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Russia's Banking System, the Central Bank and the Exchange Rate Regime

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Summary: Since the financial crisis in August 1998 banks in Russia have somewhat recovered but still operate on a comparably small scale. Banking reform was slow from 1999 to 2001 and has accelerated only recently. Yet proper accounting and auditing standards as well as instruments for efficient prudential regulation and supervision are still not in place in most of the banks, with the state-owned Sberbank being one of the worst offenders in this respect. This paper argues that the biggest part of the sloppy performance of structural reform in the banking sector should be attributed to the interest conflict occuring within the Central Bank itself. It is the monetary authority, foreign exchange market regulator, supervisory body for the banking sector and within this sector the most important player through its ownership of Sberbank. Introducing competition – in association with tight regulatory rules – and thus a higher degree of allocative efficiency to the banking sector will eventually damage the current dominant market position of Sberbank and force it to open up its accounting books. Hence separating Sberbank (and possibly banking regulation as well) from the Central Bank is a crucial step on the road to a competitive Russian banking sector. Instead, several risks are luring within Russia's banks, one of them being exchange rate risk. Given Russia's incomplete financial markets and high interest rate differentials between Ruble denominated and hard currency (i.e. US-Dollar) denominated loans, however, a dangerous potential for original sin arises. Using a multiple regression model employed by FRANKEL/WEI and later by MCKINNON, this paper shows that for the years since 1999 – particularly strong in 2001 and 2002 – on a daily basis a tight peg of the Ruble to the US-Dollar existed. Eliminating liquidity risk from currency mismatch might be one reason for this tight tracking of the exchange rate by the Central Bank as well as supporting Russia's tradables sector. Large monetary expansion through unsterilized interventions on the foreign exchange market to maintain the daily peg and to prevent an appreciation of the Ruble has lead to ever more allocative distortions on the Russian financial markets, drawing the exchange rate strategy of the Russian Central Bank into question. With respect to moral hazard considerations, a daily peg might increase the potential for original sin – the amount of currency mismatch – even further, with banks close to the Central Bank's strategic decisions being the most likely candidate for such behaviour.

Zusammenfassung: Seit der Finanzkrise vom August 1998 haben sich die Banken in Russland wieder weitgehend erholt, besitzen aber noch immer keine große gesamtwirtschaftliche Bedeutung. Die Reformen im Bankensektor kamen in den Jahren 1999 bis 2001 nur schleppend voran, in jüngster Zeit hat sich das Reformtempo allerdings erhöht. Das Berichtswesen, die Rechnungslegung und -prüfung sowie die Bankenaufsicht und -regulierung sind jedoch nach wie vor nicht zufriedenstellend, wobei die staatliche Sberbank hierbei ebenfalls negativ auffällt. Dieser Beitrag weist darauf hin, dass der größte Teil der Schuld an den wenig überzeugenden Reformbemühungen im Bankensektor auf einen Interessenkonflikt innerhalb der russischen Zentralbank zurückgeführt werden kann. Sie ist Träger der Geldpolitik, Regulierer auf dem Devisenmarkt, Aufsichtsbehörde für den Bankensektor und innerhalb dieses Sektors gleichzeitig der wichtigste Marktteilnehmer durch ihre Eigentümerschaft an der Sberbank. Die Einführung von Wettbewerb – zusammen mit strengen Regulierungsbestimmungen – und die damit verbundene Steigerung der allokativen Effizienz des Bankensektors würde die gegenwärtige dominierende Marktstellung der Sberbank gefährden und sie zu einer weitgehenden Offenlegung ihrer Geschäftsunterlagen zwingen. Daher ist die Trennung der Sberbank (und möglicherweise auch die Trennung der Bankenaufsicht) von der Zentralbank ein wichtiger Schritt auf dem Weg zu einem wettbewerbsfähigen russischen Bankensektor. Stattdessen bergen Russlands Banken erheblichen Risiken in sich, eines davon ist das Wechselkursrisiko. Mit Blick auf die unterentwickelten russischen Finanzmärkte und die hohen Zinssatzdifferenzen zwischen in Rubel und in Dollar denominierten Krediten ergibt sich ein gefährliches Potenzial für „Original Sin“ im Bankensektor. Dieser Beitrag zeigt unter Rückgriff auf ein multiples Regressionsmodell, das von FRANKEL/WEI und später von MCKINNON genutzt wurde, dass seit 1999 – und in besonderem Maße in der Jahren 2001 und 2002 – eine enge Anbindung des Rubel an den US-Dollar auf Tagesbasis existierte. Ein Grund für diese Wechselkurspolitik seitens der Zentralbank mag die Eliminierung von Wechselkursrisiken auf Seiten der Banken sein, ein anderer die Förderung des Sektors der handelsfähigen Güter in Russland gegenüber der Konkurrenz auf dem Weltmarkt. Die starke monetäre Expansion als Folge der unsterilisierten Interventionen der Zentralbank auf dem Devisenmarkt für das Aufrechterhalten der Fixierung auf Tagesbasis und der Verhinderung einer Rubelaufwertung gegenüber dem Dollar führte zu immer stärkeren allokativen Verzerrungen auf den russischen Finanzmärkten, was wiederum den Sinn der Wechselkursstrategie insgesamt in Frage stellt. Zudem kann die Fixierung auf Tagesbasis dazu führen, dass – analog zu Überlegungen hinsichtlich von moral hazard-Verhalten – sich das Potenzial für „Original Sin“ im Bankensektor weiter erhöht, wobei diejenigen Banken, die eine enge Bindung an die Zentralbank aufweisen, als die wahrscheinlichsten Kandidaten für solch ein Verhalten gelten können.

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1. Introduction

Since the collapse of the Russian financial system, banking reform has been one of the main priorities on the political agenda. Yet little progress has been achieved thus far. All the more, Russian banks still seem quite ill-prepared for the consequences of further integration and opening-up to the world economy, which will come up with future Russian membership in WTO. Many of Russia's banks are not able to cope with the minimum capital requirement set by the Central Bank, which in turn has therefore given them additional time for compliance – rules will be applied not earlier than 2005. Banking reform virtually stalled in 1999-2001, despite some restructuring efforts performed by the restructuring agency ARCO under supervision of the Russian Central Bank. Only since the change on the top of the Central Bank did banking reform and, in particular, the enforcement of rules and guidelines for accounting and capital adequacy gain some momentum.

As most of Russia's some 1200 banks are quite small, the rest of the banking sector is quite concentrated with a large share for state-owned banks. At the top is Sberbank, of which the Russian Central Bank owns the majority of its shares. Russian banks usually do not perform the role of financial intermediaries, i.e. they do not provide enterprises with external financing – this occurs only between banks and enterprises which together are part of a common holding structure. And trust among private savers is very low, so that private deposits are negligible as a source for financial funds for banks, with the notable exception of Sberbank, at which deposits are guaranteed by the state, an exclusive advantage private banks do not enjoy. Lending activities have picked up since 2000, but still, company financing is restricted mainly to internal flows in holding structures or to a few selected blue-chip companies. The reliance of many enterprise groups on internal financing has prompted GAVRILENKOV (2003, pp. 212-218) to call this kind of financial development the "Chaebolization" of the Russian economy, refering to the financial structure in South Korea in the 1970s and 1980s.

In contrast to almost all other central banks in the world, the Russian Central Bank performs a fourfold role with mixed experience of independence from government and legislature. First, it performs monetary policy. Second, it regulates the foreign currency market (and determines more or less the exchange rate regime). It also hands out and cancels banking licences and acts therefore as a banking supervisory body. Finally, with its majority ownership of Sberbank, it is de facto the single most important player in the banking market itself.

This fourfold role brings about a wide array of conflicts of interest, and this paper cannot cover all of them to the extent they deserve. But it will discuss some features of the quite important issues related to probably the most pressing problems in the Russian banking and financial markets. This paper argues for a clear separation of the functions within the Russian Central Bank for four primary reasons:

- Appropriate design of the exchange rate regime of the Ruble (against the US-Dollar)
- Effectiveness of monetary policy
- Introduction of competition to the banking system and pushing ahead reform
- Minimizing rent seeking and corruption in the banking system

As long as the Russian economy is highly dollarized, the choice of the exchange rate system affects control over monetary policy directly. Furthermore, the actual choice of the exchange rate system – a de facto peg against the US-Dollar, as will be shown below – has consequences of a more indirect nature for banking system stability, its reform and the introduction of competition as well. Thus this choice features prominently in our discussion on the many powers the Central Bank enjoys.

About half of Russia's exports are related to energy resources and raw materials, in particular oil and gas, with this share still increasing in 2003 (WORLD BANK, 2003). Thus price fluctuation on the international market for crude oil affects export earnings and the supply of foreign currency considerably (international gas price usually follows oil price rather closely). Shocks on the international oil market therefore have consequences for the external value of the Ruble, making the prediction of the future exchange rate quite difficult; even more problematic, the conduct of monetary policy in the face of fixed exchange rates is burdened with the duty to intervene on the foreign exchange market when the market rate is in danger of passing the floor or the ceiling of the band previously announced.

The following paper is divided into four sections. Section 2 will consider theoretical aspects of fixing the exchange rate as a means to secure financial system stability, while Section 3 empirically analyses Russian exchange rate policy vis-à-vis the US-Dollar before, during and after the financial crisis of 1998 until recently. The Central Bank's powers and decision-making are discussed in Section 4 with respect to competition and efficiency considerations for the banking sector. Finally, the fifth section concludes and provides some policy options.

2. Original Sin and Beyond: Sources for Banking System Instability

Basically, banks face three kinds of risk with respect to their balance sheet when regarding the necessity for liquidity. First, the liquidity risk that appears in the case of a maturity mismatch between assets and liabilities; second, in the event of an interest rate change when either flexible and fixed exchange rates contracts are distributed unevenly between assets and liabilities or when assets (liabilities) have to be rolled over, assuming that there is no corresponding item according to the maturity on the liabilities' (assets') part of the balance sheet; third – and most important for the following considerations – in case of a mismatch between the currency denomination of assets and liabilities.

In developed economies with sophisticated financial markets, banks are able to cover or hedge any of these risks through a countervailing transaction. Banking supervision usually oversees banks' transactions to determine whether banks do so and whether they comply with common risk standards. In most countries in the world and in almost all transition countries, such a highly-developed financial market with transactions denominated in local currency does not exist. A common feature is a maturity structure for transactions in local currency that is restricted to one or two years or even less. Often the country lacks a government bonds

market that usually provides a landmark for the issuance of long-term corporate bonds. Regularly, like in many transition countries, basic institutional conditions for such bonds markets are not in place. Thus banks cannot finance long-term projects (more than one or two years) in local currency without maturity mismatch due to the absence of a long-term capital market segment.

Maturity mismatch is one consequence of incomplete financial markets. The other one is a currency mismatch and the inability of banks to hedge foreign exchange risks due to missing futures markets or the availability of hedging instruments only at rather high costs. EICHENGREEN/HAUSMANN (1999, p. 3) called this situation where "the domestic currency cannot be used to borrow abroad or to borrow long-term, even domestically" the original sin of financial markets – a situation, in which financial fragility is unavoidable by the structure of financial markets.

MCKINNON (2000, pp. 223-224) points out an established stylised fact that in most of these incomplete financial markets, private borrowing is mostly short-term and denominated in foreign currency, very likely in US-Dollars. Medium or long-term borrowings occur only when sovereign bonds (or the largest blue chip companies) issue bonds, again almost all of which are denominated in foreign currency and traded at a premium several percentage points higher than the international bonds market average. But private borrowing is restricted to the short-term and usually to foreign exchange denomination – interest rates for foreign exchange denominated loans appear to be much lower than for loans in domestic currency – and thus prone to maturity mismatch and exchange rate risks. Hedging or covering these risks is unlikely, because the opportunity cost of doing so would nullify the interest rate gains from the interest rate differential between foreign and domestically denominated loans, provided the borrower ever finds someone on the other side of the market who is willing to take the hedging risk.

With high interest rate differentials and in case of fixed exchange rates between the centre country, in which currency full-fledged markets exist and interest rates are comparably low, and the country with incomplete financial markets and rather high interest rates, overborrowing is very likely. If the US is assumed to act as such a centre country, low interest-bearing Dollar deposits are taken in order to extend high-yielding Ruble loans; there is an inflow of foreign short-term capital and its extension in high-yielding loans denominated in the domestic currency, but only as long as the risk premium for a sudden and unexpected change with respect to the exchange rate regime is lower than the interest rate differential between loans denominated in the anchor currency and in the domestic currency. With a sudden shift of confidence, the risk premium increases considerably and the conditions for capital inflows therefore no longer exist; hence short-term loans are not rolled over, and the country might eventually slide into financial and currency crisis. This is more or less the explanation MCKINNON (2000) gives for the outbreak of the financial crisis in East Asia in 1997.

As incomplete financial markets and a considerable interest rate differential are expected to persist in the medium-term, the question arises of how the exchange rate risk together with the overborrowing syndrome can be remedied. According to MCKINNON (2000, pp. 223-226), either tight regulations on open foreign exchange positions of banks may be imposed – virtually no open positions on day-to-day trading should be allowed –, or, as long as a tight grip of the banking supervisor is not a realistic option, a very short-term-oriented peg for the

domestic currency might help to extinguish exchange rate risk. Except for the case of a crisis, he dismisses capital controls as an efficient option for controlling the overborrowing syndrome. Even for the case of a "tight grip", he favours a short-term peg against the exchange rate risk.

The short-term peg he favours is governed as an intra-day management of the exchange rate and thus as a quasi-peg in the short-term, in order to avoid sudden changes – he calls that kind of fixing "high frequency exchange rate pegging"; in the medium-term, smaller fluctuations may occur. MCKINNON (2000, pp. 212-217) empirically shows that the crisis countries of East Asia have indeed resorted to such high frequency pegging somewhat after the immediate symptoms of the crisis were over.

To what extent are such considerations valid for Russian financial markets? Of course, before August 1998 and in particular during 1996/1997, Russia experienced short-term capital inflows in its government bonds market (GKO) and a loss of confidence during the months before the crisis broke out; Russian banks thus already had the experience of failure due to currency mismatch on a large scale. But the difference between Russia and the East Asian countries is the fact that overborrowing was not attributed to private loans, but to the (unsustainable) borrowing on the part of the public sector and in particular the federal government. This is documented in the vast literature on the liquidity problems of the Russian private sector, where loss-making enterprises struggled to survive by introducing non-monetary forms of payment. Yet even profitable enterprises find it hard to get external finance as well (COMMANDER/MUMMSEN, 1999; EBRD, 1999; AUKUTSIONEK, 1998; YAKOVLEV, 2000).

Tab. 1: Loans and Deposits with Credit Institutions*

	Loans				Deposits			
	I Ruble loans	II Forex loans	III Ratio I/II	IV Total loans	V Forex deposits	VI Ruble deposits	VII Ratio V/VI	VIII Total deposits
1998 II	123,19	298,38	0,413	421,57	155,59	148,46	1,048	304,05
1999 I	188,30	285,43	0,660	473,73	173,12	189,00	0,916	362,12
1999 II	292,72	304,10	0,963	596,82	225,01	236,58	0,951	461,59
2000 I	383,48	318,40	1,204	701,88	266,34	304,00	0,876	570,34
2000 II	588,34	368,00	1,599	956,34	337,38	358,43	0,941	695,81
2001 I	759,84	421,30	1,804	1181,14	413,25	428,17	0,965	841,42
2001 II	972,64	494,85	1,966	1467,49	455,24	516,34	0,882	971,58
2002 I	1093,10	622,50	1,756	1715,6	523,81	611,21	0,857	1135,02
2002 II	1283,94	745,00	1,723	2028,94	608,52	753,81	0,807	1362,33
2003**	1427,86	781,36	1,827	2209,22	627,09	879,04	0,713	1506,13

*All data in Ruble, end of each period (half year).

**End of April 2003.

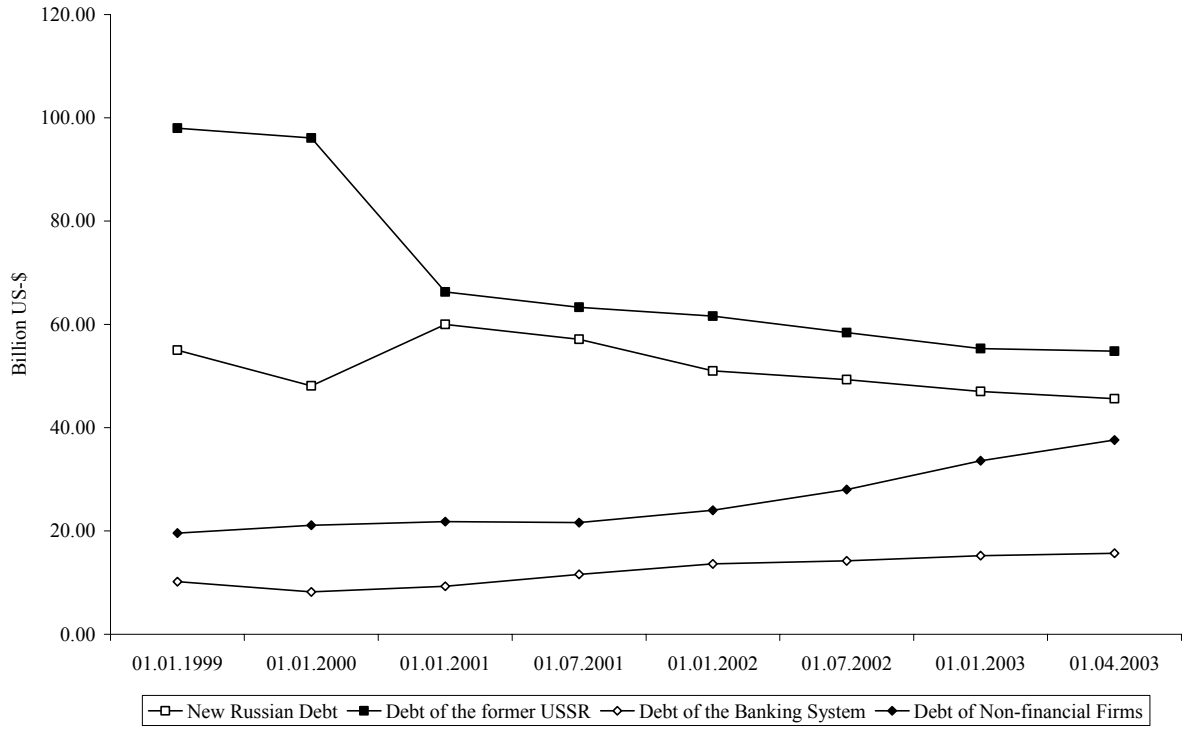
Source: CENTRAL BANK OF RUSSIA, Bulletin of Banking Statistics, various issues.

Quite remarkably, this situation seems to be about to change as regards the total volume of loans extended by credit institutions. Tab. 1 shows data on the total amount of loans extended

and deposits taken by credit institutions in Russia. In the first column, we can see that in the immediate aftermath of the 1998 crisis, the total amount of loans denominated in Ruble recovered soon. Between the second half of 1998 and the second half of 2002, the total amount of Ruble loans increased more than tenfold, with data from 2003 suggesting that this growth still persists. This increase is even more remarkable when we consider the amount of loans extended in foreign currency (mostly in US-Dollar). Loans denominated in foreign currency experienced an increase far more modest in comparison to the development of Ruble loans; thus the ratio of Ruble loans to foreign exchange loans increased from 0,413 immediately after the crisis (1998 II) to 1,723 in 2002 II.

Switching to deposits, we can see that a similar development has occurred. Since 1999, the ratio of foreign exchange deposits to Ruble deposits has been decreasing slowly, with an accelerated decrease in 2002, which might somehow reflect a reversal of dollarization and an increased degree of Ruble monetization of the economy. However, such a parallel increase in both Ruble and foreign exchange-denominated deposits points not only to the prevalence of a double monetary standard in Russia, but also on growing – albeit limited – confidence in the banking sector.

Fig. 1: Russian Public and Corporate Foreign Debt



Source: CENTRAL BANK OF RUSSIA, Bulletin of Statistics, various issues.

The existence of original sin on a broad-based macroeconomic scale should lead to a large increase of Ruble loans together with an increase in short term borrowing in hard currency, such as US-Dollar deposits and other financial instruments, relative to borrowing in Ruble.

The latter occured in the pretext to the Asian financial crisis in 1997, as pointed out by MCKINNON (2000), but this clearly is not the case in Russia *for now*, in 2002/2003, at least not on the macroeconomic scale as a possible cause for a near future financial crisis. This conclusion is confirmed by examining the development of Russia's foreign debt (Fig. 1). Total debt (not shown, it amounts to the aggregated total of the four items displayed in Fig. 1) has decreased from 1999 to 2003, largely thanks to a settlement for debt inherited from the Soviet era and further debt repayments. Only corporate foreign debt shows a distinct upward trend, reflecting the improved access of a few major Russian enterprises to international financial markets. But the chart line for foreign debt of the banking sector remains virtually flat. In contrast, original sin would suggest an increase in banking and corporate foreign debt. Even net international reserves – the difference between liquid foreign assets and short term liabilities – show a high positive value, mostly due to the stock of foreign currency reserves with the Central Bank (RECEP, 2002).

Having concluded that original sin like in the pretext to the Asian crisis in 1997 has not taken root in Russia's financial sector, this does not exclude the possibility for any such developments in the financial sector any time soon, especially not if the economic boom in Russia leads to the development of attractive financial instruments like the GKO-market in 1997 or to large lending by external investors to Russia's big industrial conglomerates. Up until 2003, the Russian banking sector has simply lacked opportunities to exploit the interest rate differential and to create original sin on a broad scale. This is attributed to the much-acclaimed underdevelopment of the financial sector, with unsecure property rights and associated hesitance of banks to lend money at all (TOMPSON, 2000). Despite that, however, the total volume of Ruble loans has seen an unprecedented rise; from the perspective of original sin considerations and hence exchange rate risk, this is not necessarily cause for worrying, at least as long as this upswing is not financed through an inflow of foreign funds.

Despite that, there might be considerable concern for original sin on a microeconomic basis, given interest rate differentials and an unofficial peg of the Ruble/US-Dollar-exchange rate, as will be shown later. Probably the double monetary standard alone suggests that there is considerable exchange rate risk for single banks, in particular in the face of low supervisory pressure and the absence of strictly-enforced rules restricting open foreign exchange positions of financial institutions. However, since the term original sin refers to incompleteness of entire financial markets, for the sake of clarity it would be more appropriate to speak of currency mismatch with banks as a cause for liquidity problems.

For a single bank, it is quite attractive to finance its Ruble loan portfolio with cheap US-Dollar deposits, in particular if the exchange rate is supposed to be stable. A likely candidate for such a behaviour would be Sberbank, which has increased its loan portfolio largely and is known for its loose internal control mechanisms, not to mention external supervision. The entire structure of the Russian banking sector with the large Sberbank on top therefore poses a risk to the stability of the financial sector. With Sberbank in liquidity trouble, the whole banking sector might be shattered again; however, in this case a bail-out is quite likely, but this would come only at very high fiscal cost. With the regulation record of the Central Bank in mind (WORLD BANK, 2002), all this is quite worrying with respect to the stability of the Russian banking sector.

Following the arguments of MCKINNON (2000), pegging the Ruble exchange rate against the currency of the second monetary standard in Russia – the US-Dollar – on a high frequency

basis might be a temporary solution to the problem of currency mismatch. At least the exchange rate risk would be eliminated, if the peg is credible and sustainable. One prime argument against such a peg is that in the face of currency mismatch (original sin), it might trigger moral hazard on the part of banks, leading to an even higher increase in the overborrowing syndrome, with interest rates remaining much different. With a fixed exchange rate, banks will have an incentive not to care about the remaining risk of regime change and thus will continue to exploit the interest rate differential. Others claim there is a stabilizing effect of a fixed exchange rate which will eventually narrow the interest rate differential and hence the very reason for overborrowing, leading to a completion of financial markets in the longer run. A fixed exchange rate might even have a disciplining effect on politicians (EICHENGREEN/ROSE, 1998) implying that they pursue a transparent policy without major unexpected changes. The next chapter will show that the Russian Central Bank has indeed adopted an unofficial, short term-oriented peg of the Ruble to the US-Dollar.

3. The Unofficial Peg of the Ruble

In a financial system where original sin prevails, a certain degree of stability can be achieved when the associated risks are reduced externally, that means outside the banks which ultimately face the risks. The exchange rate risk may therefore be reduced by fixing the exchange rate or, alternatively, by pursuing very tight management of the foreign exchange market, which brings about a stable development of the exchange rate at least in the short-term and allows only for appreciations in the medium perspective. MCKINNON (2000) has shown that the latter case applies for most of the former crisis countries in East Asia, and his empirical analysis, which builds upon considerations and a related regression model of FRANKEL/WEI (1994), will be applied to the Russian case in the following.

This model consists of a multiple regression equation, which is estimated for each respective country at any time by OLS. It is necessary to find a suitable currency, which is required not to be fixed in a direct or indirect manner to any of the other currencies in question and which exchange rate changes against the anchor currency (the US-Dollar, USD) can be explained by changes against other major international currencies or possible anchor currencies. In the case of the Ruble, the Swiss Francs can be accepted as such a reference currency. Apart from the potential anchor currency, the Japanese Yen (YEN) and the Euro (EUR; before 1999, the German Mark) are taken into the regression as explanatory variables. Each currency appears with its value against the reference currency, the respective exchange rate. The exchange rate data are on a daily basis with first difference of logarithms. The equation is as follows, in general form:

(2) $\text{Local currency/CHF} = ß_0 + ß_1\ \text{EUR/CHF} + ß_2\ \text{YEN/CHF} + ß_3\ \text{USD/CHF} + \varepsilon$

and in order to look for an anchor currency of the Ruble:

(2a) $\text{Ruble/CHF} = ß_0 + ß_1\ \text{EUR/CHF} + ß_2\ \text{YEN/CHF} + ß_3\ \text{USD/CHF} + \varepsilon$

with $ß_0$, $ß_1$, $ß_2$ and $ß_3$ as regression coefficients of the constant, the exchange rates of Euro, Yen and US-Dollar to the Swiss Franc and ε as an error term which fulfills the usual assumptions.

Tab. 2: Exchange Rate Regimes in Russia, China and South Korea on Basis of Daily Data

	b_0 *(constant)*	b_1 *(EUR)*[4]	b_2 *(YEN)*	b_3 *(USD)*	R^2	*partial* R^2* *(USD)*	*F-statistics*
	Pre-crisis[1] *(observations: 159 (Ruble), 889 (Yuan,Won)*						
Ruble	0.000	0.043	0.009	1.007	0.911	0.897	528.09
	(0.000)	(0.056)	(0.017)	(0.027)			
Yuan (China)	0.000	0.012	0.000	0.996	0.996	n.a.	67 142.17
	(0.000)	(0.007)	(0.003)	(0.003)			
Won (Korea)	0.001	-0,032	0,006	1.021	0.883	n.a.	2 236.68
	(0.001)	(0.041)	(0.017)	(0.016)			
	During the crisis[2] *(observations: 99 (Ruble), 412 (Yuan, Won)*						
Ruble	0.012	6.639	-0.498	-1.567	0.042	0.008	1.39
	(0.010)	(3.600)	(0.860)	(1.763)			
Yuan (China)	0.000	0.000	0.000	1.001	1.000	n.a.	1 289 001.65
	(0.000)	(0.001)	(0.000)	(0.000)			
Won (Korea)	0.001	0.179	0.160	1.086	0.087	n.a.	12.95
	(0.001)	(0.413)	(0.139)	(0.226)			
	Post-crisis[3] *(observations: 1195 (Ruble), 350 (Yuan, Won)*						
Ruble	0.000	-0.095	-0.086	1.038	0.498	0.403	393.21
	(0.000)	(0.088)	(0.031)	(0.037)			
Yuan (China)	0.000	-0.001	0.000	1.000	1.000	n.a.	1 492 141.09
	(0.000)	(0.001)	(0.000)	(0.000)			
Won (Korea)	0.000	0.147	0.070	0.957	0.706	n.a.	276.75
	(0.000)	(0.090)	(0.030)	(0.045)			
Ruble (1999/2000)[5]	0.001	-0.335	-0.146	1.069	0.277	0.225	58.90
	(0.000)	(0.240)	(0.065)	(0.092)			
Ruble (2000/2002)[6]	0.000	0.013	0.021	0.989	0.958	0.929	4398.00
	(0.000)	(0.026)	(0.011)	(0.011)			
Ruble (2003)[7]	0.000	0.033	-0.036	1.009	0.959	0.928	1157.44
	(0.000)	(0.054)	(0.029)	(0.023)			
	Monthly Data (observations: 54)						
Ruble (Jan 1999-July 2003)	-0.007	-0.0010	-0.163	0.975	0.569	0.516	21.99
	(0.003)	(0.370)	(0.115)	(0.135)			

Standard deviation is given in brackets. Values of t-statistics are not included in the table due to high error probability with respect to the fact that the data of MCKINNON (2000) is given only to the thousandth part.

*See text below.

[1] For the Russian Ruble: 06.01.1998 - 16.08.1998, for the other currencies: January 1994 - May 1997.

[2] For the Russian Ruble: 17.08.1998 - 31.12.1998, for the other currencies: June 1997 - December 1998.

[3] For the Russian Ruble: 01.01.1999 - 31.07.2003, for the other currencies: January 1999 - May 2000.

[4] Coefficient $ß_1$ is related to ECU/Euro in case of the Ruble, in case of the other currencies to the D-Mark (DEM).

[5] For the period 01.01.1999 - 14.10.2000, observations: 466.

[6] For the period 15.10.2000 - 31.12.2002, observations: 578.

[7] For the period 01.01.2003 - 31.07.2003, observations: 152.

Source: MCKINNON (2000), pp. 214-218; own calculation on basis of Datastream data.

With the Ruble being pegged to one of the currencies in question (Euro, Yen or US-Dollar), the estimate of the respective regression coefficient will be approximately one. The estimate of the other coefficients should therefore be somewhere near zero, because Euro, Yen and US-Dollar are assumed to float freely against each other (FRANKEL/WEI, 1994). Thus, if the Ruble is pegged de facto to the US-Dollar, the estimated value of $ß_3$ will approximate one, whereas $ß_1$ and $ß_2$ will be around zero.

Tab. 2 displays the regression results for the exchange rates on a daily basis. In order to be able to compare the results of the Ruble regression, the results from MCKINNON (2000) are shown for the case of China and South Korea, of which the former maintained a fixed parity of the Yuan to the US-Dollar during the whole period; the results for China act therefore as a point of reference. The period covered in the analysis – January 1994 to May 2000 for Yuan and Won and January 1998 to June 4, 2002 for the Ruble – is divided into three subperiods, whereas the first represents the pre-crisis period, the second the time of crisis itself and the third the period after the crisis.

For the pre-crisis period, rather clear results can be obtained. Whereas the estimated values of Euro and Yen, b_1 and b_2, are near zero, the estimated value of coefficient b_3 for the US-Dollar is near one; this is what was predicted in case of a peg of the local currency to the US-Dollar. According to the results of MCKINNON's estimation, the Chinese Yuan shows the strongest pegging against the Dollar with a value of b_3 at 0.996, a standard deviation of 0.003 and a t-value (hypothesis $b_3 = 0$) of the estimated coefficient of 332. South Korea has a similar, but less strict pegging of the Won to the US-Dollar with a b_3-value of 1.021, standard deviation of 0.016 and a t-value of 64. Russia, which in contrast to most of the East Asian countries had a officially announced exchange rate peg to the US-Dollar, shows a value for b_3 of 1.007 and a t-value of 36.66 (standard deviation 0.027) for the period before August 17, 1998. This is also consistent with a strong peg of the Ruble to the US-Dollar, but somewhat less strict than that of South Korea. It might be attributed to a rather broad exchange rate corridor within which the Ruble was allowed to float.

All t-values of the currencies in question point to a rejection of the hypothesis $b_3 = 0$ and hence to a significant influence of the US-Dollar on the development of their exchange rates. The peg to the US-Dollar is confirmed when testing the hypothesis $b_3 = 1$, where we obtain t-values for South Korea and China of around 1 and for Russia of 0.262, which means that this hypothesis cannot be rejected with a level of probability α of 5% or 1%. The high values of R^2 point out that the estimated equation fits quite well for explaining the mean variation of the observations.

The period during the crisis is displayed in the middle part of Tab. 2. In MCKINNON's (2000) analysis, the crisis period lasts 18 months; for Russia, this can be shortened considerably, albeit somewhat arbitrarily. The entire crisis period is assumed to last from August 17, 1998 to the end of that year (the comparably short period might be justified by the fast recovery of the Russian economy). The only currency that maintains a strict peg to the US-Dollar is the Yuan. For the Korean Won, there is still a significant influence of the US-Dollar, but the peg is much looser than before. For the Ruble, an influence of any of the three currencies in questions – Euro, Yen and US-Dollar – cannot be obtained at standard significance levels.

Quite interesting are the results for the post-crisis period. China still maintains its fixing to the Dollar, and Korea resurrected its unofficial Dollar-standard. The estimate b_3 is 0.957 and the hypothesis ß = 0 cannot be rejected at usual levels of significance, which confirms the influence of the US-Dollar on the Won exchange rate. Even more interesting, the Ruble seems to have returned de facto (not officially) to its pre-crisis exchange rate regime, hesitating a bit however. For the period from January 1, 1999 to the end of July 2003, we obtain an estimate b_3 near one, that is 1.038, with a t-value of 28.327 (standard deviation = 0.037). Therefore, the US-Dollar exerts a significant influence on the Ruble exchange rate as well. This confirms a de facto pegging of the Ruble to the US-Dollar on a daily basis after the financial crisis of 1998.

However, the pegging of the Ruble got closer between 1999 and 2003. It is even possible to mark a point of change in the development of the Ruble exchange rate by means of the residuals from the equation cited above (January 1999 to July 2003). The model probably is mispecified somehow, because by estimating the period from January 1999 to July 2003, we obtain residuals which differ according to their altitude in largely two subsequent subperiods. The first one runs from the beginning of 1999 up to October 2000, while the second one starts there and ends with the observation period. Running of a CUSUM-test provides evidence for a structural break, however, including a dummy variable whose value is one for the period from January 1, 1999, to October 14, 2000 and zero leads to the same result. Thus the assumption of homoskedasticity seems to be violated for the whole period. This leads to the conclusion that during the respective subperiods, several external shocks happened which the model cannot explain. Probably this simply refers to a temporarily looser policy strategy towards the US Dollar exchange rate by the Russian Central Bank. It is worthwhile to check the model for other influential factors, e.g. the trading volume on Moscow foreign currency exchange. Factors like the oil price or the stock of international reserves do not seem to have an influence on the shape of the two subperiods.

Simply dividing the total period into three subperiods, whereby the first runs from January 1, 1999, to October 14, 2000, the second from October 15, 2000, to December 31, 2002, and the third from January 1, 2003, until the end of the observation period, yields interesting results as well. With regard to the first period, we obtain an estimate b_3 of 1.069 with a t-value of 11.571 (standard deviation 0.092). For the second period starting on October 15, 2000, the estimate b_3 is even closer to unity with 0.989, and a t-value of 86.431 (standard deviation 0,011). This represents a period of an ever closer relationship between the Ruble and the US-Dollar which lasts until the end of our observation period on July 31, 2003. To have an impression of how close the daily peg of the Ruble to the US-Dollar still was in the first half of 2003, we ran the regression for the first seven months of 2003, with the result of an estimated b_3-value of 1.009 and a t-value of 43.696. Besides, the different R^2's indicate that the estimated values for the coefficients fit quite well for explaining the mean variation of the observations (0.958 and 0.959 for 2000/2002 and 2003, respectively, in contrast to 0.227 for 1999/2000).

The influence of the US-Dollar can still be made clearer by excluding the Dollar from the regression equation above. The value of R^2 for the modified equation shows that part of the mean variation of the observations which the remaining estimation parameters are able to explain. The relative contribution of the US-Dollar to the explanation of the Ruble exchange rate – the partial R^2 – can thus be obtained by the following equation:

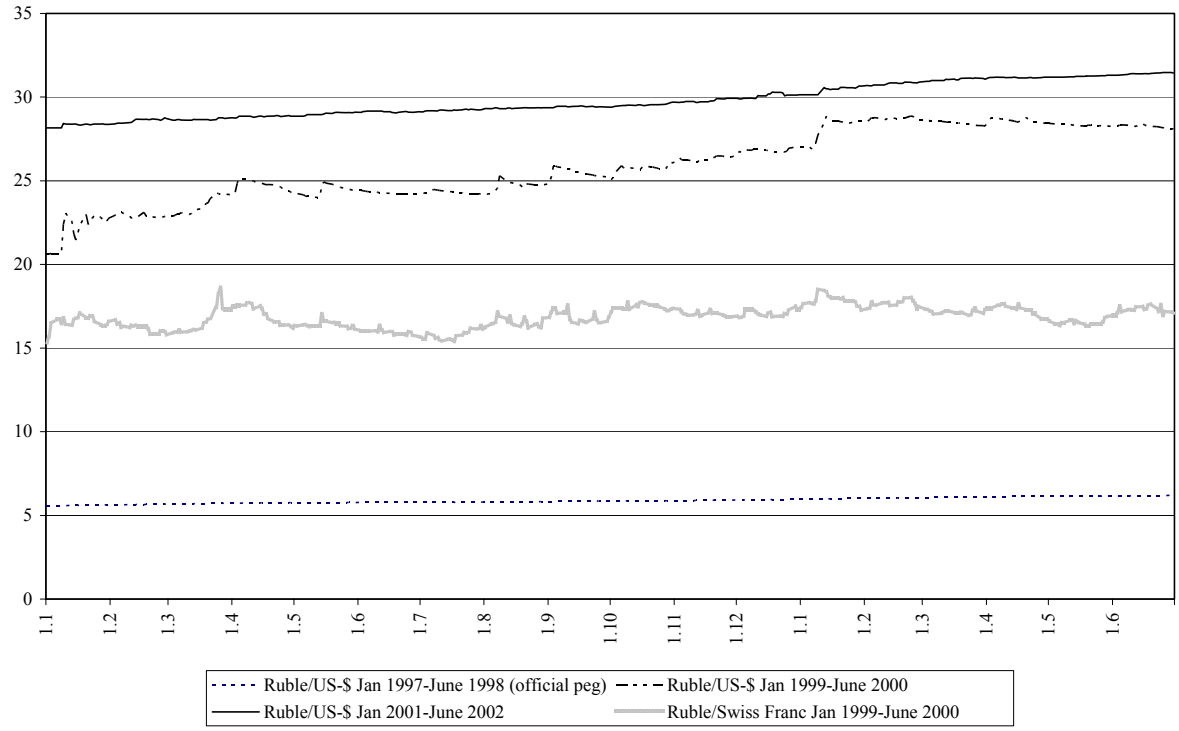
(3) R2USD = (R2 - R2mod)/(1 - R2mod);

with R2USD as partial R2 for the US-Dollar, R2 for the original and R^2_{mod} for the modified regression equation.

The values of partial R^2 for the US-Dollar (last-but-one column, Tab. 2) point out that the coefficient attributes a large contribution to the explanation of mean variation of observations, in particular before the crisis and during the period 2001/2002. Before the crisis, the partial R^2 was 0.897, and for 2000/2002 it increased to 0.929 (for 2003, 0.928); immediately after the crisis, R^2_{USD} was comparably low but was still far from being dismissible.

With a close relationship between the Ruble and the US-Dollar demonstrated on a daily basis, it seems reasonable to take a look at a longer term perspective. Estimating the same regression model employed above with monthly data (simple monthly average of the respective exchange rates) for the period from January 1999 to July 2003 yields similar results (see Tab. 2): we obtain an estimate b_3 once again near one, that is 0.975, with a highly significant t-value of 7.300 (standard deviation = 0.135). Therefore, the US-Dollar exerts significant influence on the Ruble exchange rate in a longer term – monthly – perspective as well.

Fig. 2: Exchange rate development Ruble/US-Dollar for selected periods (daily data)



Source: Datastream.

Fig. 2 displays the Ruble/US-Dollar exchange rate (daily data) in chart form, with different periods (each lasting one and a half years) and with the Ruble/Swiss Franc exchange rate as a means of comparison. The first-but-one chart from above shows the Ruble/US-Dollar

exchange rate for January 1999 to June 2000; the exchange rate is comparably volatile and resembles more of the development of the Ruble/Swiss Franc exchange rate (second chart from below) rather than to the Ruble/US-Dollar exchange rate during the official pegging (January 1997 to June 1998 shown here, chart furthest below). Keep in mind the nevertheless existing influence of the US-Dollar. The picture changes as regards the Ruble/US-Dollar exchange rate if we take the period from January 2001 to June 2002 into consideration. Now the chart is almost as flat as is seen in the official pegging – and slightly increasing, too, meaning a slow depreciation of the Ruble. By and large, deviations from the underlying imaginary trend line are almost non-existent here.

Taking all this into consideration, we can conclude that after October 2000 in particular and until the end of the period under observation, the exchange rate of the Ruble was pegged closely to the US-Dollar *on a daily basis* by the Russian Central Bank. According to the results of our estimation, the daily peg for this period was at least as tight as during times of the official fixing of the Ruble before the crisis. This is somewhat different from the kind of exchange rate system BUBULA/ÖTKER-ROBE (2002) assumed for the Russian Ruble; they put it as "other managed floating" instead of "tightly managed floating". One must keep in mind, however, that Russia has *not* officially adopted any kind of peg of the Ruble to the US-Dollar. Yet *de facto,* the Russian Central Bank has installed an exchange rate regime which empirically shows the same results like a slowly depreciating crawling peg within a band of reasonable width.

It would be very interesting to know the volume of interventions on behalf of the Central Bank on the foreign exchange market. But as one might expect, the Central Bank does not publish any related data. Therefore one can only resort to the change of foreign exchange reserves held by the Central Bank, a figure, that shows a steady increase nearly throughout the period from 1999 to 2003 (see Fig. 4 in the next section where we will discuss further implications). This indicates that during the respective period, the Ruble would have substantially appreciated against the US-Dollar without foreign exchange regulations and the interventions of the Central Bank on the foreign exchange market. The next section will discuss possible reasons for such a strategy and look for the consequences as regards financial sector's allocative efficiency and stability.

4. The Central Bank, Competition in the Banking System and Allocative Efficiency

The exchange rate strategy of the Russian Central Bank has a wide array of consequences, and some of them may indeed provide a rationale for the Central Bank to intervene on the foreign exchange market to such a scale. Basically from the perspective of the Russian Central Bank, one may consider the following four aspects relevant:

- Exchange rate as a tool for industrial policy: In particular during an oil price boom, the Russian Ruble is bound to appreciate, making it harder for the Russian industry to compete on the world market with a real exchange rate still more appreciating due to the high

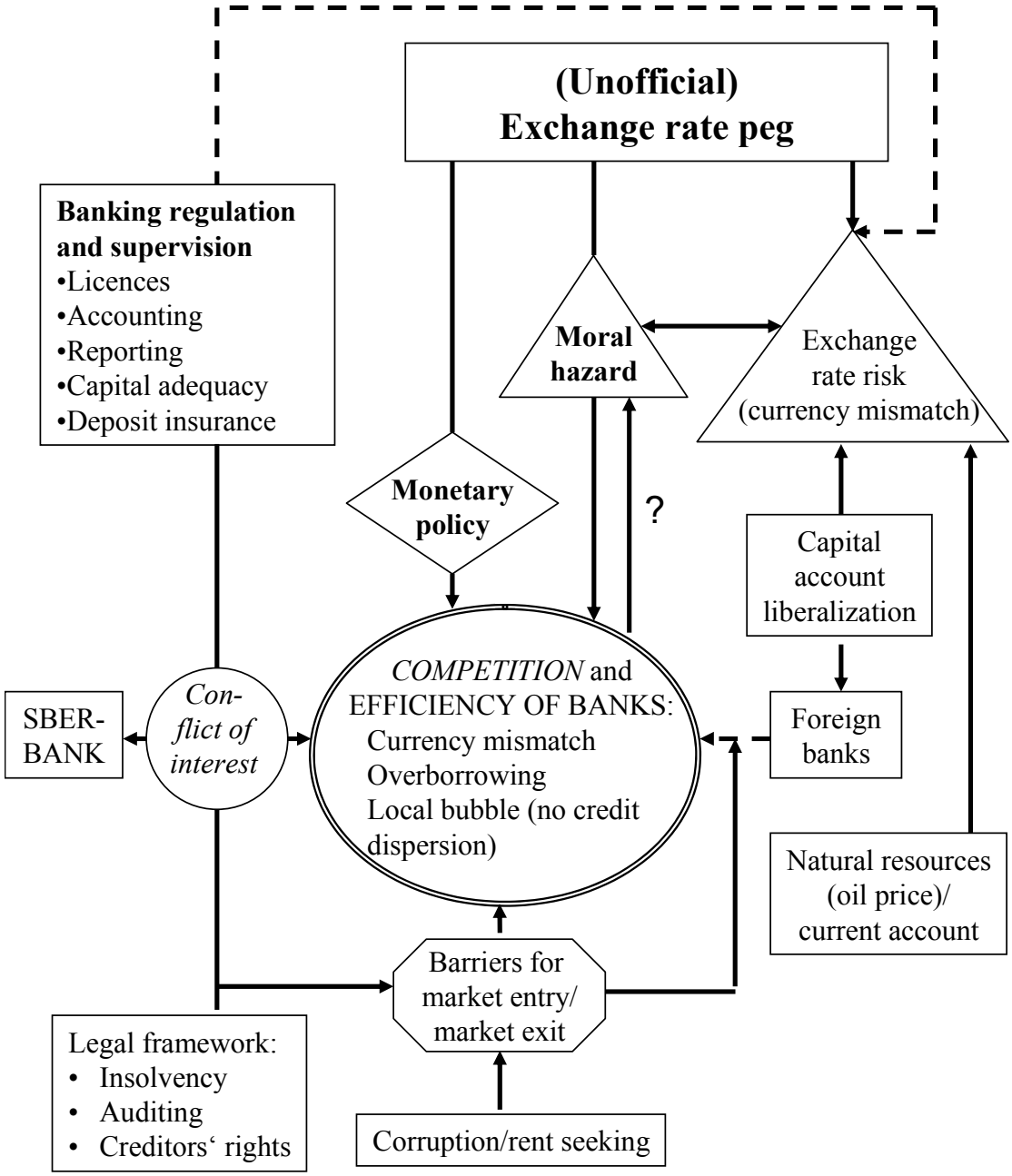
inflation rate at home. Therefore the Central Bank intervenes on the foreign exchange market to lower the appreciation of the real exchange rate by letting the nominal rate depreciate. This was already acknowledged by DABROWSKI/PACZYNSKI/RAWDANOWICZ (2002, p. 10) and resembles in a way the strategy of the Chinese government in 2003, which keeps the Yuan undervalued against other major currencies, in particular the US-Dollar, in order to give their industry an advantage on the world market.

- Avoiding liquidity problems on behalf of financial institutions: High-frequency exchange rate pegging can partly switch off exchange rate risk for banks with open foreign exchange positions (currency mismatch). Such a peg may act as a temporary alternative to tighter regulations. Yet, it is an open question whether this makes sense in the Russian case, particularly if we consider a medium to long-term perspective and the multiple functions performed by the Central Bank. Even more worrisome, banks are prone to moral hazard and thus might pursue a credit extension policy that uses the Ruble/Dollar-interest rate differential for arbitrage without taking the remaining systemic exchange rate risk seriously.
- Fixing the exchange rate as a nominal anchor and a stabilizer for the economy: This basically refers to the standard argument for resurrecting a fixed exchange rate system as was in existence from 1994 to 1997 for stabilizing the monetary sphere in order to minimize distortions for the real sector of the economy. In the case of Russia, fixing the Dollar exchange rate should also have a stabilizing effect on the current account, because Russia's trade balance is highly disproportionate, first as regards the kind of goods exported – more than half of exports are related to the raw materials sector – in contrast to imports, second as regards exports earnings – which are received mostly in US-Dollar – in comparison to imports, most of which must be paid in Euro.
- Containing the foreign debt burden on the federal budget: Public foreign debt and related payment obligations are extraordinarily high in 2003/2004 compared to prior years. The annual burden for debt and interest payments will decrease over the forthcoming years. From a treasurer's perspective, a stable, non-depreciating exchange rate prevents the debt burden from growing further in Ruble terms. Provided there is consent between the Ministry of Finance and the Central Bank, fixing the exchange rate and defending it against depreciations may therefore be a goal of the Bank's policy. However, from 1999 to 2003, there were periods in which the Ruble should have appreciated, given the large current account surplus (with a booming Russian economy the probability for that further increases), which means that this argument would have been counterproductive by then. It also contradicts the industrial policy argument above. But given the large public foreign debt burden, this might still be a target of second order during times of depreciative pressure on the Ruble exchange rate.

Now, what are the consequences of the peg and do they justify it, in particular as regards the reasons mentioned above? Does the tight tracking of the US-Dollar together with the current state of the banking sector and related restructuring efforts bring about stability and allocative efficiency to the Russian financial sector? Fig. 3 (see next page) summarizes an answer to the questions raised above. Basically, one can divide the figure into three main parts, of which the first one consists of external influences (components of balance of payments: current account and capital account aspects) on the right hand side in the middle

and below; these translate into effects on the Russian financial sector (the second part of the story) via both the exchange rate and the foreign exchange market, including its effects on monetary policy (area above the center). The third part are legal, regulatory and supervisory affairs, on the left hand side.

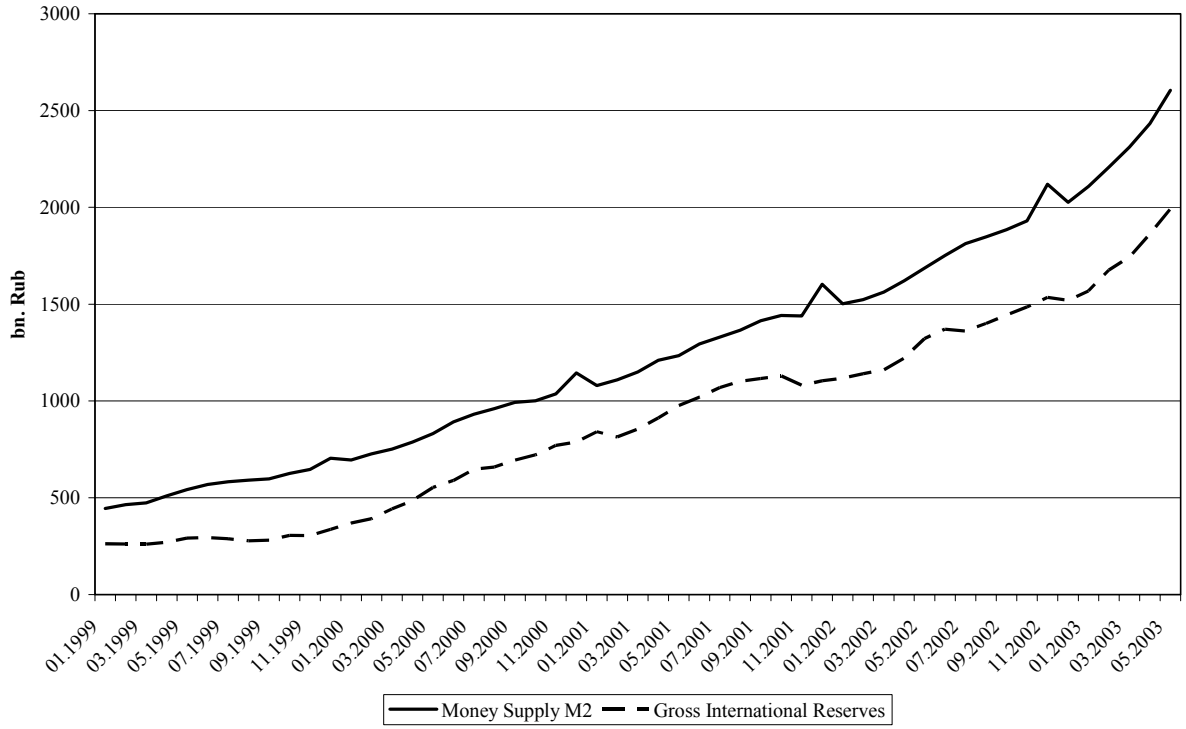
Fig. 3: Decision-Making by the Russian Central Bank, Competition and Efficiency in the Russian Banking System



In short, the argument runs as follows: Efficiency in the Russian banking sector is spoiled by a large monetary expansion triggered by the Central Bank's policy to manage an unofficial exchange rate peg in times of a natural resources boom, leading to negative real interest rates and local asset bubbles. Efficiency is distorted as well by moral hazard behaviour when banks have access or simply rely on the Central Bank's exchange rate policy, which allows for currency mismatch. Different knowledge of the Central Bank's strategic decisions in this respect, however, hurts competition, because a prudent bank will avoid open foreign exchange positions and therefore hedge any such risks at a certain cost (or leave operations aside which lead to open positions), something a bank that is aware of the Central Bank's strategy is not supposed to do, provided the Central Bank's strategy is considered sustainable. Instead of a daily peg, banking supervision and regulation should enforce adequate hedging or provision for risks from currency mismatch (dotted line in Fig. 3), but supervision and banking regulation in general is still weak. Together with problems in the overall legal environment and corruption (rent seeking activities), regulatory rules provide for barriers for market entry, which hurts again competition and therefore in the end leads to deteriorating banking sector efficiency. The status quo is preserved by a conflict of interest within the Central Bank as regards Sberbank and the introduction of competition, with politicians having little interest in changing the situation. Foreign banks, that might enhance competitive pressure and thus the efficiency level, are therefore very reluctant to enter the Russian banking market. One has to be careful, of course, that further opening up of Russian financial markets will enhance the probability for currency mismatch (or even original sin) and might force established banks to engage in even more risky investments in the face of lowering interest margins (arrow from competition back to moral hazard).

Let us focus first on the consequences of the daily peg for the conduct of monetary policy and the monetization of the Russian economy. During times of high export earnings due to an oil price boom, maintaining the peg on a daily basis requires the central bank to absorb the high foreign exchange inflow resulting from increased export earnings by buying foreign exchange, while only in the medium-term a slow appreciation will be allowed. During times of comparably low oil prices (a situation that has not happened since 1999), the Central Bank will sell foreign exchange reserves to maintain the daily peg as the current account deteriorates if no other sources for foreign exchange inflow substitute for the export revenues, possibly higher foreign investment, a figure that is likely to increase with further growing Russian economy. In theory, the Central Bank could sterilize her interventions on the foreign exchange market by pursuing a contractive (defending against an appreciation) or an expansionary (defending against depreciation) monetary policy on the money market at home.

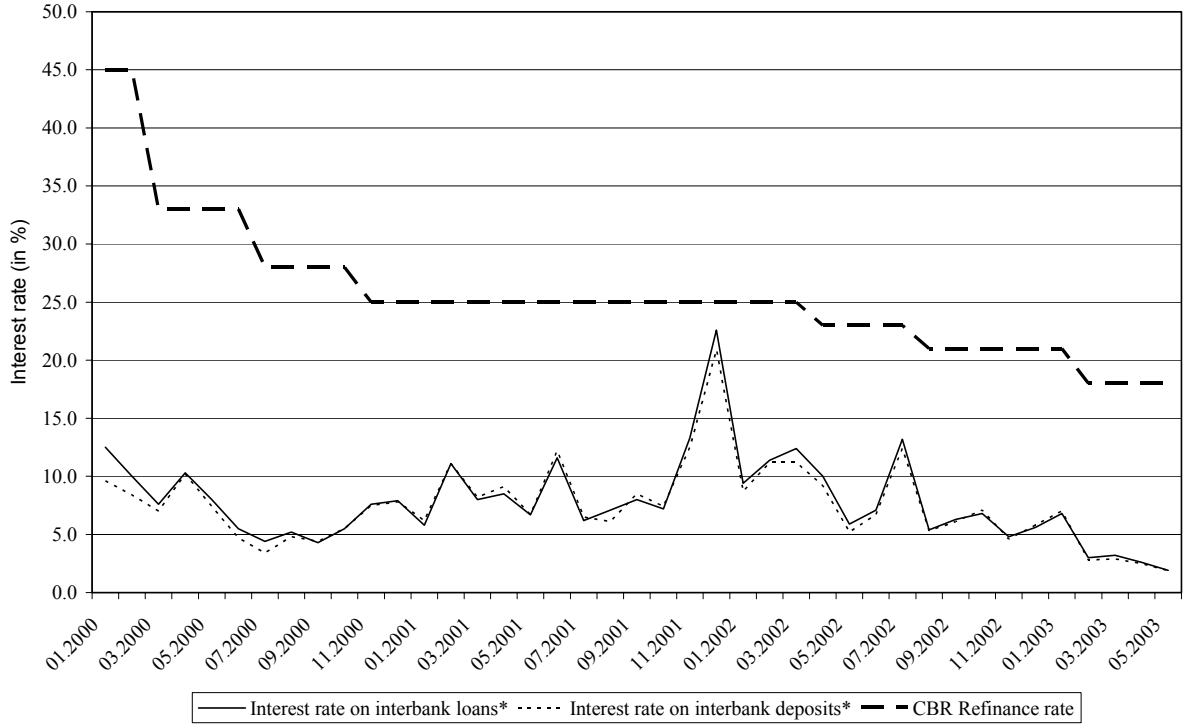
Fig. 4: Money Supply Aggregates 1999-2003 in billion Ruble



Source: CENTRAL BANK OF RUSSIA, Bulletin of Banking Statistics, various issues.

With comparably high oil prices during the period from 1999 to 2003, the daily peg is associated with considerable costs and uncertainty on behalf of monetary policy. As Fig. 4 shows, Ruble money supply (M2) increased more than fivefold in nominal Ruble terms from January 1999 to May 2003; this mostly reflects the large increase in foreign exchange reserves with the Central Bank, which saw an increase of more than seven times during the same period and indicates that the Russian Central Bank was unwilling (or simply unable) to sterilize monetary expansion via the foreign exchange market on such a grand scale. However, the expansionary effect was only partially transmitted into the real sector, because Russian banks still hold large compulsory and voluntary reserves with the Central Bank. In May 2003, a total of roughly 18% in relation to the Ruble money supply (M2) was held as banks' reserves with the Central Bank, given a (still comparably high) reserve requirement ratio of 10% (for foreign exchange funds and Ruble funds from legal entities) and 7% (for other Ruble funds, see CENTRAL BANK OF RUSSIA, 2003, pp. 29-32, for details). The fact that Russian banks hold voluntary reserves with the Central Bank can be explained by a general lack of other investment opportunities, which shows the underlying structural weaknesses of the Russian financial markets.

Fig. 5: Selected Interest Rates 2000-2003



Source: CENTRAL BANK OF RUSSIA, Bulletin of Banking Statistics, various issues.

The effects on the conduct of monetary policy and the effectiveness of its market-related instruments can be seen by looking at interest rates on the interbanking market vis-a vis the official interest rate for refinancing from the Russian Central Bank (see Fig. 5). The refinancing rate is quite high and came down to 18% at the beginning of 2003, but in fact, this has no major effect on money supply, because interbanking rates (in particular the lending rate) are much lower (around 2-3% p.a. in Spring 2003). Judging from this, one may conclude that Russia has experienced too large a monetary expansion.

Thus, the unofficial peg to the US-Dollar in times of high oil prices comes at the cost of a monetary expansion, which eventually distorts interbank money markets by making refinancing rather cheap; hence a central bank's usual monetary policy tools – interest rates for the refinancing of banks – have no major effect. Consequently, the Central Bank can govern the liquidity of the banking system only with mere administrative measures (e.g. changing reserve requirements, which have indeed been increased over the last couple of years).

The Russian banking sector suffers from several structural and legal flaws that restrict its role as financial intermediary to a comparably small degree, but with increasing liquidity and the monetization of the economy, the economic costs of its backwardness increase as well, in terms of allocative inefficiencies and loss of growth potential. Negative real interest rates like in Russia in 2003 do not contribute to improving allocative efficiency of the financial sector; investment is only held back by a lack of investment opportunities, largely due to insecure property rights and bad corporate governance schemes as well as unreliable accounting methods that make decision-leading facts like credit records unavailable.

Once this situation changes – and it is likely to change with still strong growth and rising investment in 2003 (WORLD BANK, 2003) –, Russia will experience features of a bubble economy, including overborrowing on both the corporate and the consumer side, overheating consumer demand, asset prices too high, etc. To say Russia as a whole will experience this is not quite correct, because a bubble can only be created in areas where too much liquidity is available. This might be the case in Moscow, where signs of a bubble are already visible, but not in most of the other parts of Russia, where banking services are still pretty much underdeveloped and corporate or consumer credits from ordinary banks very rare. Allocative inefficiencies may result in local bubbles, but also in a very unequal regional distribution of financial funds, that is largely due to the legal and supervisory problems, some of which are displayed on the left part of Fig. 3. Banks in the regions are often too small and inexperienced to cope with banking business of the financial centre in Moscow and the big banks in Moscow in return are reluctant to invest and operate in Russia's regions.

Sberbank, which plays a special role from many points of view, has shown a strong increase in lending activities since 1999 and 2000. According to the survey of WORLDBANK (2002, p. 147), Sberbank increased its loan portfolio by 60 percent during the year 2000 alone (an absolute total in US-Dollar of about 3.7 billion). Given limited capacity for credit risk assessment, this seems to be beyond the borders of prudential lending activities. Consequently, the same report points out that in particular some of Sberbank's larger loans were extended to companies with a rather mixed record as regards their debt service. In addition, the bank's portfolio is quite concentrated, exposing it to considerable risk for default by single borrowers. Sberbank's own capital is at a rather low level. All this gives major cause for concern.

All this taken together, the liquidity effects discussed here represent one of the consequences of the tight tracking of the US-Dollar by the Russian Central Bank. Thus the daily peg has lead to a large monetary expansion and distortions on the money market, leaving the Central Bank without market-related instruments for monetary policy and the banks with too much liquidity. While aggregated monetary figures for the entire country suggest there is even more monetization and amount of credit needed – compared to other transition countries –, Russian banks face only a very limited range of investment opportunities, probably all of which will show signs of a bubble without further bank restructuring and improving the banking and investment environment in most of Russia's regions.

The next consequence of the daily peg refers to a typical moral hazard-argument and brings us back again to the discussion on original sin and currency mismatch-related problems. The exchange rate policy of the Central Bank and in particular the high-frequency peg have not been announced thus far; there is no clear sign as to the perspectives of this kind of exchange rate regime. Banks may be able to exclude foreign exchange risk on a day-to-day basis, but cannot be sure if this regime might be changed in the near future. In addition, even if there is a significant tracking of the US-Dollar as regards monetary exchange rate data, simply looking at the exchange rate chart reveals that there is no comfort in relying on a longer term oriented peg of the Ruble to the US-Dollar. Thus banks have to make provisions for open foreign exchange provisions with a maturity of more than two to four weeks.

Such a need for provision probably does not apply to state-owned banks and in particular banks associated with the Central Bank, like Sberbank. They enjoy an advantage over their competitors, given the uncertainty of the future of the currency peg and the fact that there is no official commitment to the exchange rate regime. It is very likely that those banks can rely on

information asymmetry to their favour over their private competitors. They do not face uncertainty about the development of the exchange rate in the medium term and can operate ignoring open foreign exchange positions with the knowledge of the Central Bank's strategy. With its high international reserves, the Central Bank has plenty of discretion when choosing an exchange rate strategy. The knowledge of the strategy enables Sberbank to exploit an interest rate differential between Ruble and US-Dollar denominated loans, disregarding currency mismatch considerations and related provisions. Thus the unofficial daily peg distorts competition in the banking sector.

To sum up, two effects of the daily peg are relevant for our discussion. First the expansionary effect on monetary policy and second, the moral hazard effect on behalf of Sberbank (and possibly other state-owned banks). These effects are causing considerable costs in terms of allocative inefficiencies, and it should be asked whether the presumed reasons for pursuing such an exchange rate strategy outweigh these costs. It is not within the scope of this paper to do this, if it is ever possible; it is even so difficult to assess the success of the exchange rate strategy as regards the industrial policy argument mentioned above as well as its role for stabilizing the monetary sphere of the economy. The question of managing (i.e. keeping it undervalued compared to the market equilibrium level) the exchange rate as a means to give price advantages to Russian industrial enterprises on the world market has attracted much interest and is usually promoted by the industry lobby (DABROWSKI/PACZYNSKI/RAWDANOWICZ, 2002, p. 10).

Here we have discussed threats for competition and efficiency of the banking system originating mainly from the exchange rate regime, but still there are other and possibly more dangerous threats from other sides. This refers to the role of the Central Bank as chief regulator and supervisor together with its role as key player on the banking market through Sberbank. The incomplete nature of banking rules and regulation on the one hand and the conflict of interest between pushing for more competition and preserving the dominating role of Sberbank on the other pose serious obstacles for competition and the development of the banking sector.

By and large, regulatory rules relating to prudential supervision are in place in Russia, but a myriad of technical details associated – e.g. with accounting, reporting and auditing standards – remain. This must not be dismissed, as it leaves room for malfeasant business practices including fraud. Typically, the Central Bank as banking supervisor focuses more on form rather than substance (WORLD BANK, 2002). But tough enforcement of rules relating to capital adequacy, reporting and accounting is essential, first to ensure a level playing field for the banking sector and second to prevent banks from developing too risky a currency or maturity mismatch.

The playing field in the Russian banking sector is quite uneven, and disadvantages for private banks do not stop with information asymmetries regarding exchange rate developments. Public guarantee for deposits with Sberbank is one of the major distortions detrimental to the expansion of private banks on the retail banking market. While competition in the banking market is hurt by disguising the Central Bank's exchange rate strategy on the one hand, the Central Bank even used its monetary policy tools for giving Sberbank an advantage on the other. Until 2002, Sberbank's reserve requirements with the Central Bank were about half as high as those for other banks. The list of competition-distorting factors could continue: the current public deposit guarantee valid only for deposits at Sberbank or the

government's decision to use Sberbank as its payment channel for various public funds, e.g. the pension system (WORLD BANK, 2002). Usually Sberbank's public duty to provide banking services in Russia's regions and more remote areas outside the big centres of Moscow and St. Petersburg, which is supposed to be associated with extra-costs for the maintenance of a large branch network, is used to defend such measures. But it is never clear how much the branch network really costs and if it is really such a kind of liability for Sberbank. It may even be an asset that gives the bank a much broader base for activities compared to their new founded rivals.

From a politico-economic perspective, there are three reasons why state ownership of Sberbank and in particular ownership by the Central Bank as well as a dominant role of Sberbank is preferential for politicians and Central Bankers and the introduction of a level playing field as a necessity for competition quite unlikely:

- Tool for industrial and social policy issues or rent-seeking activities in general: State-owned Sberbank can be used as a tool for pursuing industrial or social policy goals without respecting commercial issues, e.g. by directing large-scale credit to enterprises or credit programmes to private households. Given the level of corruption in Russia, private rent-seeking activities are likely as well.
- Control of financial system: A dominant state-owned Sberbank allows politicians direct control over the development of the banking system, something post-Soviet politicians still might favour. From this point of view, a dominant state-owned Sberbank is the best means for blocking a Hungary-style foreign takeover of large parts of the Russian banking sector.
- Restoring trust in banks by preserving Sberbank's role: A much touted argument is that Sberbank is currently the only bank which enjoys a necessary amount of trust among people, so that they are willing to put their money in its accounts. According to this view, changing anything, including ownership or public deposit guarantee, will endanger this trust and set back efforts for building up the banking sector in Russia.

Especially the first and second aspects are supported by the comparably intransparent structure as regards accounting and publishing data on Sberbank's activities. This makes things particularly easy when trying to hide the true cost of financial support for industrial or social issues or other rent-seeking activities, including fraud. Without transparency and tight supervision, Sberbank's managers and interfering politicians simply cannot be charged for their activities.

It should be acknowledged that the Russian economy is characterized by widespread rent-seeking activities, related to the phenomenon of public authorities as grabbing hands (FRYE/SHLEIFER, 1997) and state capture by enterprises (HELLMAN/JONES/KAUFMANN, 2000). Whereas certain exemptions for Sberbank act as competition-distorting factors and hence as barriers for market entry and expansion for its rivals, barriers for market entry occur through rent-seeking activities as well; the banking sector therefore is probably one the most active rent-seeking sectors in Russia (PLEINES, 2002; ALLAN, 2002). Competition may be badly hurt or even prevented from its very beginnings (particularly in more remote areas) with large-scale corruption and rent-seeking activities in place (WIEGERT, 2003). An enterprise panel revealed the Russian Central Bank as the prime target for state capture as regards public institutions in Russia (HELLMAN/JONES/KAUFMANN, 2000, p. 9). Regulatory rules may therefore be abused to

prevent the market entry of likely competitors, a consideration often associated with the apprehension of foreign banks with respect to entering Russia's banking market.

The three reasons raised above show that considerable forces exist that might hinder reform, mainly efforts associated with the introduction of transparency and competition in the banking sector. The ultimately political goal of keeping the Russian banking sector in Russian ownership sets an important obstacle for a large-scale participation of high reputable foreign banks. This could be an alternative for the argument in favour of keeping Sberbank within its dominating position, that is the view that only a large Sberbank with public deposit guarantee can restore trust in banking services. But opening up the Russian banking sector and an associated large-scale entry of foreign banks will not only lead to an enhancement of trust in private banks – no matter whether to whom they belong – but also to an enhancement of service quality and availability; foreign ownership usually improves the overall quality of banking services considerably in underdeveloped banking markets (CAPRIO/HONOHAN, 2001, p. 167). But without political support, foreign banks are quite reluctant to come to Russia on a large scale. Lack of support and the uneven playing field therefore act as major barriers for market entry and expansion.

Further lifting of regulations preventing the inflow of foreign capital, in particular of foreign participation in the Russian banking sector and a deeper integration into world financial markets through liberalization efforts (capital account and foreign exchange market) – associated with likely membership in the WTO in the near future – might help to lower these barriers for market entry and eventually enhance competitive pressure, while at the same time this possibly increases threats for financial sector stability. Higher competition will lead to decreasing interest margins, which in turn will probably force banks to engage in riskier investment projects. Hence a tighter supervisory control and enhanced information processing from banks to the Central Bank is required. This holds particularly for Sberbank.

Apparently, with increased financial integration following liberalization, high oil prices and – almost equallyimportant – ongoing economic growth well above 4% per annum, financial risks in the sense of currency mismatch will increase, most likely also in the sense of original sin, especially if the Central Bank maintains its exchange rate strategy. This is due to continued high export earnings as well as to an increased inflow of foreign capital given such a scenario, both factors contributing to an appreciation of the Ruble exchange rate, which the Central Bank at its current stance might be willing to prevent. Given loose control efforts such an exchange rate policy will inevitably lead to further excess liquidity in the financial system, asset price bubbles and overborrowing, something that might turn out painfully unsustainable in the event of a changing economic environment.

A bursting asset price bubble in a highly intransparent environment is the imminent danger Russia's financial sector will face today, not in the least for the largest actor, Sberbank. With negative real interest rates caused by excess liquidity, allocative efficiency of the financial sector is at odds, and Russian banks will have to cope a large debt write-off once an economic downturn occurs or the current account deteriorates. If this happens, the Central Bank might again be tempted to stabilize the economy by maintaining the exchange rate peg on a daily basis. Thus, as nominal interest rates at home rise again, Russian banks will increasingly look for financing abroad. This might lead to a situation similar to the classical original sin paradigm MCKINNON (2000) identified as a root cause for the Asean financial crisis.

5. Conclusions and Policy Options

The Central Bank of Russia today faces the challenge of building up a sound financial sector. It has more power than most of the other central banks in the world, but at the same time is captured in a serious conflict of interest that possibly prevents her from creating the conditions for such a sound banking sector, first of which is to address the lack of enforcement of prudential regulation and the level playing field for competition. Still far behind the goal of enforcing tough regulatory rules, the Central Bank has resurrected a sort of exchange rate peg to the US-Dollar on a daily basis. As we have briefly discussed, there are several arguments for such a peg in a transition economy with a low developed financial sector. Indeed, it may help to switch off exchange rate risk in the short-term, but it is doubtful whether this works due to the unofficial nature of the peg. Whether it helps to encourage import substitution and export-oriented sectors is highly disputable. Still, there are considerable costs: the lower degree of control of the money supply and allocative distortions on the banking market leading to signs of an asset price bubble. Banks with adequate liquidity management with respect to exchange rate risk will have higher costs compared to banks which simply neglect this risk, either because they are associated with the Central Bank and therefore have an informational advantage or because they simply pursue a riskier business strategy.

Until proper regulations and reporting standards are in place and enforced, resorting to high frequency pegging or to a fixed exchange rate is a remedy for the exchange rate risk problem in the short- to medium-term. With higher pressure for abolishing regulations concerning foreign exchange and capital account transactions in the near future in the wake of WTO membership, time is probably running out for that option. In 2003, however, open exchange rate positions do not seem to endanger financial stability. But the issue of currency mismatch and even original sin may become more relevant in a future economic downturn. By then, Russian banks and their regulatory and supervisory environment should be prepared.

Therefore, action on the field of prudential regulation is required, because fluctuations in the exchange rate market will accelerate after the Central Bank abolishes most of its administrative measures currently regulating the market and making the task of high frequency pegging comparably easy. During the period of reform, a high frequency peg may be justified, but as there are high costs for maintaining such a peg, reform efforts thus have to speed up. In any case, an official announcement of the peg and related future commitments of the Central Bank would be desirable. The peg should not be realigned at a level artificially low, leading to massive interventions by building up foreign exchange reserves.

In any case, the Central Bank should stop pursuing industrial policy by keeping the Ruble well below its true value. The task of smoothing the negative effects of the oil price boom on the tradables sector should be left to other instruments, such as a public stabilization fund that collects parts of natural resource revenues in good times to spend them in bad times. From 2004 onwards, such a fund will be created on the federal level.

From the perspective of allocative efficiency, the Central Bank should stop intervening in the foreign exchange market on a scale shown from 1999 to 2003, in particular in times of Ruble appreciations, because this leads to an artificial blow-up of the Ruble money supply, making monetary policy quite ineffective. Parallel to an enhanced quality of supervision of banks' lending activities, institutional and legal problems – such as improving creditor rights

and establishing instruments for tracking the records of debtors – have to be solved to let the money disperse more evenly across the country, giving enterprises in more remote regions access to external financial means. One must admit, however, that even with reforms and measures enacted on paper, access to external financing will at best only gradually improve in the medium term.

For the sake of a competition-oriented banking sector and in order to resolve the conflict of interest within its own holding structure, the Central Bank should sell its stake in Sberbank. In the short-term, a full-fledged separation of Sberbank from the Central Bank is desirable, with a possible privatization of Sberbank in the medium term after an accounting for a true and fair view of Sberbank's operations, costs and earnings has been set in place. Rules governing the admission of foreign-owned banks to the Russian banking market have to be relaxed; ideally Russian and foreign banks should be treated equally.

Stripping the Central Bank of its supervisory and regulatory powers may also be desirable, given its poor record on this field and the high potential for rent seeking activities associated with that function. But there is no real alternative in sight that might be able to replace the Central Bank in the near future. A clear separation of its monetary and supervision departments as regards all accountable aspects is therefore necessary (if that is ever really an option); possibly a new independent agency on the basis of the supervisory department should be founded.

References

ALLAN, D. (2002), Banks and the Loans-for Shares Auctions, in: LANE, D. (ed.), Russian Banking: Evolution, Problems and Prospects, Cheltenham: Edward Elgar, pp. 137-159.

AUKUTSIONEK, S.P. (1998), Barter i Rossijskoj Prom'yshlennosti, in: Voprosy ekonomiki, Nr. 2/1998, 51-60.

BUBULA, A., ÖTKER-ROBE, I. (2002), The Evolution of Exchange Rate Regimes Since 1990: Evidence from De Facto-Policies, IMF Working Paper No. 155, Washington D.C.

CAPRIO, G., HONOHAN, P. (2001), Finance for Growth: Policy Choices in a Volatile World, World Bank Policy Research Report, Washington D.C.

CENTRAL BANK OF RUSSIA (2003), Bulletin of Banking Statistics, No. 7 (122), Moscow.

COMMANDER, S., MUMSSEN, C. (1999), Understanding Barter in Russia, EBRD Working Paper Nr. 37, London.

DABROWSKI, M., PACZYNSKI, W., RAWDANOWICZ, L. (2002), Fighting Inflation in Russia, in: Russian Economic Trends, Vol. 11. No. 2, pp. 7-14.

EBRD (1999), Transition Report 1999, London.

EICHENGREEN, B., HAUSMANN, R. (1999), Exchange Rates and Financial Fragility, NBER Working Paper Nr. 7418, Cambridge, Mass.

EICHENGREEN, B., ROSE, A. (1998), Staying Afloat When the Wind Shifts: External Factors and Emerging Market Banking Crisis, NBER Working Paper No. 6370.

FRANKEL, J.A., WEI, S.J. (1994), Yen Bloc or Dollar Bloc? Exchange Rate Policies in the East Asian Economies, in: ITO, T., KRUEGER, A. (Hg.), Macroeconomic Linkage: Savings, Exchange Rates, and Capital Flows, NBER-East Asia Seminar on Economics 3, Chicago: University of Chicago Press.

FRYE, T., SHLEIFER, A. (1997), The Invisible and the Grabbing Hand, in: The American Economic Review, Papers and Proceedings, Vol. 87, 354-358.

GAVRILENKOV, E. (2003), Macroeconomic Situation in Russia: Growth, Investment and Capital Flows, in: GAVRILENKOV, E., WELFENS, P.J.J., WIEGERT, R. (eds.), Economic Growth and Opnening up in Russia, Heidelberg and New York: Springer, pp. 203-220.

HELLMAN, J.S., JONES, G., KAUFMANN, D. (2000), "Seize the State, Seize the Day". State Capture, Corruption and Influence in Transition, World Bank Policy Research Working Paper Nr. 2444, Washington D.C.

MCKINNON, R.I. (2000), After the Crisis, the East Asian Dollar Standard Resurrected, in: STIGLITZ, J.E., YUSUF, S. (Hg.), Rethinking the East Asian Miracle, Oxford: Oxford University Press, Kap. 5, 197-246.

PLEINES, H. (2002), Banks and Illegal Activities, in: LANE, D. (ed.), Russian Banking: Evolution, Problems and Prospects, Cheltenham: Edward Elgar, pp. 119-136.

RECEP (2002), Russian Economic Trends – Monthly Update: October, Moscow.

TOMPSON, W. (2000), Financial Backwardness in Contemporary Perspective: Prospects for the Development of Financial Intermediation in Russia, in: Europe-Asia Studies, Vol. 52, No. 4, pp. 605-625.

WIEGERT, R. (2003), Transformation, Wachstum und Wettbewerb in Russland, Heidelberg und New York: Springer.

WORLD BANK (2002), Building Trust. Developing the Russian Financial Sector, Washington D.C.: The World Bank.

WORLD BANK (2003), Russia Economic Report, Moscow, August.

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BUNTE, H.-J., WELFENS, P.J.J. (2002), Wettbewerbsdynamik und Marktabgrenzungen auf Telekommunikationsmärkten, Heidelberg und New York: Springer.

JUNGMITTAG, A., WELFENS, P.J.J. (2002) Internet, Telekomliberalisierung und Wirtschaftswachstum, Heidelberg und New York: Springer.

SCHWARZ, A. (2001), Subventionen in Mittel- und Osteuropa, Lohmar: EUL-Verlag.

PELZEL, R.F. (2001), Deregulierte Telekommunikationsmärkte, Heidelberg und New York: Springer.

WELFENS, P.J.J. (2001), Stabilizing and Integrating the Balkans, Heidelberg and New York: Springer.

WELFENS, P.J.J. (2001), Internationalization of the Economy and Environmental Policy Options, Heidelberg and New York: Springer.

WELFENS, P.J.J. (2001), European Monetary Union and Exchange Rate Dynamics, Heidelberg and New York: Springer.

GAVRILENKOV, E., WELFENS, P.J.J. (2000), Restructuring , Stabilizing and Modernizing the New Russia, Heidelberg and New York: Springer.

TILLY, R., WELFENS, P.J.J. (2000), Economic Globalization, International Organizations and Crisis Management, Heidelberg and New York: Springer.

JUNGMITTAG, A., REGER, G., REISS, T. (Eds., 2000), Changing Innovation in the Pharmaceutical Industry. Globalization and New Ways of Drug Development, Heidelberg and New York: Springer.

GRAACK, C., WELFENS, P.J.J. (1999), Technologieorientierte Unternehmensgründungen und Mittelstandspolitik in Europa, Heidelberg und New York: Springer.

GRAACK, C., GRINBERG, R., WELFENS, P.J.J., YARROW, G. (Eds., 1999), Towards Competition in Network Industries – Telecommunications, Energy and Transportation in Europe and Russia, Heidelberg and New York: Springer.

ADDISON, J.T., AUDRETSCH, D.B., GRIES, T., GRUPP, H., WELFENS, P.J.J. (1999), Globalization, Economic Growth and Innovation Dynamics, Heidelberg and New York: Springer.

WELFENS, P.J.J. (1999), EU Eastern Enlargement and the Russian Transformation Crisis, Heidelberg and New York: Springer.

WELFENS, P.J.J. (1999), Globalization of the Economy, Unemployment and Innovation, Heidelberg and New York: Springer.

TILLY, R., WELFENS, P.J.J. (1999), Economic Globalization, International Organizations and Crisis Management, Heidelberg and New York: Springer.

WELFENS, P.J.J. et al. (eds., 1998), Competition in Network Industries: Telecommunications, Energy and Transportation in Europe and Russia, Heidelberg and New York: Springer.

PALKINAS, P.; EICHHORN, B., WELFENS, P.J.J. (eds., 1998), Europäische Währungsunion: Argumente und Fakten zur Euro-Debatte, Frankfurt/Main.

GLOEDE, K., STROHE, H.B. WAGNER, D., WELFENS, P.J.J. (eds., 1998), Systemtransformation in Deutschland und Rußland: Erfahrungen, ökonomische Perspektiven und politische Optionen, Heidelberg und New York: Springer.

AUDETSCH, D.B., ADDISON, J.T. GRUPP, H., WELFENS, P.J.J. (1998), Technological Competition, Employment and Innovation Policy in OECD Countries, Heidelberg and New York: Springer.

ADDISON, J.T., WELFENS, P.J.J. (eds., 1998), European Labor Markets and Social Security, Heidelberg and New York: Springer.

GRAACK, C. (1997), Telekommunikationswirtschaft in der Europäischen Union: Innovationsdynamik, Regulierungspolitik und Internationalisierungsprozesse, Heidelberg: Physica (award-winning book).

WELFENS, P.J.J., WOLF, H. (ed., 1997), Banking, International Capital Flows and Growth in Europe, Heidelberg and New York: Springer.

BÖRSCH-SUPAN, A., VON HAGEN, J., WELFENS, P.J.J. (eds., 1996,1997), Springers Handbuch der Volkswirtschaftslehre, Band 1 und 2, Heidelberg und New York: Springer.

WELFENS, P.J.J., YARROW, G. (eds., 1996), Telecommunications and Energy in Systemic Transformation, Heidelberg and New York: Springer.

GRAACK, C., WELFENS, P.J.J. (1996), Telekommunikationswirtschaft: Deregulierung, Privatisierung und Internationalisierung, Heidelberg und New York: Springer: (award-winning book).

WELFENS, P.J.J. (ed., 1996), European Monetary Integration, 3rd edition, Heidelberg and New York: Springer.

WELFENS, P.J.J. (ed., 1996), Economic Aspects of German Unification, 2. rev. and enlarged edition, Heidelberg and New York: Springer.

TILLY, R., WELFENS, P.J.J. (eds., 1995), European Economic Integration as a Challenge to Industry and Government, Heidelberg and New York: Springer.

WELFENS, P.J.J. (1995), Grundlagen der Wirtschaftspolitik, Heidelberg und New York: Springer.

JASINSKI, P., WELFENS, P.J.J. (1994), Privatization and Foreign Direct Investment in Transforming Economies, Aldershot: Dartmouth/Gower.

WELFENS, P.J.J. (1992), Market-oriented Systemic Transformation in Eastern Europe. Problems, Theoretical Issues and Policy Options, Heidelberg and New York: Springer.

KLEIN, M., WELFENS, P.J.J. (eds., 1992), Multinationals in the New Europe and Global Trade, Heidelberg and New York: Springer.

WELFENS, P.J.J. (1990), Internationalisierung von Wirtschaft und Wirtschafspolitik, Heidelberg und New York: Springer.

BALCEROWICZ, L., WELFENS, P.J.J. (1988), Innovationsdynamik im Systemvergleich. Theorie und Praxis unternehmerischer, gesamtwirtschaftlicher und politischer Neuerung, Heidelberg: Physica.