Monetary Reform in Russia: The Case for Gold

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Convertibility, Monetary Overhang, and Central Banking

In the early debate about monetary reform in Russia, convertibility seemed to be something both separate and more urgent than stability. As the International Monetary Fund (IMF) defines it, "convertibility" seems to mean making rubles more useful to foreigners than to local citizens. An IMF paper even objects to letting ordinary Russian citizens have access to foreign currencies, because "residents will have the foreign exchange needed to make payments for imported goods and services" (Greene and Isard 1992, p. 17). To acquire foreign currencies, though, people will have to sell goods, services, or assets. That gives individual Russians an incentive to produce, and the means by which they can and should buy imported or domestic goods and assets.

In the same IMF paper, Joshua Greene and Peter Isard also worry that internal convertibility "may make it very difficult to maintain effective restrictions on capital outflows. . . . Many economists and policymakers have traditionally argued that . . . countries should not rush to liberalize restrictions on international capital movements." It is true enough that many economists have favored free trade in goods, but not in claims to goods (capital). This is not a logical distinction, but rather a psychological problem afflicting many economists at the IMF and elsewhere (Flanders 1989, p. 339). By contrast, John Giuseppi's history of the Bank of England rightly notes that London's free market in currencies and securities was, even in the 1930s, considered "vital to the country's foreign trade, to the imports on

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which its economic life depended and to the exports by which they could be paid for" (Giuseppi 1966, p. 171). By the standards of this bit of IMF scholarship, London always followed a dangerous policy.

The alleged "monetary overhang" of 1991 was another distraction of that period, which has already been used, as Howard Wachtel (1992, p. 48) put it, to justify "the utter irrationality of deliberately inducing a hyperinflation . . . solely to confiscate people's earnings [and savings]." Since ruble currency constitutes nearly all of the publicly held national debt, massive devaluation amounted to almost total repudiation of the government's debts to its citizens. To make matters worse, there have been periods in which the Russian government has completely demonetized "old rubles," as in July 1993, thus arbitrarily confiscating monetary wealth above some trivial sum. Such whimsical assaults on property rights destroy the moneyness of money, probably increasing long-run inflation despite the destruction of part of the currency stock (because people become unwilling to hold cash balances for more than a very brief period).

To more than match the so-called monetary overhang, the governments of the Russian Federation had a much larger "overhang" of real assets that could have been easily marketed, such as houses, shops, trucks, mineral rights, portable electric power plants (nuclear submarines). They also had the possibility of issuing dividend-paying shares in, say, privatized electric and telephone companies (Mikheyev and Reynolds 1992).

Actually, the ruble is already relatively "convertible" for current account transactions. The exchange market is relatively free, and businesses can buy hard currency at market rates. Yet the ruble is simply not convertible at any stable, predictable rate, making long-term business plans more than difficult. The ruble can never be totally acceptable in international markets for goods and financial assets yet shunned at home. Instead, the ruble, or some alternative accounting unit, must be made literally convertible into either hard currency or hard metal on demand. Whether this is done through a currency board or a central bank may well affect how believable the initial stabilization effort appears. Yet the form of institution is nonetheless a secondary issue compared with the nature of the convertibility the institution provides, and its demonstrated resolve in providing a sound currency. It is certainly true that central banks have most often earned very little credibility, particularly in Russian history. However, proposals relying on currency boards also assume there must be a single monopoly issuer of currency, even though any such issuer is bound to be subject to political pressure.

Annelise Anderson (1991) has instead made a strong case for free banking in Russia, where it seems particularly useful in order to help repair the underdevelopment of banking and finance. Although the number of banks increased from 6 in 1987 to 1,500 in 1991, many have undiversified assets and look precarious (*The Economist* 1992). Most banking still consists of exchanging claims against the bad debts of state enterprises. In any case, "whether currency is issued by private competitors or public monopolies, a key question is how the issuer can be held accountable for maintaining the money's value" (Reynolds 1985, p. 107).

On monetary policy, as with tax policy, mainstream advice has often begun with the wholly inappropriate assumption that these struggling republics can simply legislate the same sorts of policies that might work, or at least be bearable, in more advanced economies (such as generous "social services"). An otherwise competent OECD report, *The Transition to a Market Economy*, proposes that "the quantitative regulation of the money supply should give way to more subtle means of regulation, primarily through open market operations, using government bonds" (Marer and Zechinni 1992, p. 205). Such unthinking trust in central banking is another one of the few surviving remnants of central planning, along with capital controls, public schooling, and "free" medical care. Yet the familiar central bank manipulation of fiat money cannot possibly work in Russia. There is no efficient market in safe securities, therefore no possibility of conducting open market operations in anything but gold or hard currencies, even on the OECD's remarkably innocent assumption that government central banks can be trusted to be "subtle" about buying government bonds.

Arbitrary measures of money, such as M2, which combine deposits and currency, are even less informative than usual in this case. There have been restrictions on the exchange of currency for bank credits: "Enterprises are restricted to using currency to purchase labor services and often find their excess non-cash credits confiscated through taxes" (Feige 1991, p. 634). There is also enormous barter, both between individuals and enterprises (Maney 1991b).

Most transactions in Russia are based on currency and commodities, so the currency's instability in terms of commodities is quite crucial. Hoarding of thousands of relatively illiquid commodities, for possible use in later transactions, is a terribly wasteful alternative to providing a currency that can instead serve as a store of value. This private resource cost of unsteady fiat money may be much larger than the cost of maintaining commodity reserves for money. As has been true in all hyperinflations, there has been much talk in the Russian

press about a "shortage of money," which simply means that the government cannot print currency rapidly enough to keep up with rising prices, as velocity soars. At that stage, anything that improves confidence could have sudden disinflationary impact, since the demand for money always soars at the start of stabilizations, due to remonetization (this presents a dilemma for "quantity rules," which cannot accommodate a surge in demand for money resulting from successful stabilization).

The Lamanski Plan

The monetary problem in the Russian Federation is a matter of demand for the entire stock of rubles, not simply for the incremental flow. Even freezing the flow of new notes and deposits might not help much, unless accompanied by a viable, long-term tax and spending policy, as well as a set of institutions that would virtually prohibit renewed monetary debasement.

Three excellent first steps toward serious institutional reform might be called the "Lamanski Plan." Lamanski was the deputy governor of the Bank of Russia in 1861. He proposed (1) making the government-controlled central bank into an independent private enterprise, (2) selling such state assets as railroads and forests to stop chronic budget deficits, and (3) requiring that any new currency be issued only against deposits of gold or silver coins (Conant 1896, pp 238–39). This plan was never fully implemented. It ran into problems in 1862 as the bank got involved in inflationary financing of land to emancipate the serfs, who were soon "exploited by the state" (as Marx put it) through brutal taxation.

Lamanski's basic ideas nonetheless have considerable merit. First, a wholly private central bank, or currency board, is more likely to remain relatively independent of government pressure. The privately owned Swiss National Bank, for example, will not hold central government paper, but instead holds a lot of gold. At a minimum, Lamanski's first rule suggests that any monetary authority in Russia must be prohibited from issuing currency in exchange for the debts of republican governments or state enterprises. This reform was also part of Stanislav Shatalin's ill-fated "500-Day Plan." Second, selling state assets not only provides immediate budgetary relief, as Lamanski emphasized, but also the prospect of converting formerly subsidized enterprises into sources of future tax revenues (including sales and payroll taxes) through efficient operation. Bureaucrats have no incentive to manage efficiently. Third, Lamanski's idea of limiting the increase in new currency to the increase in new reserves, whether of gold or hard currencies, would certainly make it quite difficult to

finance a continuous, serious inflation. Indeed, confining new note issue to gold and foreign exchange was, in addition to cutting income tax rates from 60 percent to 30 percent to stem capital flight, the first step that Poincaré took toward restoring a gold standard in France on August 7, 1926 (Haig 1929, p. 210). It would be highly desirable to at least add gold to foreign exchange as a significant portion of the monetary base, as Poincaré did in France, and as Estonia is doing right now.

Even if we could accomplish Lamanski's three goals—a reasonably independent currency board (or central bank), massive asset sales to retire some of Russia's non-interest-bearing debt (that is, money), and a rule that any new currency issues must be backed by gold and foreign exchange—the ruble would still be undefined and inconvertible in terms of some generally acceptable asset, such as gold or dollars. Thus, we need to find an anchor for the ruble. The first possible monetary anchor is to define the ruble in terms of a foreign currency, as we have already discussed above. A second is to define the ruble (or some new currency unit) in terms of gold, making the ruble literally convertible into, say, gold coins. And a third is to permit the private sector to develop and use a parallel currency, probably defined as a measure of gold (widespread use of U.S. Federal Reserve notes in Russia and elsewhere shows that a parallel currency is quite feasible, though this one involves an avoidable gift of seignorage to the United States).

The second option, a classical gold standard, would not be as difficult to accomplish as many have suggested. Initial interest in an official gold standard in Russia quickly faded because (1) it was rumored that official gold reserves were much smaller than previously thought, and (2) economists therefore theorized that any promise to redeem rubles for gold would soon deplete the remaining gold stock. The first point is not valid, because the government could acquire more gold by selling other assets, and certainly does not need anything approaching a 100 percent reserve to implement gold convertibility. The second point is not valid either, because the risk of a run on the gold window depends on the price at which convertibility is pledged. If the United States promised to redeem dollars for gold at $500 an ounce, for example, there would be no immediate risk at all of draining Fort Knox, since dollars currently have a higher gold value on the world market. However, such a golden guarantee behind Federal Reserve notes would nonetheless put a cap on the risk of future inflation. This same logic applies to Russia.

Russia's official gold hoard was thought to be something like $30 billion in late 1991, though subsequent reports suggested it may be

much smaller, perhaps only $3 billion. Even a small gold stock could suffice to defend the currency (particularly if the state were prepared to sell assets or bonds to acquire more gold), once the expectation of perpetual budgetary hemorrhage and "soft budget" financing of state enterprises is stopped (this is why supply-side tax policies and privatization are so essential). By some estimates, the stock of rubles (measured by exchange rates that often priced the ruble below purchasing power parity) was worth only about $5 billion in 1991, while the public held roughly twice that much in hard currencies. Even if the gold hoard was only $3 billion at that time, it would still have been enough to retire over half of that estimated dollar value of paper rubles. Whatever the precise figures, the main point is that retiring rubles in exchange for gold coins (and other state assets) would raise the demand for remaining rubles, thus raising their value. To suppose that all rubles would disappear under gold convertibility (regardless of the guaranteed gold price in rubles) is to forget that the gold value of the shrinking ruble stock would rise if the rubles were properly retired from circulation upon being redeemed for gold.

There would be no insurmountable technical obstacles to putting an official golden floor on the value of rubles, or some other republic's currency. An adequate gold reserve could probably be built by selling state assets to both citizens and foreigners, and using the proceeds to rebuild gold reserves. But there is little point in holding gold to back a currency if the gold will never be used to defend the currency, as in the case of U.S. gold reserves held at Fort Knox. After developing a workable tax system and retiring rubles for state assets, the Russian government could simply offer to redeem rubles for gold at a gold price that seemed fairly high at the time—the equivalent, say, of 500 U.S. dollars per ounce. This guarantee would never become effective unless the money supply expanded beyond demand, in which case redemption would automatically retire surplus rubles. That is essentially what an "official" or monopolized gold standard does—it provides a golden parachute for currency holders who get scared.

A minimal "official" reform would thus expand on the Lamanski plan by including (1) an effective prohibition of creating new money to cover deficits of the government or state enterprises, and (2) a guarantee to redeem rubles for gold at a price above the current market rate. All of this is technically feasible, assuming as I do that proper tax reform can make long-term budget balancing feasible. And it could even be effective, if anyone believed it. Yet the trouble with this, or any other plan relying so heavily on Russia's politicians and central bankers, is that it would be quite difficult to establish credibility and trust.

One Possibly Viable Option: Fixed Exchange Rates

The value of fiat money rests entirely on confidence. It is a confidence game. Since none of the new republics has any reputation to rely on, any "market" or floating exchange rate must contain a gigantic premium for uncertainty—for risks that are unknowable and therefore likely to be exaggerated. When it became known that the East German mark would be exchanged at a favorable rate with the West German mark, the so-called "free market" rate naturally went way up. Something similar briefly happened in Russia in early 1992, as the ruble went up on rumors that authorities at least did not want it to go down. In early 1993, statements by U.S. Treasury officials that they wanted the dollar to fall against the yen quickly produced that result. There is no point talking about a "realistic" or "free market" exchange rate in the case of government-monopolized fiat money, since the exchange rate is mainly based on expectations about future government policy, massive uncertainty, and raw fear.

In mid-1992, after the ruble had staged a brief recovery, "a visiting IMF team" was "attempting to persuade the authorities to stick to their original idea of floating the ruble" (Boulton 1992). Yet the IMF team surely knew perfectly well that to even announce that authorities want the ruble to "float," even temporarily, is just a euphemism for letting it sink like a stone. If people are told that nobody in charge cares whether a ruble is worth a tenth of a cent, or much less, the ruble is going way down and prices are going way up. Even former IMF economist John Williamson was troubled by this familiar IMF fetish with perpetual currency debasement, which had already produced hyperinflations in Yugoslavia and Latin America. Williamson (1992) rightly argued that the Russians should "nudge the ruble up to a level worth stabilizing."

It would, in principle, be a great improvement to fix the ruble's value to a more credible foreign currency, such as the U.S. dollar. This could certainly be done through a currency board, rather than a central bank, or through some mixture of the two (as in Estonia). As the Federal Reserve Bank of Dallas pointed out in its 1991 *Annual Report*, "a country with a fixed exchange rate has an added incentive to limit inflation, and the private sector knows it." Continuing to inflate while exchange rates were fixed would make the country's products uncompetitive, and cause a conspicuous depletion of foreign currency reserves. But breaking the fixed exchange rate causes a burst of inflation, and acute political embarrassment.

The way in which currency boards limit inflation is not magic. They simply impose fixed exchange rates—a "clean" fix, or "unified currency,"

with no exchange controls and no gap between market and official exchange rates. "A currency board can, in essence, be viewed as a pegged exchange rate system under which open market operations, and thereby sterilization, are prohibited" (Bennett 1993, p. 457). Yet some of the most vocal proponents of the currency board solution for Russia are monetarists, who have been equally zealous in their advocacy of floating exchange rates. One suspects that some of the fascination with currency boards (that is, fixed exchange rates) may be that the concept provides camouflage for the reluctant rediscovery of a simple fact: it is extremely difficult, if not impossible, to discover a single example of rapid inflation in world history that has ever been permanently ended without fixing the currency to either a more-credible foreign currency or to a precious metal.

Like a currency board, a central bank (particularly one that is prohibited from monetizing government debt) has the technical ability to conduct monetary policy with the sole objective of maintaining a fixed exchange rate—by, for example, shrinking domestic credit when foreign exchange reserves fall. The recent monetary reform in Argentina, which requires new currency to be fully backed by gold or hard currency and fixes the exchange rate to the dollar, is an example of plan that retains a central bank but deprives it of the ability to inflate. The hypothetical advantage of a currency board is that continuous convertibility between the domestic and foreign currency (such as 7.8 Hong Kong dollars per U.S. dollar) provides simplicity and transparency, and thus may not be so easily subject to political abuse. However, currency boards cannot be entirely immune to such abuse. After all, there used to be many currency boards, but most no longer exist. Even Hong Kong discarded its currency board for some time, before reviving it in 1983. While it is highly plausible that a currency board would have more credibility, and perhaps more endurance, than a central bank, it must not be forgotten that the proposal for a Russian currency board only works if the exchange rate of the ruble can, in fact, be fixed to that of, say, the dollar.

Can a fixed exchange rate be maintained? The answer is that it can, provided that (1) the budget is approximately balanced in a present value sense through tax reform, privatization, disarmament, and repeal of subsidies; (2) any money-issuing authority is prohibited from financing the deficits of government and state enterprises (particularly at below-market interest rates); and (3) the money-issuing authority is prepared to convert the local currency into a hard currency at a preannounced exchange rate.

If desired, to minimize any adjustment costs of rapid disinflation (which should be minor, due to the rarity of long-term labor or credit

contracts), the move to fixed exchange rates could be phased in, starting with a crawling peg. Actually, it is less important that the exchange rate be literally and immediately fixed than it is to make a firm commitment to a schedule of future depreciation that would be predictable and consistent with moderate inflation. David Teolis and George von Furstenberg (1993, p. 5) make this point as follows:

> The essential difference between fixed and floating exchange rates is not that the nominal exchange rate is unchanging, but that its future course is unconditionally laid out for some time ahead. Hence, prescheduled devaluations of the central rate by a preannounced amount can provide as certain and unconditional information on the future course of nominal exchange rates as a fixed parity.

Colombia, for example, has maintained an inflation rate of 20–30 percent for decades by using a crawling peg, and economic growth (helped by lower tax rates) has been quite satisfactory. Mexico recently held inflation to about 10 percent by regularly scheduled mini-devaluations, which became smaller over time. Although much less desirable than a lower inflation target, such a predictable policy of moderate inflation through prescheduled, shrinking devaluations would at least represent a major improvement over recent Russian experience with high and volatile inflation. Once a country achieved a sustained period of inflation in the 20 percent range, it would be relatively easy to later bring that down to single-digit inflation in a second stage of monetary reform. It is not easy to imagine, though, how a crawling peg could be implemented by a currency board. This all-or-nothing feature of currency boards may be a disadvantage, making it impossible to move toward fixed exchange rates gradually, over a period of two or three years.

A potential problem with keeping the ruble rigidly fixed is that either variety of currency monopoly—currency board or central bank—would have to maintain a sizable reserve of liquid assets denominated in dollars to exchange for rubles. How could either institution acquire and retain such a war chest? Asking other countries to supply such a "stabilization fund," as the League of Nations did for Austria, Hungary, and Poland in the 1920s, would not be a permanent solution even if the big industrial countries were so inclined. Even if such foreign debts never had to be repaid, the fund would probably be quickly depleted if there were no regular flow of dollars coming in through trade surpluses or net capital inflows.

Russia is not Hong Kong or Singapore. There is not much trade and tourism, and little foreign investment income, to bring dollars in. If a currency board had to expand and contract the ruble currency stock to conform only to fluctuations in trade income, the effect could

be perverse. A vigorously expanding economy would have to retain for domestic industry the metals, fuel, and other materials that are now available for export during the current depression. Indeed, vigorous economies typically run sizable current account deficits (that is, they attract net capital inflows). But in regions using the ruble, any growth-related future current account deficits are likely to be matched by relatively illiquid capital inflows, such as the Turks doing construction projects in barter deals for natural gas. In such cases, no hard currency changes hands. With highly undeveloped capital markets, capital inflows may be too unreliable a source of liquid foreign exchange to serve as backing for Russian money. Aside from such foreign investment, the only other way hard currency reserves (and therefore the money supply) could increase would be net export receipts, which often contract as an economy expands. A currency board that issued money only in exchange for foreign currencies (and not in exchange for gold) might therefore have to shrink the money supply whenever the economy was doing well and therefore running a trade deficit. This would not be helpful. But there is no reason why a currency board could not exchange local currency for, say, gold coin and gold certificates, rather than for foreign money.

There is no doubt that fixing the exchange rate of the ruble, or even limiting the rate of depreciation (a crawling peg) would be a substantial improvement over the recent monetary chaos—if it can be done. The practical question is whether monetary stability could, in this case, more likely be achieved and maintained by making some monetary use of gold, either as part of the currency board's initial monetary reserve or as an alternative unit of account (parallel currency) provided by competing private banks.

One value of focusing on a fixed exchange rate (and on creating the monetary and fiscal institutions and conditions that would make a fixed exchange rate feasible) is that it elevates monetary stability above the obsession with balanced trade. Monetary policy cannot serve two masters: trade balance and price stability. If the ruble is always allowed to sink, because past devaluations made prices "uncompetitive," then monetary policy will be chasing an illusion. The next devaluation always has to be larger than the last, in the idle hope of keeping the "real" exchange rate down as inflation escalates. To worry that the ruble will become "overvalued" without an endless series of devaluations is just another way of saying that soaring prices are perfectly acceptable, and must be shielded from any consequences. If raising prices is never allowed to affect "competitiveness" and market share, at home or abroad, then competition cannot perform its essential function of disciplining excessive price increases.

Cigarettes Are Better than Rubles; Gold Is Better Still

An alternative or supplement to converting rubles into foreign currencies is to instead back and redeem rubles in some commonly accepted, homogeneous real assets or commodities. By choosing a domestic anchor for the currency, at least as one more component of the monetary base, Russia would not have to rely so heavily on trade surpluses and inflows of foreign capital to increase the monetary base (though currency stabilization and tax reform would attract foreign capital, thus making this less of a problem).

A predictable "standard" requires some readily measurable, storable, divisible, and homogeneous commodities whose value is not overly influenced by domestic or foreign supply shocks. American brand-name cigarettes fill some of these requirements fairly well, while fresh fish or acres of land do not. Marlboro cigarettes would be a far better money than today's rubles, which is probably why Soviet bosses tried to impose a 1,000 percent tariff on them. Yet the ruble was so feeble by early 1991 that a pack of Marlboros nonetheless dropped to 75 cents a pack, and U.S. cigarette exports to the former Soviet Union jumped to $60 million in the first half of that year, up from $869,000 a year earlier (Maney 1991a). Branded cigarettes meet the classical economists' requirements of portability, homogeneity, divisibility, cognizability, and, to some extent, durability. However, if we can overcome some modernist prejudices, it is not too difficult to come up with something even better than Marlboros that is also potentially available within the Commonwealth of Independent States (CIS) itself.

The academic allergy to commodity money, particularly gold, is an arbitrary limitation on the alternatives. After all, there are not so many good options in this case that we can afford to ignore something as valuable as gold or silver, just because it is out of fashion in government circles. It is clear from the behavior of gold prices in periods of monetary uncertainty, such as 1980 or 1993, that individual savers throughout the world, unlike their governments, never really left the gold standard. Opposition to commodity money is also naive in this instance, since commodities are already being used as quasi-money in the CIS—cigarettes, blank video cassettes, and a wide variety of tangible assets traded on numerous commodity exchanges.

There is an unfounded fear that moving to a gold standard would be too effective, in the sense of squeezing the real economy. I once surveyed previous periods in which a gold standard was reinstated, such as the United States in 1792 and 1879, Britain in 1821, and

France in 1926–28 (Reynolds 1985). What I found is that in every resumption of gold convertibility, with the partial exception of Britain's deliberate deflation before 1925, there always followed a period of extraordinarily brisk economic growth for four to ten years. Warren Walsh (1958, p. 314) notes that this was also true during Russia's prosperous period on the classical gold standard after June 7, 1889, when government bonds could be sold with a yield close to 4 percent: "There were almost 6,000 more enterprises in 1900 than in 1890, and close to a million more workers." Moreover, from 1894 to 1914, foreign investment was enormous, and Russia's industrial production rose from 41.6 million gold rubles a year in 1888 to 1892 to 161.2 million from 1892 to 1897.

Despite the intellectual appeal of diversification, and therefore of "baskets" of commodities, there are very few commodities that could function well as money, or as monetary reserves. Sympathetic critics of golden money, such as Robert Hall (1983) and Michael Bordo (1984), worry that the short-term purchasing power of gold appeared to be "unstable" in terms of ancient price indexes dominated by wheat and corn. But this simply demonstrates what we should already know: that farm prices are quite variable in terms of gold, not the other way around. Marc Miles (1984, p. 226) writes that a gold standard "cannot guarantee to keep the dollar price of corn or aluminum from changing." Of course not. Whether prices are expressed in ounces of gold, or anything else, relative prices must be free to change in terms of that *numéraire*. No monetary system, actual or hypothetical, can or should prevent the price of corn or aluminum from changing.

Milton Friedman's ([1951] 1953) classic essay on a commodity-reserve currency essentially narrowed the practical list to metals. However, world prices of cyclical metals, such as copper and aluminum, have, like farm prices, been quite volatile relative to the precious metals. The dollar price of aluminum was cut in half in 1991, for example, and copper bounced up and down, while gold hovered in the $340–360 range for several years in the late eighties and early nineties. If the stability of the dollar in terms of gold continues, then a Russian monetary system based on gold would not yield results much different from one based on dollars, except that it might have more credibility since the availability of domestic gold makes redemption more feasible. If the gold value of dollars once again falls, as it did in early 1993, a gold-based system would prove superior.

Gold Backing Creates Instant Credibility, Once Again

Discussion of the role of gold in a currency stabilization plan for former communist countries is no longer merely hypothetical. Estonia issued the kroon on June 20, 1992, "backed primarily by 11.3 tonnes of gold" (Marsh 1992). In marked contrast to the unbacked Ukrainian "coupon," the Estonian kroon was by far the most stable currency in the region over the following year. This is quite a remarkable achievement for a brand new currency issued by a small country. Both currency and commercial bank reserves in Estonia are "backed" by gold and foreign currencies. This is similar to the first phase of reform by Poincaré in France in late 1926, prior to establishing full convertibility into gold. Such a backing rule, by requiring assets to match liabilities, enhances the acceptance and credibility of the unit of account (for example, the kroon). The backing rule in Estonia is importantly reinforced by a fixed exchange rate, at 8 German marks per kroon. The system uses both a currency board and a central bank, illustrating our point that the institutional form may be less important than the reality of acquiring a reputation of abiding by sound monetary rules. The system is too new to have weathered the essential test of time, but nonetheless did hold Estonia's inflation to about 40 percent in 1992 (Buyske 1993). There has been some speculation that the combination of such inflation with a fixed exchange rate may lead to devaluation (rather than to lower inflation), thus "propping up the long end of the yield curve"—but this has also happened from time to time in Hong Kong, which has nonetheless resisted such pressures for a decade (Bennett 1993, p. 458).

Uzbekistan also reportedly toyed with the idea of introducing its own gold-backed currency, but recently opted for a pure fiat currency. Such backing is of symbolic importance, particularly if it limits new issue of currency. But gold can really ensure long-term stability if and only if the new currency becomes literally convertible into gold coins or bullion. In that case, any excess note issue would be redeemed for gold, making such excesses impossible.

We may not be sure what the "optimal currency area" is, but it is surely larger than Estonia or Uzbekistan. Ideally, most of the region we used to call the Soviet Union would benefit enormously from a common currency that is anchored to something of generally accepted value across national borders and across generations. In theory, this anchor could be dollars or marks, though these are

difficult to acquire. Gold, however, is potentially available in adequate amounts, both from public and private hoards, and from new production.

If a private or public monetary authority has the gold to back a currency, it can of course acquire dollars, and vice versa. A system that promised to convert rubles to dollars at a fixed rate could hold most of its reserves in gold rather than dollars, and then sell dollars at the prevailing rate if there was a "run" on dollars. But that roundabout conversion process would add to risks that the primary commitment (to redeem rubles for dollars) would not be met by dipping into secondary assets (gold). For one thing, the need to sell gold for dollars might arise at a time when the price of gold was unusually low, in terms of dollars. And even if that was not the case, there is no obvious way of compelling those holding gold reserves to sell them. The United States, for example, decided in 1971 that it would rather hoard gold at Fort Knox, for some unknown reason, than meet a commitment to exchange gold for dollars held by foreign central banks. Had ordinary citizens been promised that their currency could be exchanged for gold coins at $42 an ounce, it seems far less likely that the U.S. government's failure to redeem would have been so politically painless as it was. The first advantage of gold convertibility over dollar convertibility is therefore transparency—those holding rubles can easily tell if authorities are not meeting the commitment to exchange their paper for gold coin or bullion.

A second advantage for gold is that it facilitates a de facto common currency. Making currencies of various republics convertible into gold could satisfy the demand for separate monies in the republics, yet tie them together by their common bond to gold. This arrangement would provide the advantages of a common currency (similar to the advantage of speaking a common language), as Western Europe has been trying to do with fiat monies, but without great success.

A third advantage of gold is that it insulates the country against spells of monetary mismanagement by the country to which its currency would otherwise be pegged. Both the Federal Reserve and Bundesbank have experienced periods of high inflation and high interest rates in the past decade or two, which were not periods in which it would be pleasant for other countries to peg their exchange rates.

A fourth advantage of gold-based rather than dollar-based convertibility might not be relevant in places with more secure property rights, such as the United States or Western Europe, but it is quite relevant to the region that extends from Russia to China to Turkey. The people of this region have a perfectly rational fear of paper

money issued by the government, by government banks, or even by private banks subject to government regulation (allowing famous Western banks to issue gold-convertible private bank notes, as they do traveler's checks, would help overcome this crisis of confidence). Gold has long commanded respect in this area, and is widely hoarded. The influence of Islam, which is more comfortable with equity than interest payments, also plays a part. Any country with a gold-based money might well become a major financial center for the whole area.

Turkey May Try Free Banking

There is another option that would be much easier to implement than either a fixed exchange rate or official gold standard. This would be to facilitate the adoption of a parallel currency, which might soon displace rubles, by simply permitting the monetary use of gold coins and certificates. As a first step, a portion of the current gold stock, and of any additions to gold and/or foreign exchange reserves, could be used to mint coins denominated in troy ounces, half ounces, and one-tenth ounces. These coins would be auctioned to the general public for ruble currency, and the currency would be literally destroyed. Unlike recent issues of coins with a face value of 25,000 or 50,000 rubles, the coins should bear no face value in terms of rubles or any other artificial accounting unit—only a familiar measure of weight and purity. They would be "legal tender" in the sense that people could agree to set prices or make domestic and foreign contracts in ounces of gold, or gold-equivalent notes and bonds, and such contracts would be enforced by the CIS courts, and/or by binding private arbitration agreements.

Ideally, the legal system would also enforce contracts in dollars, marks, or any other currency. Russians can settle major commercial debts in hard currencies now, but they have to pay taxes in rubles. And open use of pricing in terms of foreign currencies is not fully sanctioned, or enforced by courts. Expecting the government of any major nation to give complete official sanction to the use of another country's money is probably unrealistic. It is simply too politically embarrassing—a confession of inferiority. It also would be unduly complex to quote prices in more than one or two foreign currencies—the higher information costs of having no single unit of account would offset one of the reasons that money is superior to barter. And adopting such foreign money also makes a gift of seignorage to the countries issuing the favored money (for example, Russians have to give up goods, services, or assets to acquire dollars, but Americans give up nothing in exchange if those dollars stay in Russia). For these reasons, a formal endorsement of currency substitution is much less

likely to be a practical option than is allowing domestic gold coins and certificates to be used as an alternative money.

The next step after an initial issue of gold coins, which are granted full legal tender status, is free coinage and free banking (see Brough 1898, Dowd 1989). Free coinage means any new or hoarded gold could be brought to the mint to be coined, at a small charge. Free banking means private banks would be free to issue their own currency (bank notes) denominated in gold, subject only to a reserve requirement (and perhaps a minimum capital requirement on demand and time deposits). If the reserve requirement was as high as 100 percent, which is what has been suggested for a currency board, it is difficult to imagine what risks there could be in allowing any bank with such reserves to issue transferable gold certificates against them. Walter Bagehot (1873, p. 329), who was in some ways an early defender of central banking, nonetheless argued "that the natural system of banking is that of many banks keeping their own cash reserve, with the penalty of failure before them if they neglect it." Russia has a unique opportunity to listen to Bagehot, and avoid the horrible mistake that Britain made in 1946 by nationalizing the Bank of England, or that the United States made in the 1930s, by nationalizing the deposit insurance business.

A secondary reason for introducing free banking is to encourage the rapid development of financial intermediation, utilizing all the best liquid assets at the entire community's disposal including private hoards of gold and hard currencies. This would also tend to stem capital flight. Capital flight arises in part from absurd tax rates and insecure property rights, but also from the absence of domestic opportunities for savers. Free banking, along with mutual funds in privatized shares of enterprises (partly held by private pension funds), could greatly improve the ability to move funds from savers to those attempting to build new enterprises with equity and credit.

Turkey has announced a plan that appears to bear a striking resemblance to a gold-based free banking system—apparently as an alternative "parallel currency" to the Turkish lira. The idea could easily be adapted to Russia. Turkey plans to simply permit commercial banks to issue gold certificates against private deposits of gold, with those certificates providing transferable property rights to gold deposits. The proposed Turkish scheme could create a parallel gold standard—operating in a way similar to free banking with a 100 percent reserve requirement. It would not be surprising to see at least larger transactions being quoted in gold, and cleared with gold certificates, even as inflation of 60–70 percent continued in Turkish lira. An official with the Turkish Treasury is even quoted suggesting

that such private gold certificates could "replace the Turkish lira" (Dorsey 1993). The advantage over de facto dollarization taking place in Turkey, as in Russia, is that such foreign use of dollars provides seignorage to the United States. It makes much more sense to instead mobilize and monetize domestic gold hoards.

A Parallel, Gold-Convertible Currency

To adopt the Turkish plan to Russia's more serious inflation, it would be particularly desirable to also put gold coins into circulation, as proposed above. That would make it easy to issue gold certificates in small denominations, which could be redeemed on demand in coin. Such a system could soon render the ruble obsolete, just as Russia's gold-backed chervonets gradually displaced fiat money in the 1920s, as part of Vladimir Lenin's New Economic Policy (NEP).

The chervonets was introduced as a second, alternative currency in July 1922, equal to 10 prewar gold rubles, or 7.74 grams of fine gold. New currency issues were limited by a requirement that they be matched by a gold reserve. In 1922–23, the Gosbank paid 4 percent interest rates on gold deposits, compared with 48–72 percent for fiat money, and also made loans calculated in terms of gold. Even before the formal stabilization in 1924, the Gosbank could lend chervontsi at interest rates of 8–15 percent, compared with more than 216 percent for loans in fiat money (Homer 1977, p. 545). Soviet gold reserves increased from $2.6 million at the end of 1922 to $45 million, $73 million, and $94 million in the following three years (Board of Governors 1976, p. 551). Until 1928, chervontsi could even be bought and sold on foreign exchange markets.

It was originally intended that the chervonets would also be convertible into gold. A memo from Lenin to his commissioner of finance requested proposals for the free circulation of gold (Nove 1986, p. 91). But that never happened. On February 15, 1924, the chervonets became the sole currency, and exchanged at the rate of one chervonets for about 50 billion 1921 rubles. By the time of stabilization, the price level in terms of the former currency (sovznak) had risen to 60 billion times what it had been in 1913 (Hirschleifer 1963, p. 27). There was an element of quasi-fixed exchange rates involved, in addition to the gold backing, as is the case with the reforms in Argentina and Estonia in the early 1990s. The government sent agents into the illegal foreign exchange markets to buy and sell the chervonets, and thus minimize possible depreciation of the currency (Anderson 1979, p. 420). Black market interest rates on short-term loans in Moscow dropped from 720 percent in 1922 to 72 percent in 1925, and rates fell steadily thereafter. Government

10-year bonds sold for 8–10 percent. Overt inflation was moderate from 1924 until 1931, when the Gosbank was granted a credit monopoly.

There were important, supporting financial reforms in the USSR in the 1920s. The Gosbank paid 6 percent interest on demand deposits after 1927, and there were stock exchanges in the USSR from 1921 to 1930. Savings banks, begun in 1923, numbered 16,924 by 1928, and they protected savers from currency depreciation prior to the 1924 reform. Several hundred mutual credit societies provided capital to private enterprises, paying about 10 percent on deposits in 1927 and lending at 33 percent. Such financial liberalization along with vigorous economic growth from supply-side incentives were additional reasons why the NEP system, with its vigorous economic growth, stopped the hyperinflation. Some similar innovations in financial services may well be applicable to today's Russia.

Despite the historic and symbolic value of the chervonets, the current situation is not yet sufficiently similar to Russia's disastrous hyperinflation of 1917 to 1924—nor was the success of the late twenties sufficiently durable—to warrant total replacement of rubles with such a new "official" currency. Gold notes and coins could, however, easily serve as a parallel alternative. But as far as having a dual-currency system as existed in 1922–24—where a sound and worthless currency coexist until the former drives the latter out of use—that same function could be filled, with far more credibility, by simply allowing private financial transactions in gold coins and gold certificates, as Turkey now proposes to do. The government's only role in such a system is at most to certify that coins are genuine and to prosecute anyone circulating fraudulent coins or notes (counterfeiting is not a problem unique to private money, however). This is so simple a reform, with so much potential benefit, that it is difficult to imagine any reasonable objection to it. Free banking in gold certificates (as may happen in Turkey) is not something that has to be chosen instead of fixed exchange rates or other possible reforms. On the contrary, private gold certificates could certainly be combined with efforts to back the ruble with gold and foreign exchange (as in Estonia and Argentina), and to adopt a fixed exchange rate (as in Hong Kong) or a crawling peg (as in Mexico). The competitive discipline that such a parallel currency provides would tend to enhance the chances of successful stabilization of the ruble as well. If ruble stabilization continues to fail, the Russian people would have a readily available alternative (other than foreign money) to provide the important services that good money provides, greatly improving efficiency relative to primitive barter.

If the ruble exchange rate can, in fact, be stabilized in terms of some hard currency, it can also be stabilized in terms of gold. In that case, having gold coins and certificates in circulation could make it quite easy to adopt a true gold standard, making the ruble literally "as good as gold." A stabilized ruble could simply be made convertible into gold certificates and coin at a fixed rate, through a currency board or similar institution. Such a gold-convertible money could easily become the most respected currency in the world.

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A Gold-Based Monetary Policy for Russia

Wayne D. Angell

The Importance of Sound Money

Sound money in any country is important. It is particularly important in countries that are in critical need of new capital formation such as Russia and the other emerging market economies of the former Soviet Union and Eastern Europe. Sound money reduces the need for a risk premium on investments and therefore encourages a higher rate of capital formation.

Conditions are unsettled in Russia at this time. Sound money, by putting an end to inflationary conditions and by encouraging private investors, would help forestall a downward spiral in the Russian economy. Sound money also would help keep Russia from breaking up into different national groups by providing a sound common currency.

The Choice of a Monetary Regime

In his paper, Alan Reynolds rightly stresses the importance of sound money for the successful performance of an economy. However, what the reader may not appreciate from Reynolds' discussion is the fact that sound money is not an easy achievement in this environment; nor is it costless. Each of the major alternatives to managed fiat money entails a degree and type of seignorage loss. A commodity standard such as a gold standard involves government hoards of commodities. In the Russian case, if a gold coin standard or a gold bullion standard were chosen, the opportunity cost would be the explicit and implicit rates of return on the imports of both capital and consumer goods that could have been financed through gold sales. Simply adopting a foreign currency, say the U.S. dollar or the German mark, similarly entails forgoing the return on the imports

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that could have been purchased with the stock of foreign currency being used for transactions purposes. With a currency board, where the domestic authorities stand ready to buy and sell foreign currency at a fixed price in relation to domestic currency and keep 100 percent of their reserves invested in foreign currency assets, the cost is reduced to the spread between the rate of return on the foreign exchange assets and the rates of return on the forgone domestic investment or consumption.

Because of this cost, one might conclude that a country can do better with a managed fiat currency. But history offers a depressing number of examples where discretionary monetary policy has led to disaster. Even in the best of circumstances, fiscal pressures, political considerations in general, as well as genuine uncertainty about what exactly is the best route to take to price stability, conspire to undermine the pursuit of sound money under a managed fiat currency system. Inevitably there is a trade-off between the implicit costs of a gold standard, for example, and the risks of runaway inflation with a managed fiat currency.

In order to transform its economy successfully, Russia needs, as Reynolds suggests, a sound money regime. However, during the transition from an economy fueled by expansionary fiscal and monetary policy to one based on the expansion of private industry, it is important to avoid a sharp contraction in economic activity. Reynolds is correct in emphasizing "supply-side tax policies."

In addition to this general point, I have a few specific comments on Reynolds' interesting and provocative paper. In the paper, the so-called ruble or monetary overhang is discussed briefly; the ease with which this overhang could be absorbed through the privatization of Russia's large stock of official domestic assets is noted. The price rises in connection with Russia's price liberalization effort at least temporarily removed some of this overhang as a source of concern for macroeconomic policy, albeit at the cost of high rates of inflation. I believe that it is important not to link mechanically the essential process of privatization with the monetary overhang. Regardless of the macroeconomic situation, it is important for the Russian authorities to get on with privatization, although how privatization is put into effect should be influenced by macroeconomic conditions.

Reynolds rules out the possibility of conducting monetary policy in Russia through the use of central bank open market operations in a government bond market. Such operations might well be difficult and perhaps ill-advised given the virtual nonexistence of sophisticated financial markets in Russia. After securing a sound money system, reform efforts need to be aimed at developing financial markets,

including a government bond market. Alternative vehicles for open market operations, such as gold or foreign assets, perhaps could be best viewed as necessary during the transition phase. Their merits after a transition period might then be usefully reexamined.

In Reynolds' paper, the very interesting idea of minting gold coins with no set ruble (or any other currency) value is presented and discussed. I have no problem with such a marketing strategy for the Russian gold mining industry. Of course, Russia does not really need any domestic gold producers to have a gold coin system; all Russia needs to do is to stand ready to mint gold purchased at the world market price. In any scheme, however, the opportunity cost of the gold coins is sharply drawn: imported capital and consumer goods are forgone.

Indeed, the discussion of gold coinage leads into another interesting idea: free coinage and free banking in an economy in which gold coins, currencies issued by private banks, and currencies issued by domestic and foreign governments coexist and, in effect, compete as transactions media and financial instruments. All this may be exciting to some, but it seems somewhat visionary to me. What bothers me about this discussion is that I doubt if many advanced Western economies are sophisticated enough in their use of markets and in their acceptance and understanding of competitive forces to rely on free banking and competing currencies for their monetary arrangements and monetary policies. Surely the Russian economy, which Reynolds argues elsewhere in his paper is not sophisticated enough to support open market operations in government bonds, is not ready for this particular financial and monetary regime. Seventy-five years ago Russia was subjected to another untested economic theory intended to be applied to an advanced industrial economy. That experiment was a disaster. I do not think the Russians want to try another anytime soon.

I would like to conclude my discussion of Reynolds' paper by stating that I am in basic agreement with him: it is vitally important that Russia have a sound money right from the start of its transition to a free-market economy. However, in consideration of the difficult conditions now prevailing in the country, and the uncertainties of just how events will transpire in the future, I think it behooves us to make an effort to formulate what I would like to call an "error-tolerant monetary plan."

An Error-Tolerant Monetary Plan

The standard arguments against any fixed commodity price standard cite the risk to the economy of various external and internal

shocks that alter the fundamental equilibrium relative price of the commodity or basket of commodities being used as the standard of value. Such shocks in a commodity standard regime force all of the adjustment onto the nominal prices (including nominal wages) of goods and services other than those serving as the standard of value. Depending on the shock and the underlying situation, this type of adjustment can be disruptive and costly. These arguments are no less valid in the Russian case. Moreover, the extreme uncertainties about the future course of the Russian economy now prevailing seem to magnify the importance that one should attribute to this particular line of reasoning. Of one thing we can be sure: the Russian economy in the near term is in for some shocks. The Russians therefore need an error-tolerant monetary policy.

I would suggest that the Russian authorities seriously consider adopting a gold price target for their monetary policy rather than a rigid link to the gold market or any other commodity market. Under such a regime, growth of the money stock would not be permitted unless the price of gold is below the target price so that the rate of expansion of the domestic money stock would be adjusted as appropriate depending on movements in the free-market price of gold. This approach would yield the stability of the general price level usually associated with a gold standard, but without the rigidity of the gold standard since the target could be missed if there were a danger of a severe contraction of economic activity. In light of the extraordinary situation in Russia, it seems important to stipulate that the money stock should never contract in order to force the price of gold back to its target price. Thus, there would be no danger of a run on Russia's gold stocks as gold sales would never be required.

Flexibility, of course, represents the potential for irresponsible discretionary policy actions. This risk exists in every policy regime to some degree. One cannot ever rule out the possibility that a sovereign government at some point will renounce any monetary regime, including a gold standard.

In order to start with a clean slate, it might be useful to introduce a new currency along with the new monetary policy regime, although strictly speaking it would not be necessary. The authorities eventually could use the market wages and other costs of production in the Russian gold mining industry as an indicator of the relative price of gold and of the suitability of their gold price target.

If the Russians did choose to introduce a new currency, nominal contracts would be switched over at a certain date. The government's obligations to holders of old rubles should be an important responsibility under the new regime. An even exchange at a rate of one to

one between old rubles and the new currency would be one method, but considerations of the low current value of the ruble owing to an existing monetary overhang might argue for some increase in the value of the new currency. Expropriation by means of a graduated adverse exchange rate is another possibility. However, it would be preferable, and from a structural point of view desirable, to sell off "general equity shares" in state properties in exchange for rubles. The Russian government would decide what proportion of Russian assets to be privatized would constitute a fair return for ruble holders. Each subsequent privatization transaction would provide an opportunity to convert these "general equity shares" into specific property. Holders of the new currency would need to purchase "general equity shares" in order to buy state property. Hence there would be a new currency "general equity share" auction price and a fixed ruble price for "general equity shares," and therefore an arbitrage price between the new currency and rubles.

Some have advocated sales of gold-backed bonds as the sole means of removing surplus rubles. At this stage of Russian development, I am wary of such an approach. I would not want the Russian authorities to be placed in a position of making promises that they could not keep. Bonds must be serviced in full regardless of the country's economic circumstances. Equities, on the other hand, have a more suitable risk-sharing arrangement. If the economy experiences some bad outcomes, the holders of the equities share them with the general public; the Russian authorities need not choose between breaking their promise to service their bonds and raising taxes and/or selling off their gold reserves to keep their promise. Bonds, including gold-backed bonds, should be introduced only after the new currency has a demonstrated record of price stability. In my judgment, it is premature to make them the cornerstone of any new monetary policy regime.

There are two main benefits from a monetary policy based on a gold price target. First, as I have formulated it, the policy is flexible enough to be error tolerant. Second, the authorities can capture the seignorage revenues inherent in the provision of monetary services to the economy. Of course, as is well known, seignorage is tempting, particularly to governments with short planning horizons. However, the gold price target constrains the pursuit of seignorage. The gold price target regime is flexible, but not too flexible. An expanding economy will need an expanding money stock; monetary expansion aimed at keeping the gold price at its target level would achieve that objective.

Compared with the gold standard, the gold price target regime is more flexible in the face of internal and external shocks and allows the financial benefits of seignorage to accrue to the government. But this proposed gold price target regime would not be so flexible as to allow a continued increase in the general price level.

With a currency board arrangement, much of the financial benefit of seignorage can be captured by the government. However, there are some inherent difficulties in currency board schemes. There is always the risk that the government might not stick to the rules. In some instances, of course, we might applaud this as sensible flexibility. But there is a downside risk as well, and private investors are sure to recognize it and build a risk premium into the interest rate on domestic investments. (Under a gold price target regime, there is also a risk that the authorities might not stick to the rules. In such a regime, the risk premium probably would be more likely to show up first in a rising gold price, which would halt money growth. Thus, there would tend to be a buffer shielding interest rates from the impact of "runs" on the system.) Moreover, there is the risk that the foreign currency or basket of currencies chosen as the standard of value is unstable or otherwise inappropriate. This risk is analogous to that under a commodity standard, except that it is heightened by the fact that governments rather than private markets are responsible for the supply of the standard of value, that is, the targeted foreign currency or currencies. A third problem with a currency board is that the stance of monetary policy is determined largely by the country's trade and capital flows, which seems to me to present some risks to macroeconomic stability that, at this stage, Russia would be better off avoiding.

Conclusion

I would like to close with two final observations that seem to favor a gold-based monetary policy over a foreign currency–based policy such as a currency board. Russia is a resource-rich country, similar to the United States. Linking the value of its money to the value of one of its main resources would appear to be a sound and sensible idea. Finally, since one can anticipate a healthy and profitable gold mining industry in a transformed market-oriented Russia, there is a potential link between wage costs and the market value of gold. This link would seem to me to be more reliable than any attempt to judge relative international values based on purchasing power parity considerations, as would be likely under a currency board arrangement.

A Commodity Standard for Russia?

Anna J. Schwartz

The bottom line of Alan Reynolds' ruminations on economic conditions in Russia is that a commodity standard would be desirable not only there but in the Commonwealth of Independent States (CIS) as a whole. He states that the ruble or some other accounting unit, to be acceptable in international trade, must be literally convertible at home into either hard currency or hard metal on demand.

How Should Convertibility Be Provided?

In Reynolds' opinion, it is a seconary issue whether a currency board or a central bank is the agent that provides convertibility. Since he notes that central banks have earned little credibility, it would appear that currency boards win this contest. However, he disparages a currency board as a single monopoly issuer of currency, and appears to accept Annelise Anderson's argument for free banking in Russia, as if a currency board would be precluded under free banking. Presumably, free banks would not be currency issuers, if a currency board existed, but could otherwise operate as free banking advocates suggest.

The key question, as Reynolds notes, is how to hold the issuer accountable. For a currency board, its assets in gold or hard currency investments are a minimum of 100 percent of liabilities. For free bank currency issuers, Reynolds would impose similar asset requirements, explicitly ruling out assets in the form of debt issues of governments or state enterprises, but fractional reserves in his view would be adequate.

Another reservation Reynolds expresses with respect to a currency board is that fixing the ruble to a more credible foreign currency, such as the dollar, would not work in Russia because the board could not rely on a regular flow of dollars through trade surpluses or net capital inflows to permit expansion of the currency supply as economic

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activity increased. Moreover, even if the Russian economy were vigorous enough to run current account deficits, they would likely be matched with illiquid capital inflows. Its capital markets are too undeveloped, he asserts, to provide a reliable source of liquid foreign exchange to serve as backing for currency board money. Reynolds' pessimism is not based on historical experience with currency boards.

Moreover, he may be extrapolating existing trade patterns to validate his concern that Russia would generate only small and variable trade flows, and projecting current capital market underdevelopment into the future. His own blueprint for the monetary system, however, envisages the spread of financial intermediaries. And I see no reason, if gold mines and the oil and gas industries are privatized, why their owners would not sell their output to foreigners and thus acquire foreign exchange that they would transfer to a currency board for local currency.

So Reynolds opts, instead of foreign currency backing for Russian money, to redeem rubles in gold, since the country has gold mines. Some of his doubts that currency board reserves would expand with economic growth may also be raised with respect to gold backing, as I note at a later point, although he does not raise such doubts.

A Commodity Basket versus Gold

Reynolds dismisses relying on commodity baskets instead of a single commodity on the ground that "there are very few commodities [other than gold] that could function well as money, or as monetary reserves." He goes on at some length to defend the gold standard against the charge that it was associated with short-term price instability. The issue Reynolds does not confront is that it is unanticipated changes in the demand for and supply of a single commodity standard that produce price level instability. The advantage of a commodity basket is that technologically induced changes in relative costs of production of some components of the basket would not be correlated with such changes affecting other components in the rest of the basket.

Under a gold standard, a change in the cost of production of gold can occur either because of a change in mining techniques or because of a change in technology affecting the production of other commodities. Improved techniques of mining or the discovery of new mines will reduce the cost of production of gold below its current price, stimulating gold output. Gold money will increase at a greater rate than required to maintain stable prices of other commodities. Their

prices will rise and so raise the cost of gold production. Gold output will be discouraged and the rate of increase of gold money will fall back.

Similarly, a decline in prices of goods and services, due to technological improvements in the nongold sector, will make gold output more profitable, increasing coinage of gold, which will ultimately raise prices of those goods and services and reverse incentives to increase gold output. The effects of changes in demand for gold money on the supply of gold need to be taken into account as well as the effects of changes in the price of gold as money relative to the price of gold for other uses. Shifts in demand between industrial and monetary use, however, have corrective output effects that produce long-run price stability.

The time frame in which the automatic corrective forces operate may, however, be prolonged. The annual flow of new gold adds only a small fraction to the stock accumulated over centuries, hence even a modest rise in the stock demand for gold may take years to be achieved, and meanwhile the price level will be depressed. Similarly, an increase in the growth rate of the economy will require a larger flow of new gold, necessitating a higher price for gold relative to other goods. Deflation of their prices will tend to result.

Reynolds proposes coining half of Russia's gold hoard and half of any later additions to gold reserves and auctioning coins denominated in troy ounces for rubles that would be destroyed. He suggests using official gold stocks as backing for gold bonds, with gold earmarked for redemption in a secure foreign country, but regards this use as inferior to introducing gold coins, which would serve as money alternative to rubles.

Following the initial issue of gold coins, the mint would coin new or hoarded gold at a small charge. Private banks would be free to issue currency and deposits denominated in gold, rubles, any republic's currency, or a monetary unit defined by the government as a weight of gold. Banks might be required to maintain fractional or 100 percent reserves in the currency they hold as assets. Competing private insurance companies could offer deposit insurance. In this way financial intermediation would expand.

Monetary Blueprints for Russia

Reynolds offers two blueprints for the monetary system alternative to the gold standard. One revives proposals by Lamanski, a deputy governor of the Bank of Russia in 1861, to make the government-controlled central bank a private institution, to sell state assets to end budget deficits, and to issue currency only against increases in gold or

hard currencies. Another alternative revives the gold-backed chervonets, introduced in 1922 as a currency in competition with depreciated rubles, that would be convertible into gold. That never happened, and in 1924 the chervonets became the sole currency, exchanging at the rate of one chervonets for 50 billion 1921 rubles. Inflation subsided from 1924 until 1929. However, Reynolds believes the current situation in Russia is not comparable to the 1917–25 hyperinflation, and hence does not warrant abandoning the ruble.

Finally, Reynolds rejects the view that only an authoritarian regime could institute a gold standard in Russia because the reform would impose costs that the public would not otherwise tolerate. I agree that the public would not find burdensome a change in regime that eliminates the costs of hyperinflation, and that a gold standard might win a favorable public response. I doubt, however, that that is the course that Russia will follow. Just as Russia opted for the gold standard in the 1890s because that was the choice of modern industrialized countries, it will in the 1990s opt for a discretionary central bank that is the hallmark of today's industrialized world, however misguided the choice.