Does Russia Need to Strengthen the Ruble?
Accumulation of Foreign Exchange Reserves and Economic Growth

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The International Monetary Fund (IMF), as well as some academic economists, suggest that Russia should run down its foreign exchange reserves (FER) and appreciate (strengthen) the ruble. These reserves grew quickly after the 1998 currency crisis—from $12 billion right after the crisis to over $60 billion by the end of 2003; but IMF experts believe that the ruble is currently undervalued and that a low ruble only stimulates inflation (*Financial Times*, August 19, 2003). Other countries are being asked to allow their currencies to appreciate as well. John Snow, the U.S. secretary of the Treasury, was recently in China trying to persuade the leaders of the rising superpower to stop the rapid accumulation of reserves and to float the yuan, allowing its exchange rate to rise. President George W. Bush declared, "We do not think we are treated fairly, when a currency is controlled by the government" (*Financial Times*, September 8, 2003).

Fred Bergsten, from Washington, D.C.'s Institute of International Economics, complains that East Asian countries are not playing their role in the global adjustment process that is needed to reduce the United States' external deficit. The *Economist* (July 12, 2003), likened the exchange rate policies of East Asian countries as an attempt "to load the hardest job onto the others," arguing that the restructuring needed to correct the U.S. trade deficit would have to occur in the form of the excessive revaluation of the euro. According to the IMF's recent *World Economic Outlook* (September 2003), "Reserves in emerging economies in Asia are now at the point where some slowdown in the rate of accumulation is desirable from both domestic and multilateral perspectives…. An eventual narrowing of the U.S. current account deficit from its present unsustainable level will likely require emerging economies in Asia to share in the adjustment, to prevent an undue burden of the adjustment on other economies…not least to keep protectionist pressures at bay."

Exchange Rate Protectionism

The current situation is not without precedent. In the 1930s, during the Great Depression, many countries resorted to protectionist measures and to competitive devaluations in an attempt to insulate their markets from foreign competition (beggar-thy-neighbor policies). In the 1980s, Japan was blamed for the U.S. trade deficit. The 1985 Plaza Accord involved the coordinated efforts of major Western countries to appreciate their currencies

against the dollar in order to reduce the U.S. trade deficit; as a result, the Japanese currency appreciated the most—from 239 yens to the dollar in 1985 to 128 yens in 1988. The export/gross domestic product (GDP) ratio that had increased in Japan from 10 percent in 1960 to 15 percent in 1984 fell to 10 percent by 1986 and remains at this level. Economic growth in Japan slowed down dramatically in the 1990s, and some economists see a causal link between these two events.

China did not devalue the yuan versus the dollar after the 1997 Southeast Asian currency crises, mostly for political reasons—China, for the sake of providing assistance to its neighbors and promoting East Asian solidarity, took an economic hit because its exports were competing with ASEAN (Association of Southeast Asian Nations) exports in Western markets. The de facto revaluation of the yuan versus East Asian currencies that plummeted after the Asian financial crisis caused deflation in China (prices decreased or did not grow perceptibly from 1998-2002) and a slowdown of economic growth (from 10 percent in 1996 to 7 percent in 1999). But China continued to accumulate dollar reserves.

Many questions emerge. Why does China accumulate foreign exchange reserves so rapidly—from less than $5 billion in 1978, at the start of reforms, to over $300 billion today (not counting over $100 billion in Hong Kong)? Why were reserves accumulated so quickly in Japan (from less than $2 billion in the early 1960s to over $500 billion today), Taiwan (about $200 billion today), South Korea (over $100 billion), and other Southeast Asian countries, so that Asia now accounts for two-thirds of the world's reserves? The stockpiling of FER, like the accumulation of all stocks (inventories), is associated with costs—countries should limit their consumption to build up reserves. Moreover, reserves are invested into highly liquid and reliable securities, like U.S. Treasury bills, with low returns, so the costs of the alternative to keeping reserves are high. And why are the United States and other Western countries not accumulating reserves at as high a pace as Asian countries? Why is the United States asking for appreciation of the yuan instead of building up U.S. stocks of yuans so that the exchange rate of the Chinese currency appreciates?

Theory: How Reserves Buildup Stimulates Growth

The standard theory of international economics considers the *real* exchange rate as determined by circumstances, not by policy. That is to say, if prices in Russia double whereas in the United States they remain stable, the nominal exchange rate would sooner or later increase from 30 rubles/dollar to 60 rubles/dollar. However, this is only the case when some countries do not build up reserves faster than the others; if they do, they artificially underprice their currencies by buying foreign currency and selling the domestic currency. A new theory suggests that intensive reserve accumulation can have a stimulating effect on long-term growth rates in developing, although not developed, countries.

First, foreign exchange reserves accumulation causes real exchange rate undervaluation that is expansionary in the short run and may have long-term effects, if such devaluations are carried out periodically and unexpectedly. Second, real exchange rate undervaluation allows states to take full advantage of export externality and triggers

export-led growth. This is sometimes called "exchange rate protectionism" and quantitatively is considerably more important than conventional trade barriers. Third, FER buildup attracts foreign direct investment (FDI) because it increases the credibility of the government of a recipient country and lowers the dollar price of real assets. This third mechanism can operate even with exchange rate overvaluation if benefits from FDI inflows exceed costs of not utilizing fully the export externality.

The accumulation of FER is neither a necessary nor a sufficient condition of economic growth. It may well be that countries that do not accumulate reserves grow faster than others because of a better investment climate, better institutions, or greater involvement in international trade achieved through greater openness of their economies even though their exchange rate is at equilibrium level. It may also be the case that countries accumulating reserves are not able to increase their investment/GDP ratios because of high capital flight resulting from a poor investment climate. Moreover, even if the accumulation of reserves yields increases in investment/GDP ratios, the growth of output may still be low because of poor marginal capital productivity. This happened, for instance, in the former centrally planned economies and, more generally, in countries that promoted import substitution. However, this example is of limited value because in most of these countries the accumulation of reserves did not occur on any significant scale, whereas high investment/GDP ratios resulted from more direct government measures, not from the intensive accumulation of reserves and underpricing of the exchange rate.

The accumulation of FER is, however, a powerful macroeconomic mechanism in raising long-term growth rates. It is simple, if not primitive, to say so, but this is exactly where its major strength lies. This mechanism is available to all countries in all periods, even when other measures to boost economic growth are not feasible because of political/economic reasons or they require a long time to reap the first dividends. If a country with numerous government failures, a poverty trap, and institutional traps (as when there is no way to improve institutions without growth and no way to speed up growth without improving institutions) has no other policy options, there is at least a chance to provide an efficient "big push" to economic development via accumulation of reserves by a central bank. Even the most inefficient and corrupt governments can use reserve accumulation as a device of last resort to promote growth.

The accumulation of reserves brings about an undervalued exchange rate, an increase in revenues and profits of the export sector at the expense of consumption, and boosts investment and export-led growth. The resulting greater involvement in international trade ensures that new investment would not be used to create industrial dinosaur enterprises of the sort of "white elephants" or "Egyptian pyramids" that were often created under import substitution. On the contrary, total factor productivity increases because of externalities associated with greater participation in the international trade. Besides, reserve accumulation that continues for a decade or so appears to attract FDI because a low exchange rate makes domestic assets look cheap and because foreign investors are impressed by the consistency of government policy.

Empirical Evidence: How Reserves Buildup Stimulates Growth

Empirical evidence seems to suggest that the accumulation of foreign exchange reserves contributes to the economic growth of a developing economy by increasing both the investment/GDP ratio and capital productivity (see figure 1). It appears that this policy works primarily for developing countries and that trade protectionism and "exchange rate protectionism" are basically substitutes, that is, at a certain stage of development, both policies can achieve growth-promoting results. Growth regressions imply that for countries with purchasing power parity (PPP) GDP per capita higher than $5,000 in 1975 (the level of Israel) the accumulation of reserves negatively affected growth, whereas for poorer countries the impact was positive.

Fast-growing countries usually have an undervalued exchange rate (*ceteris paribus* a lower ratio of domestic to U.S. prices), which is achieved by rapid accumulation of foreign exchange reserves. As a result, there is a positive correlation between the accumulation of reserves, the share of investment in GDP, and economic growth. It has been shown, by including the variable that characterizes the undervaluation of the exchange rate into standard growth regressions, that the overvaluation of the exchange rate is detrimental for economic growth in developing countries.

Developing countries that accumulated more reserves were also growing at a higher rate. The country with the fastest-growing economy in the world from 1960–2000 was Botswana. Botswana managed to increase its per capita GDP more than tenfold (in constant 1995 dollars)—from $340 to nearly $4000 (a 6 percent annual average increase in GDP per capita over 40 years). Botswana is also the country with the highest ratios of foreign exchange reserves to GDP and to imports. Other countries with high reserves/GDP and reserves/import ratios are China, Korea, Hong Kong, Taiwan, many ASEAN countries, Mauritius, Chile, and Ireland—all familiar growth champions.

Growth regressions imply that "exchange rate protectionism" is a more efficient policy to stimulate growth in middle-income countries than import duties (conventional protectionism), which are good for growth at a certain stage of development. One explanation for this greater efficiency is that import duties do not necessarily promote export-oriented growth (they do so only when the proceeds from these duties are spent for export subsidies), whereas undervaluation of the exchange rate via reserve accumulation is an automatic subsidy to all producers of tradable goods, especially exporters. The other explanation is probably the indiscriminate, nonselective nature of low exchange rate policy: whereas tariff protection is selective and is thus prone to lobbying pressure, exchange rate undervaluation via reserve accumulation provides protection and stimuli to all industries producing tradable goods, especially goods for export. This latter policy cannot be captured and "privatized" by particular interest groups, which makes it an especially efficient growth-promoting instrument in poor and middle-income countries that generally suffer from corruption.

How Much Reserves Russia Needs

That the undervaluation of the Chinese yuan makes Chinese goods supercompetitive is a big problem for the United States—the U.S. trade deficit with China in 2003 will probably amount to $150 billion, more than Russia's total exports. The Chinese trade

surplus returns to the United States in the form of purchases of U.S. Treasury bills by the Chinese monetary authorities. Foreigners now account for one-third of the U.S. government debt and the share of Asian investors in annual foreign purchases of U.S. government securities is 40 percent—just a bit less than Europe's share (43 percent). If Asian investors, or even just China, refuse to buy U.S. Treasury securities (because of a new terrorist attack in the United States or simply because of the deterioration of political/trade relations, for example), then interest rates in the United States would rise and/or the dollar would depreciate. This would be the only way to reduce the current account deficit or to continue to finance it with capital inflows. In both cases, restructuring would follow and U.S. output and real incomes would suffer. The current U.S. administration is probably not willing to wait for the avalanche, but may attempt to ensure a soft landing, while it is still possible, via gradual appreciation of the yuan that could cause a gradual reduction of U.S. imports from China and stimulate U.S. exports to China.

The United States could lower the exchange rate of the dollar through the accumulation of its own foreign exchange reserves, including reserves in Asian currencies, but it does not want to. The buildup of reserves is associated with costs, which are especially high for the United States, as it keeps an exceptionally large part of all its reserves in gold (the burden of the superpower), and the storage of gold does not yield any returns. Moreover, for developed countries, reserve accumulation does not bring benefits of faster growth as it does for poorer countries, because their engagement in international trade is already at an optimal level. So the United States is pressing China to slow down its buildup of reserves and to appreciate the yuan, which ultimately is going to hurt Chinese growth. So far, the Chinese have politely refused.

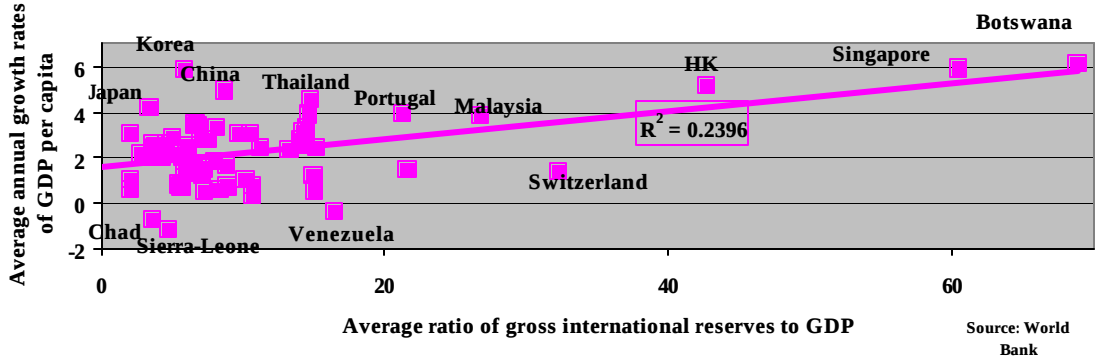
Unlike the Chinese yuan, the Russian ruble and its exchange rate is a small problem for the United States; but Russia is also advised to allow the appreciation of its exchange rate by stopping the accumulation of reserves. Economic growth started in Russia only recently, after the devaluation of 1998, and is based on two pillars—high fuel prices and the still low ruble exchange rate (figure 2). It is said that reserve accumulation leads to inflation, but is it necessary to fight inflation at the cost of lowering growth? Besides, in theory, there is no direct link between reserve buildup and inflation (if increases in the money supply due to reserve accumulation are sterilized through open market operations, i.e., sales of Treasury bills), and in practice, inflation rates in recent years in Russia were dropping even though reserves were growing. On the contrary, the *real* (adjusted for inflation) ruble exchange rate increased significantly since 1998 against the dollar and especially against the euro. If fuel prices drop tomorrow, Russian economic growth would be jeopardized. Does Russia have to sacrifice its still fragile economic growth for the sake of "global structural adjustment"?

Conclusion

In practical terms, there are no formal limits for the accumulation of reserves by developing countries, but "exchange rate protectionism" can result in beggar-thy-neighbor policies—obviously, if all countries exercise these policies at the same time, everyone would lose. However, the U.S.-IMF policy to press countries to appreciate their

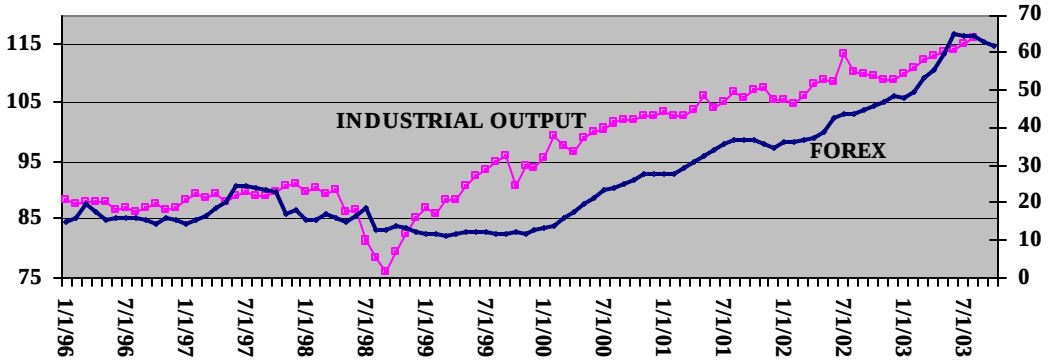
exchange rates (via selling their reserves) is in fact depriving these countries of a powerful tool of growth-promoting policy. If there are countries that have more moral reasons than others to use "exchange rate protectionism" for promoting growth, naturally these are the less-developed countries, including Russia.

Figure 1. Average ratio of gross international reserves to GDP and average annual growth rates of GDP per capita in 1960-1999 (%)



Source: World Bank

Fig. 2. Index of industrial output (2000 = 100%, left scale) and foreign exchange reserves, bln dollars (right scale)



Source: Russian Economic Trends, Goskomstat, CBR.

The academic paper with the model and regressions (Victor Polterovich and Vladimir Popov, "Accumulation of Foreign Exchange Reserves and Long Term Economic Growth") is available at http://www.nes.ru/english/about/10th-Anniversary/papers-pdf/Popov-Polterovich.pdf and http://www.nes.ru/english/about/10th-Anniversary/papers-pdf/Popov-charts.pdf. For the short version in Russian, see Victor Polterovich and Vladimir Popov, "Last Hope," *Expert*, December 22, 2002.