The Russian Currency Basket
The Rising Role of the Euro for Russia's Exchange Rate Policies

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Abstract:
In 2005, the Bank of Russia has made three announcements that indicate an increasing role for the euro in the Russian exchange rate strategy. On February 4 2005 the Bank of Russia announced that it has started to stabilize the daily volatilities of the Russian ruble against a dollar-euro currency basket. While the announced weight of the euro was 10% (90% dollar) by then, the Bank of Russia increased this weight to currently 40% within ten months. Bank of Russia representatives have stressed the intention to increase the weight of the euro the Russian currency basket further up to 50% but without indicating a specific time horizon. Other statements of Bank of Russia representatives have stressed the rising role of euro as intervention and reserve currency. This paper reviews the recent trends in Russian exchange rate strategy with a focus on the role of the euro.

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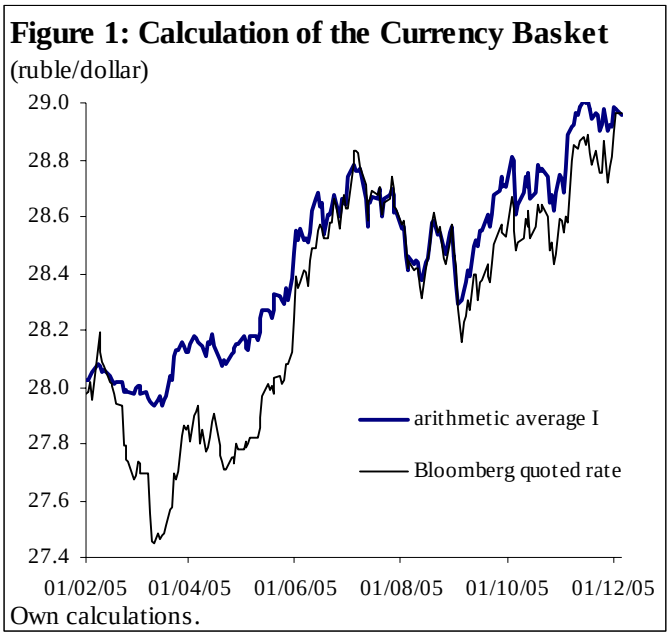
1. The Euro as Anchor, Reserve, and Intervention Currency in Russia

Since 2001, the Russian authorities have taken several steps in increasing the role of the euro in its exchange rate policies. In February 2003, the policy of a tightly managed float against the US dollar was complemented by the explicit objective to limit the real appreciation of the ruble against a multi-currency basket comprising the currencies of Russia's main trading partners. The euro area countries, and hence the euro, were given a weight of roughly 36%. Furthermore, there is evidence of a growing role of the euro as international currency in Russia. This refers to the role of the euro as anchor, intervention and reserve currency.

(1) The authorities diversified the currency composition of their increasing international reserve assets, with the share of the euro rising from less than 10% to 33% by Sept. 2005[1], thereby increasing the role of the euro as reserve currency.[2] This implies that in absolute terms, the Bank of Russia in the first week of September 2005 held euro denominated assets of 40 billion euros.

(2) On February 4 2005 the Bank of Russia announced that it has started to stabilize the daily volatilities of the Russian ruble against a dollar-euro currency basket. While the announced weight of the euro was 10% (90% dollar) by then, Bank of Russia representatives stressed the intention to increase the weight of the euro gradually up to 50%. Since then, the announced weight of the euro in the Russian day-to-day currency basket has been increased step-by-step to 20% (March 15), 30% (May 16), 35% (August 1) and 40% (December 4).

Figure 1: Calculation of the Currency Basket



Own calculations.

(3) On August 26 2005 the Bank of Russia announced that it had begun official ruble/euro operations in foreign exchange markets on August 25 in support of the currency basket and "*to wean the market off its fixation with the dollar.*"

Figure 1 plots the (Bloomberg quoted) ruble/dollar rate and ruble/dollar rate calculated based on a standard formula of

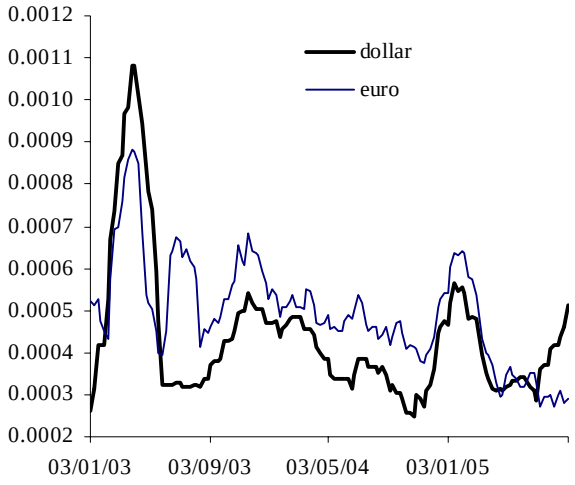
[1] The structure of reserves may mirror the composition of the currency basket.

[2] The shares of other currencies in Russia's foreign reserves are 60% US dollar and 7% British pound according to Alexei Ulyukayev on September 13 2005.

a currency basket (arithmetic average based on price notation). It suggests that in a first phase after the basket strategy was announced on February 1, the calculated basket did not correspond to the spot ruble/dollar rate. It followed ruble fluctuations against the dollar, but the Russian authorities allowed for more appreciation of the ruble than suggested by the basket formula. Yet, since mid June 2005 there has been a close relationship between the currency basket and the (Bloomberg quoted) market rate. This implies that the ruble exchange rate is stable against the basket since then.

The step to operate in and to further develop the ruble/euro foreign exchange market is in line with the strategy to strengthen the role of the euro in the Russian exchange rate strategy. In first half of 2005, the dollar made up about 99% of ruble/foreign currency trading volume at the Uniform Trade Session. As shown in Figure 2, in the past the bid-ask spreads in euro/ruble market have been considerably higher than in the ruble/dollar market. However, recently declining (increasing) bid/ask spreads in the ruble/euro (ruble/dollar) market may reflect increasing (decreasing) liquidity.[3] Since July 2005 bid/ask spreads in the ruble/dollar market have been substantially higher than in the ruble/euro market. Private agents who maintain business relations with the euro area or countries pegging their currencies to the euro may benefit from lower risk and transactions costs. The Russian monetary authorities seem decisive to increase the public and private use of the euro.

Figure 2: Ruble Bid/Ask Spreads
(as percent of average rate)



Source: Bloomberg. Two month weekly averages.

2. Operation of the Basket

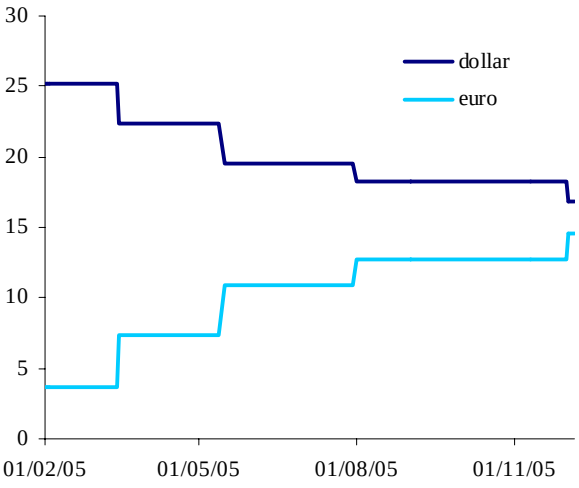
It is difficult to choose the optimal composition of the currency basket. Traditionally international trade has been the dominant determinant of a basket's currency structure. However, as stressed by First Deputy Chairman Ulyukayev, a purely trade weighted currency basket would give only a small weight to the US dollar of about 5%, because Russian trade linkages with the US are weak. If dollarization of international payments flows (invoicing)[4] is considered, the US

[3] In June 2005, in the MICEX Currency Market Section, trading began in ruble/euro instruments in accordance with new rules which enabled to extend the time of trading, launch new euro instruments and adopt risk management systems similar to those used in trading the US dollar.

[4] For instance, most of trade with (East) Asia as well as intra-CIS trade is likely to be invoiced in dollars (McKinnon and Schnabl 2004, Schnabl 2005b).

dollar weight would increase to 50%.[5] This number corresponds to the target for the gradual increase of the euro weight in the Russian currency basket as officially announced in early 2005. In addition, as outlined in section 3, also financial flows and possibly considerations about macroeconomic stabilization may matter in determining the weights of the basket.

Figure 3: Fixed Quantities
(units of dollars and euros)



Own calculations.

Given the publicly announced weights there are three ways of calculating a basket (Takagi 1986). The basket can be compiled using geometric averages, arithmetic averages based on price notations against the reference currency (arithmetic average I) as well as arithmetic averages based on volume notations (arithmetic average II).[6] The geometric calculation method has the advantage of leaving the announced weights unchanged. In contrast, arithmetic averages lead to "de facto" varying weights while the quantities of reference currencies in the basket remain constant. According to the Bank of Russia, it uses the arithmetic weighted average based on price notations (arithmetic average I).

This implies the following procedure: (1) The basket currencies and the specific weights – by 15 December 2005 40% euro and 50% dollar – are announced. (2) Given the initial exchange rates of ruble and euro in price notation against the dollar (as the reference currency) the quantities of each currency in the basket are determined. These quantities depend on the announced weights as well as the initial exchange rates of the domestic (ruble) and basket currencies (euro and dollar) against the reference currency (dollar) in price notation in period t_0.[7] With $x_\$$ and $x_€$ corresponding to the quantities of dollar and euro in the Russian currency basket the following formulas apply:

$$x_\$ = \frac{0.65 * \frac{xRUB}{USD_0}}{1} \text{ and} \qquad (1)$$

[5] In specific, oil and gas exports which make up over 50% of Russia's exports are overwhelmingly invoiced in US dollar.

[6] An illustrative example is provided in the appendix. The differences in the calculations based on the three averages (geometric, arithmetic I, arithmetic II) are marginal for the new Russian currency basket.

[7] t_0 corresponds to the day when the basket operations were started. Here February 1 2005.

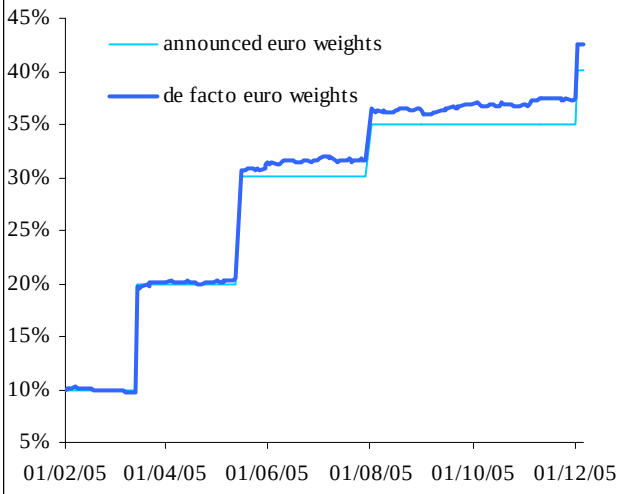
$$x_{€} = \frac{0.35 * \frac{xRUB}{USD_0}}{\frac{xEUR}{USD_0}}. \qquad (2)$$

The basket will contain $x_{\$}$ units of dollars and $x_{€}$ units of euros. These quantities remain unchanged (fixed quantities) until the officially announced weights are changed. The fixed quantities for the Russian euro-dollar basket are shown in Figure 3.[8]

(3) Based on the fixed quantities, the value of the domestic currency in terms of US dollar (in price notation) can be calculated as the sum of the two components $x_{\$}$ and $x_{€}$ multiplied by the exchange rate of the basket currencies against the dollar respectively (price notations). While the multiplier for the dollar as the reference currency is 1 (see Table 1), the value of the basket changes due to exchange rate changes between euro and dollar. The respective announced and de facto weights of the euro are shown in Figure 4. As observed since March 2005, the depreciation of the euro against the dollar increased the de facto weight of the euro in the Russian currency basket while the major increase in the de facto euro weight was due to the upward adjustment of the announced weights.[9]

Figure 4: Euro Weights

(percent)



Own calculations.

An example for the calculation of a ruble currency basket on 2 August 2005 (with reference to 1 August) is shown in Table 1 summarising the discussion on the operation of the basket.

[8] One advantage of the fixed quantities (in comparison to the geometric average) is that a direct link to the forward market of the basket currencies is established. This may be important for Russia because domestic capital markets are underdeveloped and the foreign exchange risk of short-term payment flows therefore usually remains unhedged.

[9] The variability of the de facto weights of dollar and euro in the Russian currency baskets explain the assertion of First Deputy Chairman Ulyukayev at a press conference on 22 June 2005 that the weight of the euro in the Russian currency basket is higher than the—by then—announced 30%. The calculated value of 31.6% for June 22 is nevertheless considerably lower than the 35% mentioned by Ulyukayev.

Table 1: Calculation of the Ruble Exchange Rate Based on a Standard Basket for August 2, 2005

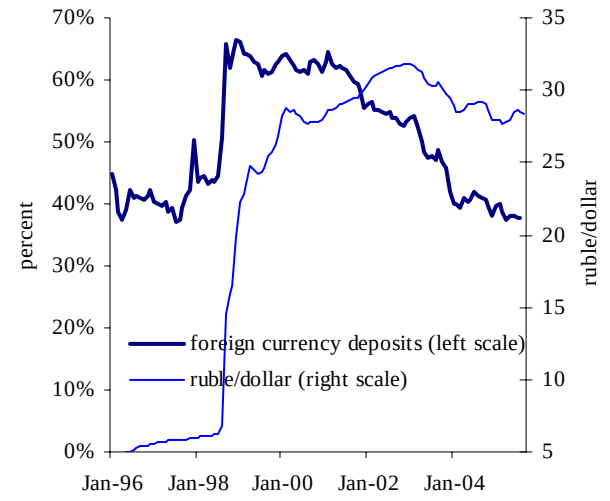
	Currency against $	Announced Weight	Fixed Quantity[&]	Exchange Rate	US Dollar Equivalent	De facto Weight	$ Rate Change
Aug 1	**Dollar**	*65%*	*18.19*	*1*	*18.19*	63.42%	
	Euro	*35%*	*12.78*	0.8211	*10.49*	36.58%	
	Ruble/Dollar				**28.68**		
Aug 2	**Dollar**	*65%*	*18.19*	*1*	*18.19*	63.44%	0
	Euro	*35%*	*12.78*	0.8202	10.48	36.56%	-0.04%
	Ruble/Dollar				**28.67**		-0.02%

Note: *Italics* indicate fixed values. [&] Calculated based on equation (1) and (2) using price notations. The fixed quantities since February 1 2005 are depicted in Figure 3.

3. The Rational for the Move to the Euro

Although the Russian monetary authorities have indicated that they might adopt an inflation targeting framework in the longer term, it is likely that the exchange rate will remain the main objective of Russian monetary policy in the short- to medium term.[10] Besides reasons related to international trade, capital markets matter:[11] First, underdeveloped capital markets do not provide instruments to hedge for the foreign exchange risk of international capital and payment flows. Second, an underdeveloped domestic government bond market hampers monetary policy making based on domestic assets.

Figure 5: Russian Foreign Currency Deposits
(percent of overall deposits)



Source: IMF.

In the past, exchange rate stability against the dollar has been in line with dollar invoicing of

[10] In a presentation of monetary policy in 1999-2005 the Bank of Russia is stating the intention to gradually scale down its presence on the foreign exchange market and to switch to a free float and full convertibility in 2007.

[11] The impact of underdeveloped capital markets on short-term and long-term exchange rate stabilization is elaborated by Eichengreen and Hausmann (1999) and McKinnon and Schnabl (2004).

raw material exports (oil and gas account for more than 50% of total Russian exports) and the dollarization of the financial system.[12] Beyond raw material exports, substantial parts of trade are likely to be invoiced in US dollar. External borrowing (and lending) by Russian companies and banks continues to be mainly dollar denominated.[13] Intra-regional network externalities in the use of the US dollar in the whole CIS enhanced the role of the US dollar as an anchor currency in Russia (and the CIS).[14]

The decision of the Russian monetary authorities to give a higher weight to the euro in its exchange rate strategy may reflect an increasing awareness of Russia's (geographical) position between the two major currency blocs, i.e. the dollar bloc[15] and the euro area as well as a number of Central and Eastern European countries pegging their currencies to the euro. In specific, a more substantial weight of the euro in the Russian exchange rate strategy can be motivated by the developments in the goods and capital markets as well as by macroeconomic stabilization.

As about 50% of Russian trade are with the EU25, a higher weight of the euro in the Russian exchange rate strategy would mitigate fluctuations of competitiveness for Russian exports and for domestic enterprises competing with imports from the euro area arising from fluctuations in the USD/EUR exchange rate. Besides international trade, capital flows have become an important determinant of exchange rate stabilization. Because financial linkages with the euro area are strengthening, more exchange stability against the euro could reduce the foreign exchange risk for short-term and long-term payment flows between Russia and the euro area (and the countries pegging to the euro), provided that Russian borrowers would denominate an increasing share of their external borrowing (and lending) in euro.

Furthermore, considerations related to domestic macroeconomic stabilisation might have influenced the decision to adopt a dollar-euro currency basket. Starting in 2001 a sharp decline of US interest rates to historically low levels was accompanied by global depreciation pressure on the dollar resulting in fast reserve accumulation and monetary expansion in the countries pegging their exchange rates to the dollar. In Russia, the Ukraine and other CIS countries dollar reserve accumulation contributed to accelerating inflation and thereby real appreciation starting

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[12] While there are no data available for Russia, Ukrainian data on trade invoicing (goods and services) show that in the first 9 months of 2004 about 80% of trade were settled in US dollar, about 6% in euro.

[13] Due to sizeable fiscal surpluses there has not been a sovereign bond issuance since the 1998 financial crisis.

[14] Schnabl (2005a) explores the network externalities of the common use of the dollar in the highly economically integrated CIS.

[15] The dollar bloc is defined as the US and the countries pegging their exchange rates to the dollar, in particular (East) Asia and the Middle East.

from 2004.[16] To this end, the adoption of a basket would be equivalent to diversifying the risk of undue monetary expansion in the anchor countries.

Finally, the partial shift towards the euro as an anchor currency is facilitated by the fact that since 2001 the sustained appreciation pressure on the ruble has contributed to the de-dollarization of the Russian financial sector (Figure 1).[17]

4. Implications

The increasing role of the euro for the Russian exchange rate policy has implications (1) for the Russian monetary and exchange rate policy, (2) for the ruble exchange rate behaviour against euro and dollar, as well as (3) for the international role of the euro.

(1) If Russia continues to follow a strict basket strategy as suggested by Figure 1 Russian monetary and exchange rate policy would be solely focused on one target, i.e. tight exchange rate stabilization against two currencies. In cases of conflict between the different targets, inflation targeting and real exchange rate targeting would be incompatible with the strict peg to the basket.

(2) The basket strategy with (further) increasing (decreasing) weights of euro (dollar) is equivalent to declining (increasing) day-to-day exchange rate volatility against the euro (dollar). As suggested by Figure 5 short-term day-to-day volatility and long-term fluctuations of the ruble have been closely intertwined in the past. For this reason we would expect less (more) long-term fluctuations of the ruble (level) against the euro (dollar).

(3) Despite the announcement by the Bank of Russia to operate in the ruble/euro foreign exchange market and despite the fact that a higher share of euro reserves facilitates occasional euro interventions, the euro may not be used systematically as a second intervention currency. For this purpose the Bank of Russia would have to establish firm intervention targets for both the euro and the dollar. Speculation would be invited when the dollar/euro rate is moving. Thus, the

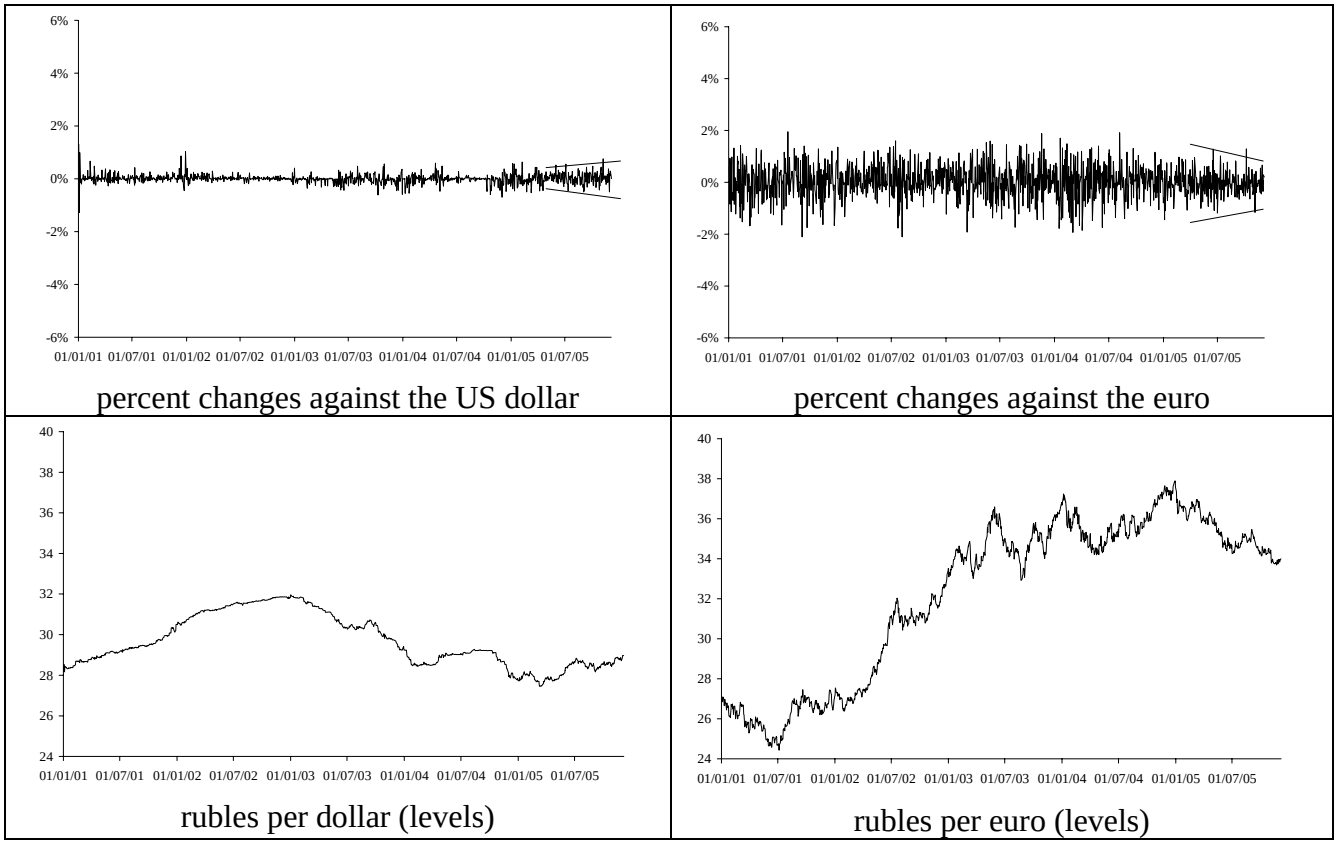
[16] The Russian monetary authorities sterilized parts of the monetary effects of foreign currency purchases by depositing oil revenues with the central bank (partly) via the so-called stabilization fund. Nevertheless, in emerging markets and developing countries complete sterilization of capital inflows is unlikely because this would require rising interest rates and therefore rising sterilization costs and economic slow down. Furthermore, rising interest rates would encourage new capital inflows which counteract sterilization. In the case of Russia, the sterilization of capital inflows via government deposits at the Bank of Russia has opportunity costs as remuneration is low.

[17] In the past, a high-level of deposit dollarisation as well as significant holdings of US dollar cash by Russian citizens was named by the authorities as an argument in favour of a US dollar focused exchange rate policy.

dollar is likely to remain the main intervention currency.[18] This does not exclude, however, that the euro may become the main intervention currency in the long-term if the trade and financial linkages with the euro area and the countries pegging their exchange rates to the euro continue to expand.

Nevertheless, the role of the euro as the main intervention currency is linked to the role of the euro as reserve currency. With the dollar as main intervention currency, interventions in US dollar increase the share of the US dollar in total reserves. To sustain the share of the euro in foreign reserves, the Bank of Russia has to acquire euro reserves either via dollar/euro transactions or—possibly increasingly—by direct ruble/euro transactions.

Figure 6: Daily Exchange Rates of the Russian Ruble 2001-2005



Source: Bloomberg.

The international role of the euro in Russia is likely to increase, as the Russian monetary authorities are using increasingly the euro as anchor, intervention and reserve currency. For the first time the euro is gaining ground as an international currency in a major country which does not strive to join the European Union. Russia has about million 145 inhabitants and the GDP

[18] Deputy Chairman Korishchenko confirmed on August 26 that the dollar remains the core of the local currency market "*where the situation determines the official exchange rate of the ruble and the scale of possible intervention operations by the Russian Central Bank*.".

amounts to 580 billions dollars, which is equivalent to the total GDP of all ten New Member States. Provided that transactions costs for euro-invoiced/denominated trade and capital flows decline, the private use of the euro is likely to increase.[19]

Beyond Russia, other CIS countries (133 million inhabitants, 173 billion dollars GDP) may follow the Russian exchange rate strategy to maintain intra-CIS exchange rate stability, as the CIS countries are highly regionally integrated (Schnabl 2005a).[20] For instance, while Ukraine is (still) adhering to a tight dollar peg, pegging to the euro or a currency basket is discussed. Private agents in the CIS countries can be expected to follow once the official exchange rate strategies have changed.

While strengthening trade and financial links with the euro area and other countries stabilizing their exchange rate to the euro might support such a trend, it could be counteracted by growing trade and financial flows with East Asia where international and intra-regional trade and payments flows are mostly dollar invoiced and dollar denominated. Alternatively the Asian countries may adopt similar baskets strategies (including the Japanese yen as an anchor currency) as put forward by Ogawa and Ito (2002) and Williamson (2005).

5. Conclusion

In contrast to the East Asian countries such as Korea, Thailand and Singapore that have also been pursuing basket strategies with undisclosed weights and small (but increasing) weights for other currencies than the dollar,[21] Russia has been transparent in announcing and implementing the currency basket. In line with the increasing role of the euro as an anchor currency, the role of the euro as reserve and intervention currency is on the rise. The transparency adopted by the Russian authorities rules out other targets of monetary policy making such as inflation targeting and real exchange rate targeting. The change in the strategy may provide considerable incentives to private agents to increase the use of the euro along the shift in its public use. This is likely to enhance the international role of the euro in both Russia and the CIS countries which may be inclined to follow the Russian exchange rate strategy to maintain intra-regional exchange rate stability.

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[19] In several Central and Eastern European countries, i.e. Bulgaria and Romania, shifts in official exchange rate policies have triggered moves in the private use of international currencies, from the US dollar to the euro.

[20] See the section on the CIS in the ECB Monthly Bulletin article of October 2004 on “Economic Integration in Selected Regions outside the European Union”.

[21] Some East Asian countries are equilibrating competitiveness between yen and dollar giving a weight to the Japanese yen up to about 20% (McKinnon and Schnabl 2004). Schnabl 2005b compares the exchange rate strategies in the CIS and East Asia. In contrast, China seems to maintain a tight peg to the dollar with reference to a basket of currencies.

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Appendix:

To calculate the parity of the ruble against the dollar (reference currency) the example refers to the intial weights of euro and dollar in the Russian currency basket, i.e. 10% and 90% respectively. The exchange rate of the euro in terms of one dollar is assumed to appreciate (depreciate) from 1 euro per dollar to 0.8 (1.2) euro per dollar. If the value of the basket before the euro/dollar exchange rate change is assumed 1 the new basket value can be calculated as shown in Table 2:

Table 2: Calculation of Currency Baskets based on Different Averages

Method	**Formula**	**Degree of Appreciation**	**Degree of Depreciation**
Geometric average	$(1^{0.9})*(0.8^{0.1}) = 0.9778$	2.21%	1.84%
Arithmetic average I	$(1*0.9)+(0.8*0.1) = 0.9800$	2.00%	2.00%
Arithmetic average II	$\frac{1}{\left(\frac{1}{1}*0.9\right)+\left(\frac{1}{0.8}*0.1\right)} = 0.9756$	2.44%	1.69%

As shown above the “de facto” weights of the basket currencies would change differently with respect to the respective exchange rate changes.