in a hypo-

tical situation, when in one year the oil price was below the base by a certain number of points and in the following year exceeded the base by just as many points. Then disbursements from the Fund in the first year are offset in the second year by contributions to the Fund of equal amounts in the second year. In this sense, they are reminiscent of a nonrepayable borrowing. However, in reality, no cause and effect link exists between disbursements from the Fund and contributions to it. This becomes obvious in a situation where a period of favorable oil price conditions precedes rather than follows a period of unfavorable conditions. In that case, the "repayment of the debt" predates when it arises, which is absurd. So treating disbursements from the Fund as borrowings would contradict the legal nature of these receipts.

In August 2000, changes and additions were made to the Budget Code (see the Federal Law No. 116-FZ of August 5, 2000) that expanded the list of deficit financing sources through receipts that are nonrepayable. According to the prevailing edition of Article 94 of the Budget Code, sources of deficit financing include: receipts from the sale of state-owned property; the amount by which revenues exceed expenditures for state stockpiles and reserves; and changes in the fund balances in accounts when accounting for federal budget funds. In this situation, there are no formal impediments to accounting for disbursements from the Fund to the federal budget as receipts from sources of deficit financing, and contributions to the Fund as deficit financing with a reverse sign.