International Capital Markets and Exchange Rate Stabilization in the CIS and East Asia

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Abstract:
Although most CIS and East Asian countries are *de jure* classified as free floaters, they *de facto* pursue (tight) dollar pegs. This paper emphasizes dollar denomination of short-term and long-term payment flows as reasons for exchange rate stabilization. Based on the analysis of "competitive depreciations" and "competitive appreciations" among the CIS and East Asian currencies it is argued that the adherence to a common external anchor currency enhances macroeconomic stability. Finally, the potential of euro and ruble (CIS) as well as yen and yuan (East Asia) to challenge the dollar as anchor currencies in the respective regions is explored.

Keywords: CIS, East Asia, Informal Dollar Standard, Liability Dollarization, Asset Dollarization, Competitive Depreciation, Competitive Appreciation, Exchange Rate Systems.

JEL: F31, F32

1. Introduction

In 1997/98 a wave of financial and currency crisis hit both East Asia and the Commonwealth of Independent States (CIS). Both regions suffered from the collapse of dollar pegs, toppling financial sectors and deep recessions. The following discussion about crisis prevention focused on more flexible exchange rate regimes to avoid misalignments and sharp adjustments of macroeconomic fundamentals (Fischer, 2001).

Despite the painful experiences of collapsing dollar pegs, exchange rate stabilization seems to have widely persisted. Calvo and Reinhart (2002) identify two reasons for this "*fear of floating*." When appreciation occurs, declining exports render governments unwilling to allow for exchange rate movements. In the face of depreciation liability dollarization endangers financial stability and therefore provides an incentive to stabilize exchange rates.

More recently, the discussion on the rationales for exchange rate stabilization has been extended to asset dollarization (McKinnon and Schnabl, 2004b) as the former East Asian crisis countries have become creditor countries. Similarly in the CIS, Russia and more recently the Ukraine have run sustained current account surpluses, thereby accumulating increasing stocks of international dollar assets. Because foreign currency denominated assets imply a risk for domestic investors when the exchange rate fluctuates this may explain the persistence of exchange rate stabilization in both East Asia and the CIS.

Building upon the East Asian experience (McKinnon and Schnabl 2004a, McKinnon and Schnabl 2004b) this paper tests for *de facto* exchange policies in the CIS and explores the rationale for exchange rate stabilization in both regions.

2. *De jure* versus *de facto* Exchange Rate Stability in East Asia and the CIS

The current discussion about adequate exchange rate policies for developing countries and emerging markets is based on the 1990s wave of currency and financial crisis in East Asia, Eastern Europe and Latin America. While the origins of the Russian crisis (1998) were to be found in country specific characteristics such as the economic structure, political failures in the transformation process, and fragile institutions, it had much in common with the previous Asian crisis (1997/98).

Like the East Asian countries, before the crisis Russia and its neighboring (CIS) countries had pursued fixed exchange rate strategies against the US dollar. The soft pegs to the dollar in combination with high interest rate differentials against the US favored

speculative capital inflows and a deterioration of the current account position. These made the economies vulnerable to capital outflows and depreciation.

In both the CIS and East Asia, the reversal of short-term capital flows and the resulting collapse of the dollar pegs brought losses to the balance sheets of financial institutions with un-hedged currency exposures. Rising interest rates, which originated from attempts to stabilize the exchange rates, accelerated the wave of bankruptcies. Similarly to East Asia—where the collapse of several dollar pegs originated in Thailand—the sharp depreciation of the Russian ruble triggered a wave of depreciations in most of Russia's small neighboring countries.

2.1. The Case for Exchange Rate Flexibility

The 1997/98 wave of speculative attacks against (soft) dollar pegs in the CIS, East Asia, and Latin America led to the conclusion that in emerging markets open to international capital flows soft pegs were prone to crisis. To avoid further turmoil the IMF recommended floating exchange rates to circumvent the gradual built-up of misalignments. Countries were recommended to either move towards flexible exchange rates or to pursue very hard pegs (currency boards or dollarization) (Fischer, 2001).

More specifically for the CIS, Keller and Richardson (2003: 11) have argued that "*excessively stable"* nominal exchange rates may reinforce dollarization and thereby make it difficult to maintain control over monetary aggregates in the face of large capital inflows. The consequence would be a serious misalignment of exchange rates and an increasing risk of crisis.

As in East Asia (McKinnon and Schnabl, 2004a) and in Central and Eastern Europe (Schnabl 2004), the IMF's bi-polar view of exchange rate arrangements is reflected in the CIS official exchange rate arrangements. Except for the hard peg of the Ukraine and the crawling peg of Belarus all CIS exchange rate arrangements are *de jure* classified as (managed or independently) floating.[1]

2.2. Pre- and Post-Crisis *de facto* Exchange Rate Stability

The official IMF exchange rate arrangements have been criticized as inaccurate. Several studies—for instance by Calvo and Reinhart (2002) and Levy-Yeyati and Sturzenegger

[1] Turkmenistan and Uzbekistan have adopted multiple exchange rate systems with the dollar as a reference currency.

(2002)—have argued that countries continue to stabilize exchange rates while they are officially labeled free or managed floaters.

To assess *de facto* exchange rate stability in the CIS, pre-crisis and post-crisis exchange rate stabilization are compared here. Based on Calvo and Reinhart (2002) two criteria are used: monthly percentage exchange rate changes and monthly percentage changes of official foreign reserves.[2]

Nominal exchange rate volatility is a robust indicator for exchange rate stabilization. Within a world of free international goods and capital movements exchange rate volatility—such as between the freely floating dollar and euro—is high. If, following Calvo and Reinhart (2002), the probability (P) is low (high) that monthly exchange rate changes fall outside an (arbitrary) band of, for instance, ±2.5%, the currency can be rated as fixed (freely floating). Further, standard deviations (σ) of the nominal exchange rates indicate exchange rate stabilization if they are significantly lower than for the euro/dollar rate.

Governments stabilize exchange rates by intervening in foreign exchange markets. To prevent the domestic currency from appreciating (depreciating), the monetary authorities sell (buy) domestic currency in exchange for dollars, euros or yen. The stronger the efforts to stabilize the exchange rate, the higher is the probability (P) that monthly changes in official foreign reserves fall outside a predetermined band of—say—±2.5%.[3]

The results for the CIS countries are reported in Table 1 for the period before (January 1995 to July 1998) and after (January 2000 to December 2004) the Russian crisis. Similar to East Asia (except Japan)[4] the CIS countries pursued dollar pegging before the 1998 Russian crisis. While exchange rate volatility for some CIS countries is high, both indicators for the volatility of foreign reserves before the crisis give a clear indication of exchange rate stabilization. The fluctuations of foreign reserves in all CIS countries are clearly higher than for the "benchmark" free floaters US and Euro Area.

[Table 1 about here]

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[2] Interest rates may serve as an additional tool for exchange rate stabilization, but they may be subject to considerable bias due to official interest rate controls.

[3] Official foreign exchange reserves not only change through foreign exchange intervention, but also for other reasons, such as government payments in foreign currency and interest receipts on foreign exchange reserves. Further, the dollar value of foreign exchange reserves is altered if the dollar exchange rate of third reserve currencies changes. Nevertheless high volatility of reserves is a clear indication for exchange rate stabilization.

[4] A detailed assessment of *de facto* exchange rate stability in East Asia has been conducted by McKinnon and Schnabl (2004a).

In addition, the volatilities of the nominal dollar exchange rates are significantly lower than for the euro/dollar exchange rate in Armenia, Azerbaijan, Georgia, Moldova and Russia. Higher exchange rate volatility in Belarus, Kazakhstan, the Kyrgyz Republic, Tajikistan and the Ukraine can be attributed to downward crawling pegs, since the volatility of reserves is high in these countries. Fully flexible rates would imply high exchange rate volatility in combination with low volatility of reserves.

During the Russian crisis—which started in August 1998—all CIS currencies, with the exception of the Armenian dram and the Azerbaijan manat, suffered from sharp (but controlled) depreciations (Figure 1). This is shown by a strong increase in the volatility of both nominal exchange rates and foreign reserves.[5]

There is evidence in favor of a return to dollar pegging in the CIS after the crisis. As shown in Table 1, we observe less nominal exchange rate volatility than before the crisis for eight out of ten currencies: the Armenian dram, the Azerbaijan manat, the Belarusian ruble, the Kazakhstani tenge, the Kyrgyz som, the Russian ruble, the Tajik somoni and the Ukrainian hryvnia which has hardly been pegged to the dollar since late 2001.

Only the Moldovan lei and the Georgian lari exhibit more *de facto* exchange rate volatility after the Russian crisis than they did before the crisis, but much less volatility than the euro against the dollar. High volatility of foreign reserves in all countries is line with this finding.

[Figure 1 about here]

As all CIS countries, including the multiple pegs of Turkmenistan and Uzbekistan, fix their exchange rates more or less tightly to the dollar, the CIS seems to be on an informal dollar standard similar to East Asia before and after the Asian crisis.

Post-crisis the CIS dollar standard seems to be even more homogenous than the East Asian dollar standard, as in post-crisis East Asia exchange rate volatility against the dollar seems to have increased (Figure 2). Some countries are reducing exchange rate fluctuations against the Japanese yen at lower frequencies while keeping their exchange rates fixed to the dollar at higher frequencies (McKinnon and Schnabl 2004a). In contrast, in the CIS the dollar is only anchor currency.

[Figure 2 about here]

[5] The estimation results are not reported for the sake of brevity.

3. International Capital Markets as Rationale for Informal Dollar Pegging in the CIS

McKinnon and Schnabl (2004a) provide the rationale for "*fear of floating*" in East Asia. They argue that most developing countries and emerging markets are not able to choose their exchange rate regimes exogenously based on specific targets of economic policy making (such as reducing the risk of speculative crisis). Rather, the regime choice is interpreted as endogenous, determined by several interdependent factors inherent to developing countries and emerging markets: the need for macroeconomic stabilization, dollar invoicing of international trade, and dollar denomination of international capital flows.

Although macroeconomic stabilization and international goods markets have been traditionally regarded as the main driving forces of exchange rate stabilization, international capital flows have gained increasing importance as explanatory variable for exchange rate policies (Eichengreen and Hausmann, 1999, McKinnon and Schnabl, 2004b).

3.1. Liability Dollarization in Debtor Countries

As put forward by Eichengreen and Hausmann (1999), the rationale for exchange rate stabilization in emerging markets springs from underdeveloped capital markets ("*original sin*").

Due to a long tradition of inflation and depreciation, banks and enterprises in emerging markets and developing countries cannot use their currencies to borrow abroad or to borrow long-term, even domestically.[6] International creditors lend in dollars or euros and thereby shift the exchange rate risk of open positions in foreign debt to the debtor countries. The consequence is either a currency mismatch—projects that generate domestic currency are financed with foreign currency—or a maturity mismatch—long-term projects are financed with short-term loans.

Even emerging markets with a quite long record of price stability seem hardly to be able to borrow internationally in their domestic currencies. Instead, global investors typically denominate their claims in very few major international currencies—mostly dollar and euro and to a lesser extent yen, British pounds and Swiss franc. This dollar (or euro) liabilization creates an incentive for exchange rate stabilization at both high frequencies, i.e., day-to-day or

[6] Recently in the new Central and Eastern European EU member states a long-term bond market in domestic currencies has emerged. This can be attributed to the fact that the new EU members have the unique opportunity to import the reputation of the European Central Bank credibly by anticipating EMU membership.

week-to-week exchange rate fluctuations, and low frequencies, i.e., month-to-month or year-to-year exchange rate fluctuations.

Exchange Rate Stabilization at High Frequencies

Original sin affects exchange rate stabilization in emerging markets at high frequencies (McKinnon and Schnabl, 2004a). Most international short-term payment transactions of emerging markets and developing countries are denominated in US dollars or euros. The degree of dollarization of payment flows can be assumed to be even higher in dollarized economies such as the CIS.

Keller and Richardson (2003) and Mongardini and Mueller (1999) provide evidence for a high degree of dollarization in the Kyrgyz Republic and other CIS economies including Russia and the Ukraine. Keller and Richardson (2003) find evidence for ratchet effects (hysteresis): Once a country has achieved a high degree of dollarization, it may persist even if inflation returns to moderate levels. Oomes (2003) observes payment dollarization in Russia for large household transactions as well as for intra-CIS trade.

Because domestic capital markets are underdeveloped and shallow, an active forward market in foreign exchange against the dollar—or euro—is for the most part non-existent. If hedging instruments are available, individual owners of dollar liabilities see the cost of forward cover, i.e. the premium on buying dollars forward with the domestic currency, to be too high. The foreign exchange risk of short-term capital transactions typically remains un-hedged.

The government can provide an informal hedge for private short-term capital transactions by keeping the exchange rate stable at a daily or weekly (high frequency) basis. If short-term exchange rate fluctuations are minimized, private banks and enterprises can repay their short-term foreign currency (dollar or euro) liabilities with minimal exchange rate risk. This compensates for underdeveloped private market in forward exchange.

As shown by McKinnon and Schnabl (2004a) for East Asia and by Schnabl (2004) for the Central and Eastern European countries governments tend to control exchange rate fluctuations of their currencies on a day-to-day basis. In order to assess high-frequency exchange rate volatility in the CIS, Figure 3 plots the daily exchange rate fluctuations of the CIS currencies against the dollar. The euro/dollar exchange rate, which is widely acknowledged as a freely floating currency, is used as a benchmark. If day-to-day exchange

rate fluctuations are significantly lower than for the euro/dollar rate it is taken as an indication of official exchange rate stabilization.

The individual currency plots in Figure 3 show very clearly that since the crisis high frequency exchange rate volatility is significantly lower than for the euro/dollar rate in all CIS currencies. For Kazakhstan, Russia and the Ukraine where longer time series are available, the stabilization process after the Russian crisis can be observed.

Similarly, as shown in Figure 4 the East Asian countries (except Japan) have tended to manage exchange rate fluctuations in their day-to-day operations. Exchange volatility against the dollar is significantly smaller for all East Asian countries (except Japan) than for the freely floating euro/dollar exchange rate.

[Figure 3 and Figure 4 about here]

Exchange Rate Stabilization at Low Frequencies

From a low frequency perspective the rationale for exchange rate stabilization in debtor countries originates in long-term liability dollarization. If net debt is denominated in foreign currency—long-term exchange rate stability is equivalent to reducing default risk on balance sheets (Eichengreen, Hausmann and Panizza, 2003a, 2003b).

Exchange rate fluctuations affect the servicing and repayment costs of foreign currency debt in terms of domestic currency. In specific, sharp depreciations put the balance sheets at risk, possibly forcing indebted enterprises and financial institutions into default. Even low-frequency exchange rate fluctuations around a constant level incorporate a risk for the financial systems, as the increasing uncertainty is likely to be reflected in higher risk premiums on domestic interest rates.

Before the crisis in East Asia, the later crisis economies Indonesia, Korea, Malaysia, Philippines, Thailand had—based on sustained current account deficits—accumulated large stocks of foreign debt, denominated mostly in US dollars. When the dollar pegs collapsed the foreign liabilities became inflated in terms of domestic currency, leaving enterprises and financial institutions with high foreign currency exposures bankrupt.

To shield domestic enterprises and financial institutions against volatile risk in their balance sheets the government may control low-frequency exchange rate fluctuations.

Exchange rate stability enhances the stability of the domestic financial system which contributes to macroeconomic stability, lower (real) interest rates and thereby higher growth.

Empirical estimations by Eichengreen, Hausmann and Panizza (2003a) show that liability dollarization is prevalent in most emerging markets and developing countries which tend to be international net debtors. As shown in Table 2 all smaller CIS countries (except Russia and Ukraine) have run current account deficits within the time period with data available. Rising international dollar liabilities result from the fact that sustained current account deficits imply capital imports.

In addition to dollarization of foreign assets, Keller and Richardson (2003: 19) have observed liability dollarization in domestic CIS capital markets in form of dollar bank loans or mortgages. If a considerable part of domestic liabilities is denominated in dollars, banks become even more vulnerable to exchange rate fluctuations (Berg and Borensztein 2000: 9).

[Table 2 about here]

3.2. Asset Dollarization in Creditor Countries

While liability dollarization provides a rationale for exchange rate stabilization in the smaller CIS debtor countries it can not explain why Russia (and the Ukraine)—which are becoming, based on sustained current account surpluses, increasingly international creditors—are stabilizing the exchange rates of ruble and hryvnia against the dollar. Similarly, although all East Asian countries have transformed themselves into international creditors since their crisis, they have returned to exchange rate stabilization. Japan, which has accumulated large international dollar assets since the early 1980s, has tempted to stabilize the yen against the dollar (Hillebrand and Schnabl, 2003).

McKinnon and Schnabl (2004b) explain the rationale for exchange rate stabilization in creditor countries which are not able to lend in their domestic currencies. Due to underdeveloped financial markets, capital controls or even simply the fact that dollar assets seem to be a more reliable store of value than the domestic currencies, private investors find dollar assets more attractive than claims on foreigners denominated in their home currencies. Even Japan, which has a highly developed capital market, holds its international assets mainly in US dollars.

Inversely, the United States as the largest debtor country by far is disinclined to hold debts denominated in foreign currencies. The position of the US dollar as the world's prominent

international currency allows US private and public agents to borrow in domestic currency. The exchange rate risk of international lending is shifted to the creditors.

Exchange Rate Stabilization at High Frequencies

By fixing exchange rates at high frequencies the government can hedge the risk for private, short-term international lending. Potential market makers, such as banks, cannot easily cover transactions that involve buying the domestic currency forward for dollars because a convenient array of interest-bearing domestic bonds liquid at different terms to maturity is unavailable to hold.

The government can provide an overall hedge by minimizing exchange rate fluctuations on a daily or weekly basis. In specific for Russia and Kazakhstan, which are large exporters of raw materials and crude oil, these revenues are invoiced in US dollars. By minimizing exchange rate fluctuations on a daily basis as shown in Figure 3, the governments provide a hedge for short-term income flows, even if the private sector is net creditor.

Exchange Rate Stabilization at Low Frequencies

At low frequencies, the motivation for exchange rate stabilization by international creditor countries can be linked to the perception of risk by private and public holders of net foreign currency assets. For instance, as shown in Table 2, Russia has run current account surpluses for most of the past decade that amount to roughly 200 billion US dollars. The current account surpluses are even more substantial in East Asia where all countries are running saving surpluses at least since the Asian crisis (Table 3). The net international assets of Japan, which has run current surpluses since the early 1980s, are estimated 1.5 trillions dollars. These stocks of international assets are overwhelmingly held in US dollars, for a considerable part in US government bonds.

[Table 3 about here]

In addition, and in contrast to East Asia, even Russia's domestic assets are partially held in US dollars. Keller and Richardson (2003: 19) distinguish asset dollarization in the form of dollar-denominated bank deposits (deposit dollarization) or holdings of dollar cash (currency

dollarization). This makes Russia even more vulnerable to appreciations of the domestic currency.

If private Russian (Chinese or Japanese) investors accumulate their surplus current account earnings[7] in US dollars, they become anxious about appreciations of the domestic currency because their dollar assets would loose value in terms of domestic currency. This "*fear of appreciation*" may be compensated by higher interest rates in the debtor country as suggested by the open interest rate parity.[8] Yet with varying interest rates in the anchor country the perception of risk may change and runs into the domestic currency may occur. The depreciation pressure on the anchor currency may become sustained if inflation expectations in the anchor country rise.

Oomes (2003) argues for Russia and the Ukraine that in highly dollarized economies expected appreciation may cause runs into domestic currency and thereby de-dollarization. Once private investors decide to repatriate their international assets—or decide to convert domestic dollar assets into domestic ruble, yuan or yen assets—the governments may worry because the appreciation of the domestic currency will erode the competitiveness of the domestic export industry.

The upshot is that the governments in East Asia and the CIS may find it worthwhile to dampen appreciation pressure by foreign exchange intervention. Through the official dollar purchases private foreign assets are substituted by public foreign assets while the exchange rate is kept at levels which are perceived to be safe for domestic export enterprises and financial institutions.

As a result we observe a fast built-up of foreign reserves in both East Asia and the large CIS creditor countries Russia and the Ukraine (Figure 5 and Figure 6). In particular, since early 2002 when the dollar started its sustained depreciation against the euro, the foreign reserves have increased even faster.

[Figure 5 and Figure 6 about here]

4. Network Externalities of Common Informal Anchors

As shown above, liability and asset dollarization provide a strong incentive for any individual country in the CIS and East Asia to peg their exchange rate to the dollar. Driven by the

[7] The accumulation of liquid dollar assets can be accelerated by large FDI flows.

[8] Such an interest rate differential in combination with yen appreciation has been observed between Japan and the US for more than two decades.

increasing US demand for international goods and capital an increasing number of emerging markets are transforming themselves into international creditors. Hard or soft pegs to the dollar reduce the risk of short-term and long-term international lending thereby contributing to the macroeconomic stability of any individual creditor country.

Frankel (1999) has argued that no single currency regime is right for all countries at all times. Yet uncoordinated exchange rate strategies within a group of highly economically integrated countries or of countries competing in the same export markets may hinder intra-regional trade and disturb macroeconomic stability.

4.1. Intra-Regional Trade

Oomes (2003) attributes the persistence of dollarization in the CIS to domestic and international network externalities in the use of US dollars. As trade flows in all CIS countries are denominated in dollars, trade invoicing in dollars reduces the transaction costs for intra-regional trade.

McKinnon and Schnabl (2004a) argue that for East Asia the common adherence to the dollar has enhanced East Asian trade linkages by reducing transaction costs for intra-regional trade flows. Exchange rate stability against the dollar is argued to be more important for the intra-East Asian trade than for trade with the anchor country.

Figure 7 shows the regional composition of CIS exports in comparison to East Asian exports with focus on exports to the US, the EU25 and intra-CIS trade. For the CIS countries, much like in East Asia, the motivation for dollar pegging does not primarily arise from strong trade ties with the United States. Exports to the US as a percentage of overall exports range from close to 0% for Tajikistan up to 8% in Armenia.

In contrast, intra-regional exports account for about one third of total CIS exports and to about 50% of East Asian exports. By jointly pegging their currencies to the dollar, the CIS and East Asian countries create a zone of intra-regional exchange rate stability which reduces transaction costs for intra-regional trade and thereby payment flows.

[Figure 7 about here]

4.2. Macroeconomic Stability

Due to the fact that both the CIS and East Asia are informal (and not institutionalized) dollar standards, they are far from having achieved maximum intra-regional exchange rate stability. While all CIS and East Asian countries stabilize exchange rates against the dollar, the

individual countries have opted for different degrees of exchange rate stabilization (section 2). The Ukraine, China, Hong Kong and Malaysia have chosen hard pegs to the dollar, Russia, Kazakhstan, Moldova, Korea, Taiwan and many other smaller CIS and East Asia countries have allowed for more flexible (soft) pegs. Small countries at the peripheries such as Belarus and Indonesia still allow considerable depreciations of their currencies.

4.2.1. Competitive Depreciations

The choice of different degrees of exchange rate stability within economically integrated regions may interfere with the macroeconomic stability of the region, in particular if exchange rates of large countries fluctuate. Given close economic linkages and competition in third markets (such as the US for East Asia and the Euro Area for the CIS) secular depreciations of individual currencies cause deflation in neighboring countries. The incentive to let the currencies depreciate as well increases. If "beggar-thy-neighbor depreciations" spread around a highly economically region crisis may be the result.

This effect will be more pronounced the larger the countries, which opt for depreciation, the larger the number of the depreciating currencies, and the more open the countries, which are affected by depreciation. In pre-crisis East Asia the depreciation of the Japanese yen against the US dollar eroded the international competitiveness of Japan's small neighboring countries (McKinnon and Schnabl, 2003), thereby contributing to the outbreak of the crisis and sharp depreciations of the Thai baht, the Korean won, the Indonesian rupiah, the Malaysian ringgit, and the Philippine peso (Figure 2).

The depreciations of six East Asian currencies not only caused a deep recession in the crisis economies, but also in the neighboring countries Hong Kong, Singapore and Taiwan which were able to sustain their dollar pegs. The outcome was an unprecedented recession for both the crisis and non-crisis economies (except China).

While in East Asia the depreciation originated in a smaller economy (Thailand) and spread to only some members of the East Asian dollar club, during the Russian crisis the competitive depreciations originated in the—by far—largest economy of the region. Not surprisingly, the collapse of the Russian ruble in August 1998 was followed by depreciations of most smaller CIS currencies including the Ukrainian hryvnia. Only Armenia and Azerbaijan, where trade is strongly focused on the euro area (**Fehler! Verweisquelle konnte nicht gefunden werden.**), were able to avoid the collapse of their dollar pegs.

To this end, the common adherence to one (external) peg will reduce the degree of competitive depreciations. Macroeconomic stability increases, the probability of crisis declines, and the growth potential is higher.[9] This insight can be seen as the main motivation for the creation of international currency arrangements such as the Bretton-Woods System in the 1940s or the European monetary integration process.

4.2.2. Competitive Appreciations

While competitive depreciations originate within a setting of a stable anchor currency and macroeconomic instability at the periphery, the inverse case (competitive appreciations) may apply if monetary expansion in the anchor country accelerates.

Let's assume a scenario where money supply in the anchor country is growing faster than in the countries at the periphery of an informal dollar standard. The monetary expansion—even if it does not translate immediately into increasing consumer price inflation—may affect inflation expectations. If private investors adjust their international portfolios, the anchor currency gets under (sustained) depreciation pressure.

Appreciation pressure on the domestic currencies can induce different policy reactions at the periphery. The monetary authorities may show benign neglect and allow for the appreciation of the domestic currency. Prices for exports in foreign currency rise and dollarized international assets loose value. The appreciation of the domestic currency can be neglected more easily if exports (as percent of GDP) are comparatively low and if international assets and liabilities can be issued in domestic currency.

Smaller, more open economies where growth depends strongly on exports may be concerned about the competitiveness of their export industries. Large international creditors such as Russia, China and Japan may become anxious about runs into the domestic currency, as sustained appreciation expectations may drive interest rates towards zero. The monetary authorities will be inclined to absorb (parts of) the domestic currency purchases (dollar sales) to prevent the domestic currency from appreciation.

During the 1990s, as shown in Figure 5, Russia and the Ukraine as well as all East Asian countries (McKinnon and Schnabl 2004b) accumulated massive international reserves through foreign exchange intervention. The build-up of official dollar reserves has accelerated since early 2002 when the dollar came under sustained depreciation pressure.

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[9] De Grauwe and Schnabl (2004) show for the Central and Eastern European economies that exchange rate stability against the euro can be associated with higher growth. This finding is even more robust if (former) high inflation countries are included into the sample.

Accelerating dollar purchases, as observed in the CIS and East Asia (Figure 5 and Figure 6), induce inflationary pressure on the economy because the domestic money supply expands. Inflation may emerge in different sectors of the economy. At an earlier stage, stock and real estate markets may react sensibly to the monetary expansion. Asset price bubbles may be the consequence. Later on—as currently observed in China, Russia and the Ukraine—consumer price inflation is likely to increase.

Faced with the danger of inflation and overheating, the governments at the periphery have two options. If, as is the currently the case in the Ukraine and China, the government is committed to a hard peg, the built-up of foreign reserves and the monetary expansion will be particularly fast. The only option to steer against overheating would be the sterilization of foreign exchange intervention.

To absorb the liquidity overhang, the monetary authorities may issue bonds and increase interest rates, providing the central bank has sufficient control over the banking sector. But inefficient banking sectors and underdeveloped financial markets may make it more difficult to tighten money supply. Because interest rate hikes will deteriorate growth prospects, the government may hesitate to slow down the economy.

In this environment it may be easier to let the currency appreciate in a controlled fashion on a monthly and yearly basis while keeping the exchange rate stable at high frequencies. The gradual adjustment of the exchange rate will slow down the growth of foreign reserves. The risk of inflation and overheating declines.

Once one country of the informal dollar standard has opted for appreciation the incentive for the others to follow increases. With the appreciation of, say, the Russian ruble the exports of the Ukraine to Russia and to third markets become more competitive. While the rising exports seem beneficial for the Ukraine initially, the additional growth stimulus may not be welcome in times of accelerating inflation.

Therefore, the Ukraine or China may decide to counteract inflation by letting its currency appreciate as well. This tendency may be enforced by mercantile pressure from trading partners, complaining about "unfair" competition if the exchange rate is kept "undervalued". This mercantile pressure is likely to originate in the anchor country where imports from the periphery increase as countries prevent the appreciation of their currencies (McKinnon and Schnabl, 2004b).[10]

[10] An exemplifying case study of such competitive appreciations is the collapse of the Bretton-Woods System in the early 1970s. The decision of the German central bank to abandon its parity against the dollar led to gradual appreciation of all central and northern European currencies. The joint appreciation of the European currencies which was institutionalized by the European (trade) integration process also included the Swiss franc which did not formally participate in the attempts to stabilize intra-EU exchange rates.

Patterns of competitive appreciations have recently emerged in both the CIS and East Asia. As shown in Figure 1, since early 2002 the Russian ruble, the Georgian lari, the Kazakhstani tenge, the Kyrgyz som and the Tajik somoni have started to appreciate against the dollar. In contrast, the Ukraine has adhered to its hard dollar peg and therefore faces higher inflation.

In East Asia, Korea, Taiwan, Japan and Thailand have allowed controlled appreciations of their currencies against the dollar since early 2002. China, which has maintained its hard dollar peg, faces the danger of overheating, while Japan and the US exert pressure on the Chinese government to let its currency appreciate. China resists the revaluation of the yuan to avoid negative impacts on its export industry thereby risking a hard landing. The overhang in money supply is partially absorbed by sterilization efforts.

5. Outlook: Alternatives to the Dollar as Anchor Currency in East Asia and the CIS

As shown in section 2 in both the CIS and East Asia, exchange rate stabilization against the dollar persists. An important rationale for stabilizing exchange rates originates in capital markets, i.e., the inability to borrow or lend in domestic currencies (section 3). Furthermore, as shown in section 4, the common adherence to one external anchor currency enhances regional macroeconomic stability.

Liability and asset dollarization also explains why local currencies are unlikely to challenge the dollar as an anchor currency. As capital markets in both the CIS and East Asia (except Japan) remain underdeveloped, and will not become sufficiently developed in the near future, the chances for the Russian ruble and the Chinese yuan to emerge as local anchor currencies are currently low.

But what about the yen in East Asia or the euro in the CIS? To provide an international (anchor) currency the respective country has to fulfill both "structural criteria" (large GDP, large trade volume and large capital markets) and "political criteria" (low inflation, moderate government debt and a freely floating exchange rate). Although the Japanese yen presently seems to have a more important role as anchor currency in East Asia than the euro for the CIS (section 2), the future prospects for the euro may be brighter.

Despite the large size of the Japanese domestic and export market and highly developed financial markets, Japan may currently not fulfill the political pre-conditions. The growth of money supply is high and volatile, while deflation persists. An unprecedented level of government debt among the OECD countries may signal higher inflation in the future. Japan seems unable to lend internationally in domestic currency. As Japanese monetary

authorities have tended to stabilize the yen against the dollar, there is less need for the smaller East Asian countries to stabilize exchange rates against the yen.

In contrast, the euro fulfills both the structural and political pre-conditions for an anchor currency for the CIS. The Euro Area constitutes a large (closed) economy, with a large volume of international trade and with highly developed capital markets. Inflation is low and government debt in the Euro Area has been (on average) comparatively moderate. Euro Area enterprises and financial institutions are able to lend and to borrow internationally in domestic currency. The euro is floating freely without noteworthy foreign exchange intervention.

Although presently the CIS countries have few incentives to re-peg their currencies to the euro due to a high degree of dollarization, this may change in the future as appreciation pressure on the CIS currencies contributes to de-dollarization (Oomes 2003). The incentive to re-peg the CIS currencies to the euro springs from trade linkages which are particularly strong for Russia, as by far the largest economy of region. If the ruble would be re-pegged to the euro, the smaller CIS countries would be obliged to follow in order to sustain the macroeconomic stability of their economies (see section 4).

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Table 1: Pre- and Post-Crisis CIS Exchange Rate Stabilization

	Exchange Rate ($)				Foreign Reserves ($)			
	P		σ		P		σ	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
Armenia	9.30%	3.85%	1.36%	0.97%	83.72%	34.69%	17.21%	3.48%
Azerbaijan	2.33%	0.00%	2.00%	0.21%	72.09%	61.22%	235.7%	8.12%
Belarus	42.86%	28.85%	4.59%	2.19%	86.05%	73.47%	17.23%	13.24%
Georgia	0.00%	5.77%	0.61%	1.26%	81.82%	63.27%	11.08%	6.59%
Kazakhstan	23.26%	1.92%	2.21%	0.72%	74.42%	81.63%	10.06%	5.65%
Kyrgyz Republic	18.60%	5.77%	2.95%	1.35%	82.86%	42.86%	19.87%	4.71%
Moldova	0.00%	7.69%	0.64%	1.37%	67.44%	57.14%	15.25%	5.06%
Russia	5.41%	0.00%	1.18%	0.78%	88.37%	75.51%	19.56%	5.36%
Tajikistan	55.81%	21.15%	15.18%	2.13%	77.78%	63.27%	20.16%	9.80%
Ukraine	23.26%	0.00%	3.37%	0.28%	76.74%	89.80%	21.33%	8.03%
US ($/€)	25.58%	32.69%	2.19%	2.59%	32.56%	30.61%	4.37%	2.43%
Euro Area (€/$)	25.58%	32.69%	2.19%	2.59%	n.a.	12.24%	n.a.	1.67%

Source: IMF: IFS. The indicators refer to percentage changes of monthly dollar exchange rates and foreign reserves. P marks the probability that the respective criterion falls outside the predetermined band. σ marks the standard deviation of the respective indicator. "**Pre**" indicates the Russian pre-crisis period from January 1995 up to July 1998. "**Post**" indicates the Russian post-crisis period from January 2000 up to June 2004. For Turkmenistan and Uzbekistan no data are available.

Table 2: CIS Current Accounts in Comparison to the US (1990-2003)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Percent of GDP														
Armenia	-2.3%	0.0%	-61.6%	-7.6%	0.9%	-13.4%	-18.5%	-16.6%	-20.8%	-16.6%	-14.6%	-10.0%	-6.6%	-7.1%
Azerbaijan	1.6%	1.0%	-16.6%	-12.2%	-10.3%	-13.2%	-25.9%	-23.1%	-30.7%	-13.1%	-3.6%	-0.9%	-12.3%	-28.3%
Belarus	0.5%	0.8%	5.4%	-12.1%	-9.1%	-4.4%	-3.6%	-6.1%	-6.7%	-1.6%	-2.7%	-3.5%	-2.6%	-2.9%
Georgia	-0.8%	-0.5%	-2.4%	-40.3%	-33.8%	-14.8%	-10.8%	-10.5%	-10.2%	-7.8%	-4.4%	-6.5%	-6.0%	-7.5%
Kazakhstan	-22.9%	-7.1%	-51.6%	-8.6%	-7.8%	-3.2%	-3.6%	-3.5%	-5.4%	-0.1%	4.2%	-4.0%	-3.5%	-0.2%
Kyrgyz Rep.	-4.2%	8.2%	-5.7%	-15.7%	-10.8%	-16.0%	-23.2%	-8.3%	-22.9%	-15.7%	-5.3%	-2.0%	-2.2%	-2.3%
Moldova	-0.6%	0.5%	-4.5%	-13.4%	-6.8%	-7.9%	-11.1%	-14.2%	-17.3%	-6.0%	-9.0%	-4.9%	-6.0%	-9.3%
Russia	-0.5%	0.5%	-1.4%	1.4%	1.9%	1.4%	2.1%	-0.6%	-0.8%	11.3%	17.2%	10.9%	8.9%	8.3%
Tajikistan	-10.8%	3.7%	-16.8%	-27.5%	-17.3%	-17.0%	-6.7%	-5.0%	-8.3%	-3.4%	-6.3%	-7.1%	-2.7%	-1.3%
Turkmenistan				13.2%	16.2%	-0.3%	0.1%	-21.6%	-32.7%	-14.8%	8.4%	1.7%	6.5%	4.6%
Ukraine	-0.4%	-1.7%	-3.0%	-6.1%	-5.9%	-5.2%	-2.7%	-3.0%	-3.1%	2.6%	4.7%	3.7%	7.5%	5.8%
Uzbekistan	-2.5%	14.4%	-6.6%	-7.8%	1.8%	-0.2%	-8.8%	-4.0%	-0.8%	-0.8%	1.6%	-1.0%	1.2%	8.9%
Billions of Dollars														
Total CIS	-15.85	1.54	-3.24	0.13	2.51	0.26	2.49	-8.91	-9.56	20.70	46.32	32.84	32.25	36.63
Total US	-78.97	3.75	-48.01	-81.99	-117.68	-105.22	-117.20	-135.98	-209.56	-296.82	-413.45	-385.70	-473.94	-530.67

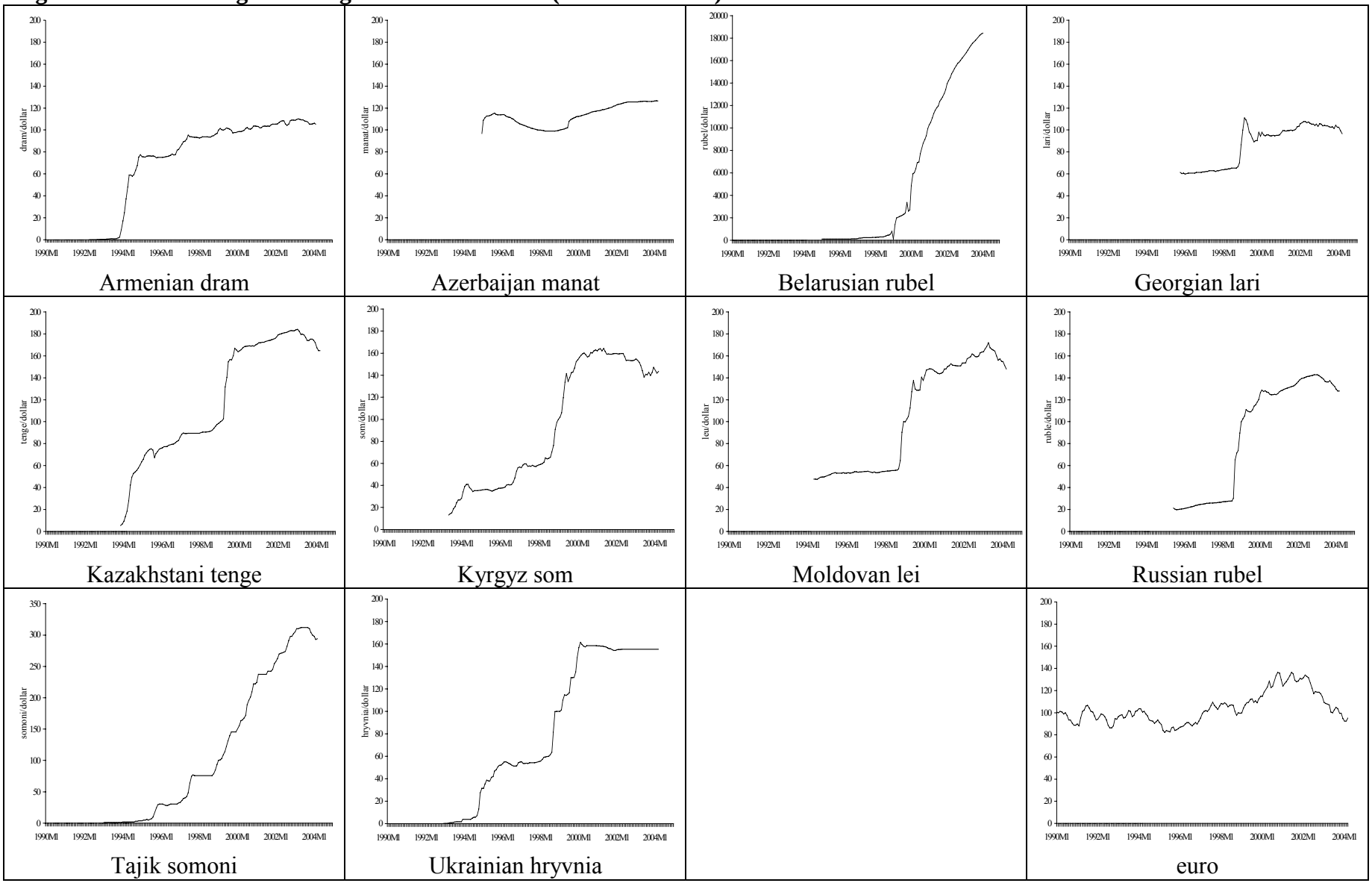
Source: IMF: World Economic Outlook. Shaded areas indicate current account surpluses.

Table 3: East Asian Current Accounts in Comparison to the US, 1990-2003

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Percent of GDP														
Japan	1.45	1.96	2.97	3.02	2.72	2.10	1.40	2.25	3.02	2.57	2.52	2.11	2.83	3.2
Singapore	8.45	11.32	11.87	7.24	16.17	17.67	15.16	15.58	22.59	18.60	14.48	19.00	21.50	30.9
Taiwan	6.96	7.11	4.14	3.14	2.66	2.07	3.91	2.43	1.29	2.78	2.86	6.36	9.09	10.0
Indonesia	-2.61	-3.32	-2.00	-1.33	-1.58	-3.18	-3.37	-2.27	4.29	4.13	5.32	4.88	4.52	3.9
Korea	-0.79	-2.82	-1.25	0.29	-0.96	-1.74	-4.42	-1.71	12.73	6.03	2.65	1.93	1.28	2.0
Malaysia	-1.97	-8.51	-3.67	-4.46	-6.06	-9.71	-4.43	-5.92	13.19	15.92	9.41	8.28	7.58	11.1
Philippines	-6.08	-2.28	-1.89	-5.55	-4.60	-2.67	-4.77	-5.28	2.37	9.48	8.24	1.84	5.38	2.1
Thailand	-8.53	-7.71	-5.66	-5.09	-5.60	-8.07	-8.07	-2.00	12.73	10.13	7.60	5.40	6.05	5.6
China	3.13	3.32	1.36	-1.94	1.28	0.23	0.88	4.09	3.30	2.11	1.90	1.46	2.86	2.1
Hong Kong									1.53	6.40	4.28	6.11	8.50	11.0
United States	-1.36	0.06	-0.76	-1.23	-1.66	-1.42	-1.50	-1.54	-2.34	-3.14	-4.19	-3.90	-4.59	-4.9
Billions of US Dollars														
Total East Asia	54.51	73.75	117.48	117.80	132.85	93.83	44.17	129.37	244.51	231.69	213.68	179.14	238.88	255.19
Total US	-78.96	3.69	-48.03	-81.95	-117.71	-105.19	-117.16	-127.68	-204.67	-290.87	-411.46	-393.74	-480.86	-541.80

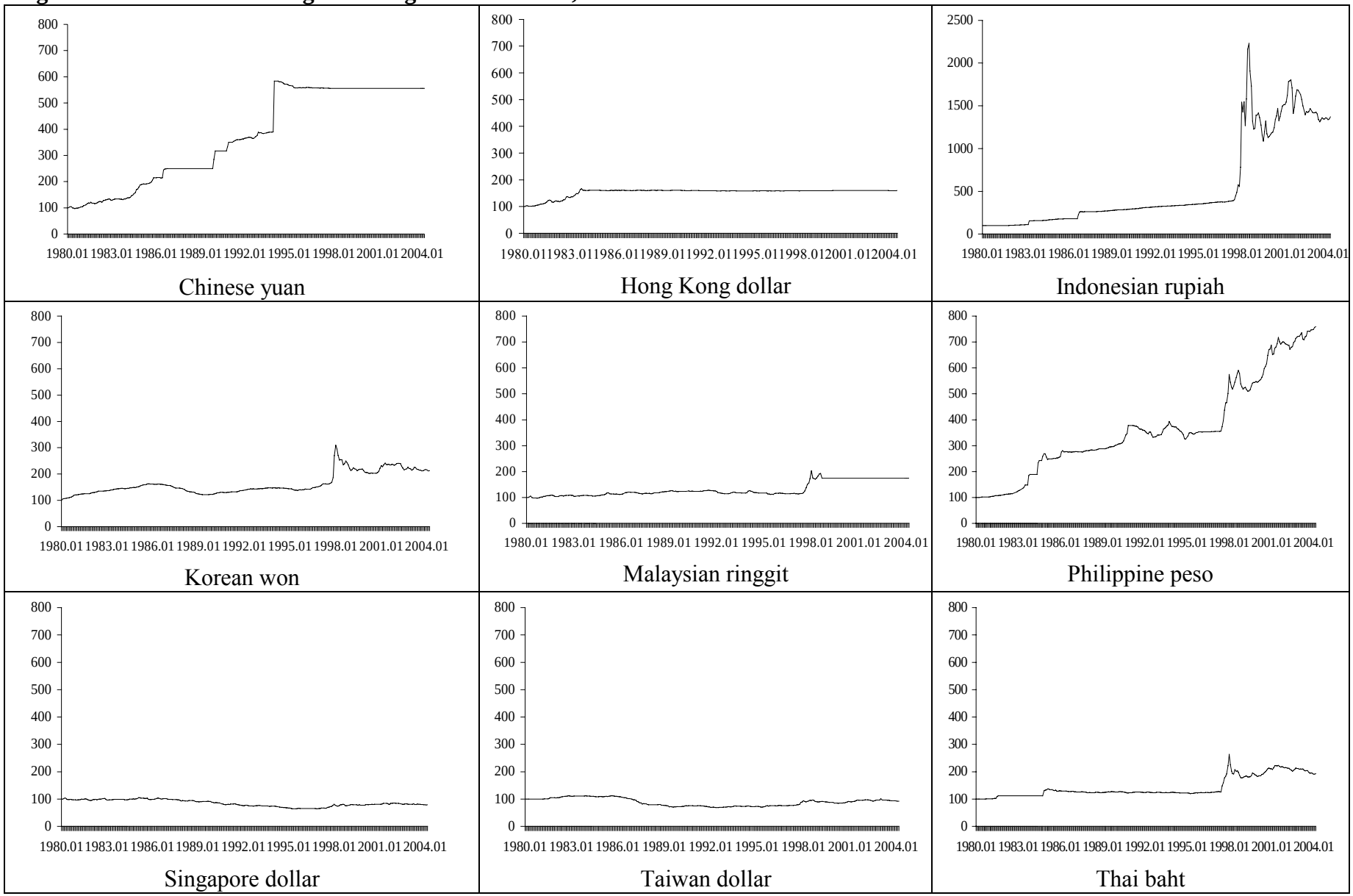
Source: IMF: World Economic Outlook. Shaded areas indicate current account surpluses.

Figure 1: CIS Exchange Rates against the US Dollar (1990:01-2004:6)



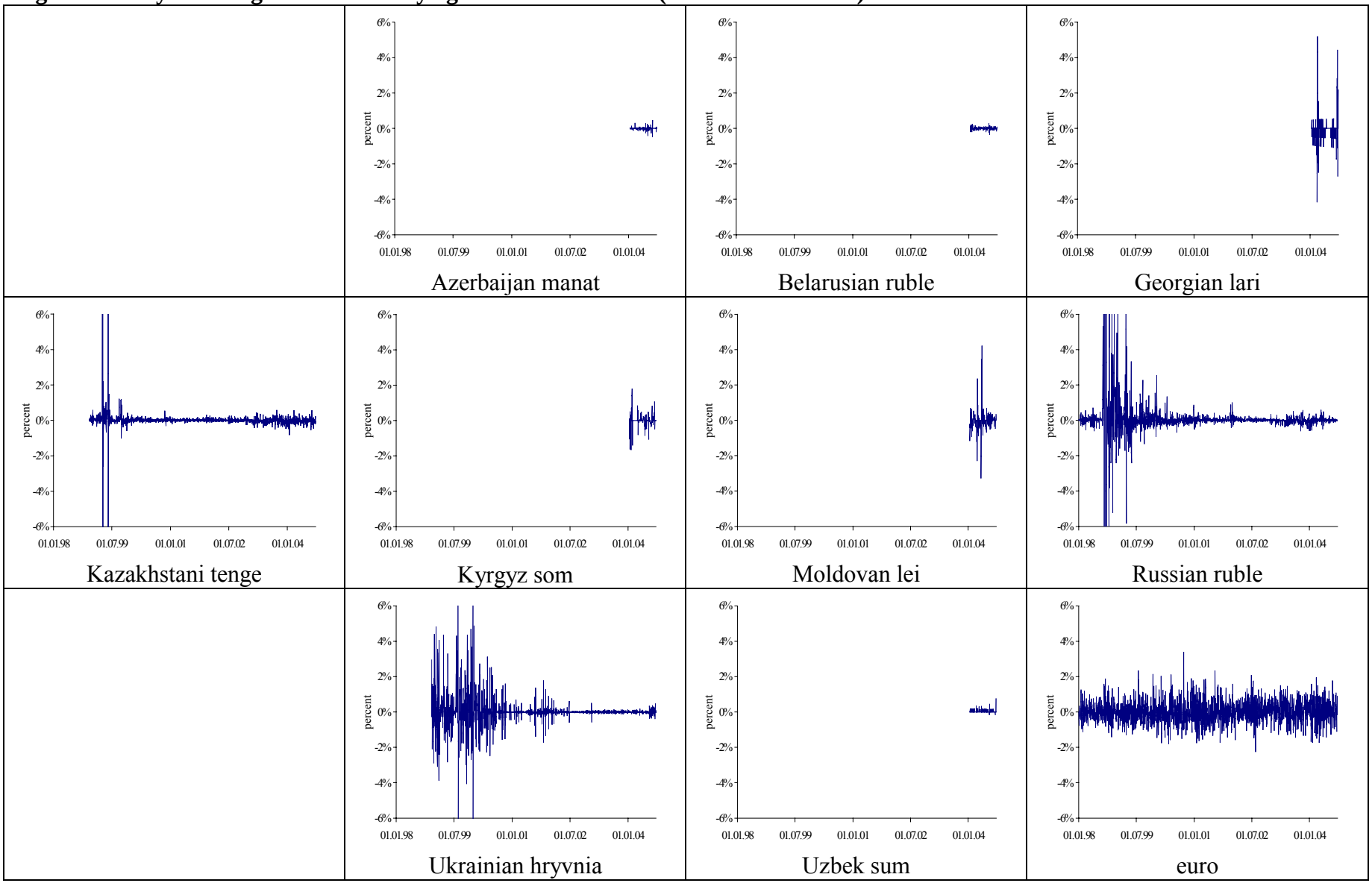
Source: IMF: IFS. Index 1998:01 = 100. Note different scales for the Belarusian ruble and the Tajik somoni.

Figure 2: East Asian Exchange Rates against the Dollar, 1980:01-2004:04



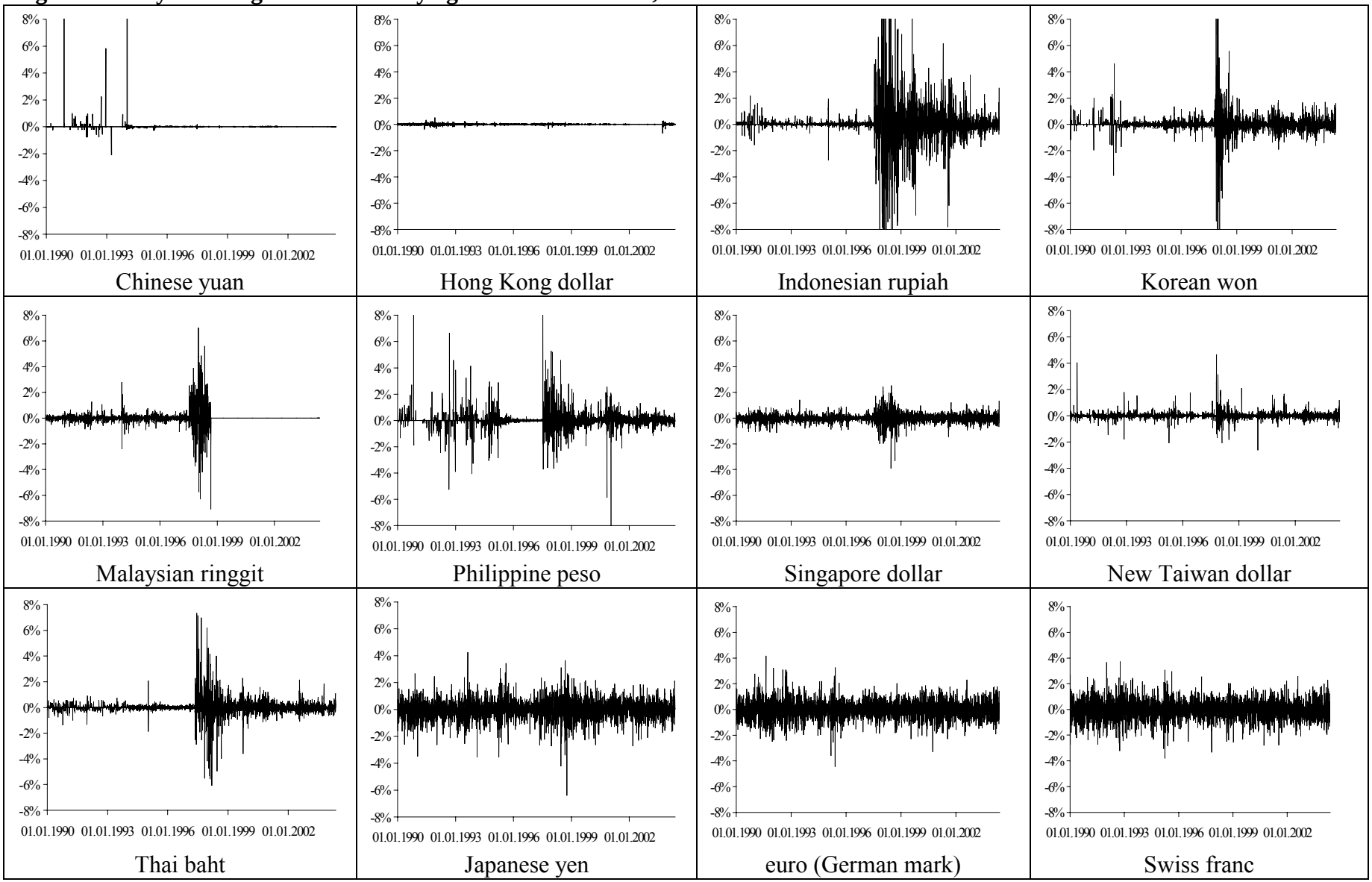
Source: IMF: IFS, Central Bank of China. Index 1980.01=100. Note different scale for Indonesia.

Figure 3: Daily Exchange Rate Volatility against the US Dollar (1.1.1998–30.8.2004)



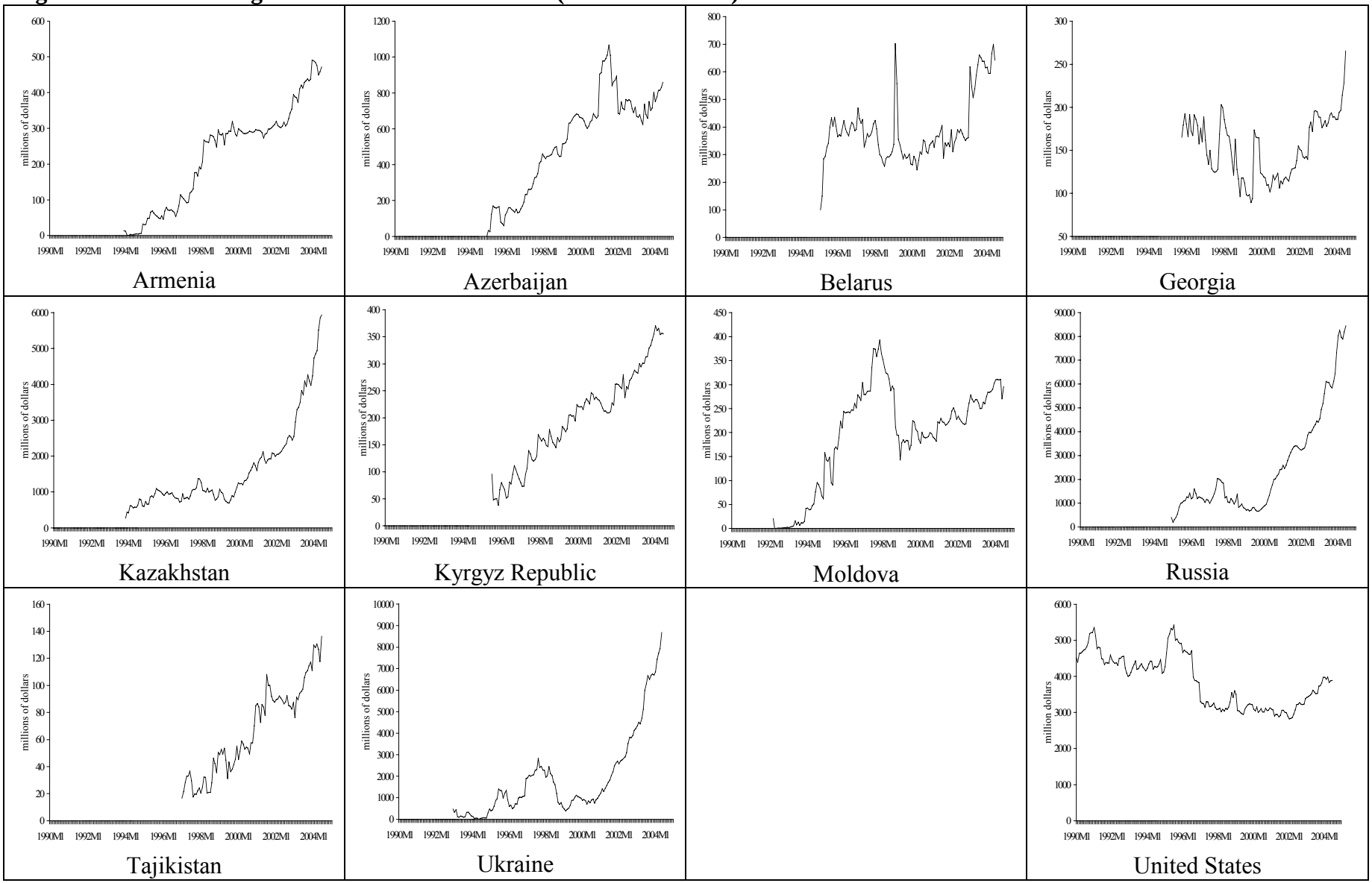
Source: Datastream. Volatility is daily percentage changes against the dollar.

Figure 4: Daily Exchange Rate Volatility against the US Dollar, 1990:01-2004:05



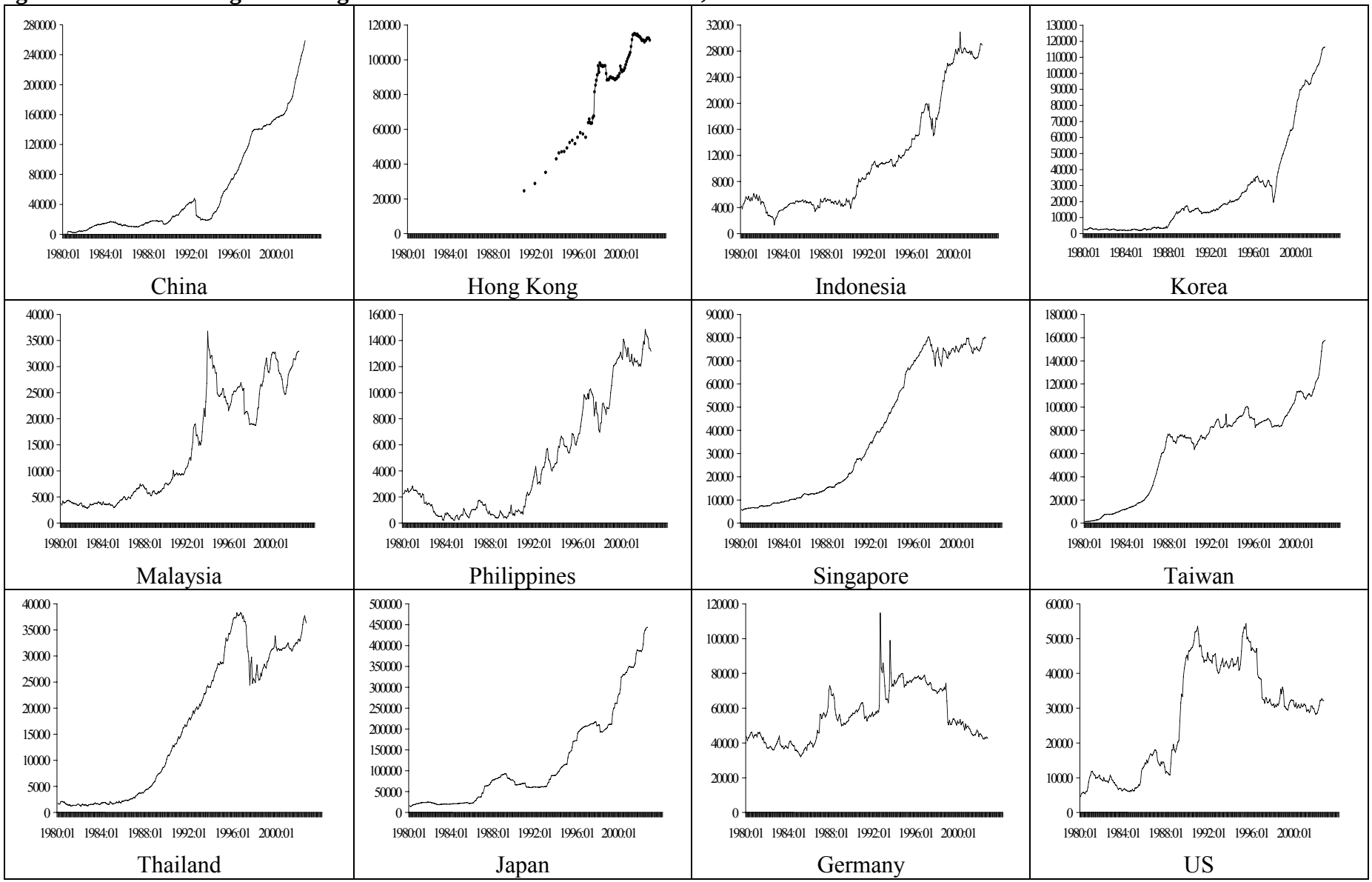
Source: Datastream. Volatility is daily percentage changes against the dollar.

Figure 5: Official Foreign Reserves of CIS Countries (1990:01-2004:06)



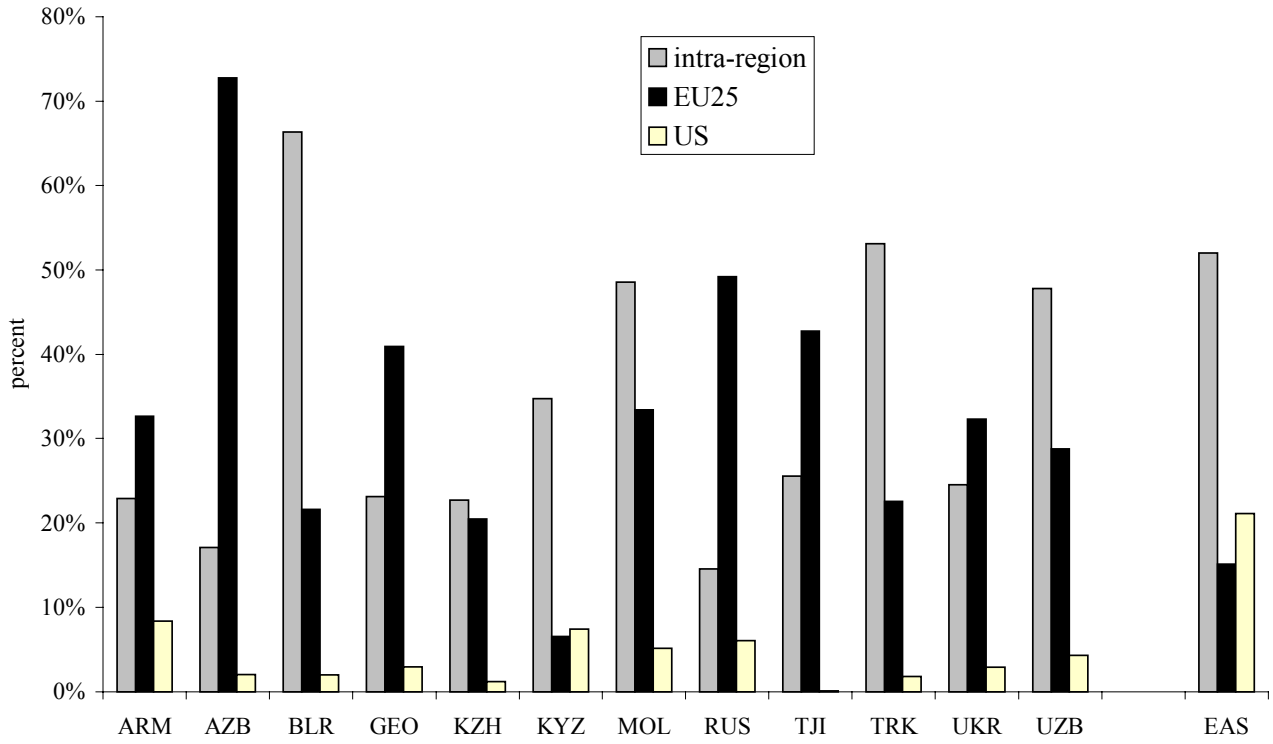
Source: IMF: IFS. Millions of dollars. Note different scales.

Figure 6: Official Foreign Exchange Reserves of East Asian Countries, 1980:01-2004:06



Source: IMF: IFS. Millions of dollars. Note different scales.

Figure 7: Exports by Region of the CIS Countries (2002)



Source: IMF: Direction of Trade Statistics. ARM = Armenia, AZB = Azerbaijan, BLR = Belarus, GEO = Georgia, KZH = Kazakhstan, KYZ = Kyrgyz Republic, MOL = Moldova, RUS = Russia, TJI = Tajikistan, TRK = Turkmenistan, UKR = Ukraine, UZB = Uzbekistan, EAS = East Asia (arithmetic average).