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Marek Dabrowski

Monetary policy regimes in CIS economies and their ability to provide price and financial stability

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Marek Dabrowski: Monetary policy regimes in CIS economies and their ability to provide price and financial stability

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Marek Dabrowski

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Abstract

Achieving price stability has been a serious challenge for CIS countries. In the first half of the 1990s, they experienced very high inflation or hyperinflation, which had originated in the perestroika period and following the dissolution of the ruble area. After the introduction of new currencies and stabilization programs in the mid-1990s, inflation moderated to two-digit levels. However, for lack of sufficient fiscal policy support, this partial progress did not succeed in preventing the financial crisis of 1998/99. The economic boom of the 2000s allowed for a return to macroeconomic stability with stronger fiscal fundamentals, but nevertheless proved insufficient to withstand the shock from the global financial crisis of 2008/09. The paper analyses the evolution monetary policy regimes of in the CIS countries over the decade of the 2000s and early 2010s and is based on the publicly available cross-country statistics and other information provided by the IMF. The paper compares financial openness in these economies both de jure and de facto. These findings will be tested against the empirical data on exchange rate movements and changes in central banks' international reserves. The paper concludes with a discussion on practical choices which CIS countries have in respect of their future monetary policy regimes.

Keywords: monetary policy, CIS, financial openness, inflation
JEL: E42, E58, P24, P52

Dr. Marek Dabrowski, Visiting Researcher at the Bank of Finland (BOFIT), Fellow at CASE – Center for Social and Economic Research

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1 Introduction

Macroeconomic stability has always been a serious challenge for the countries of the Commonwealth of Independent States (CIS)[1]. In the first half of the 1990s all of them experienced very high inflation or hyperinflation stemming from monetary and fiscal imbalances accumulated in the period of Gorbachev's *perestroika*, the messy dissolution of the ruble area (see Dabrowski, 1997, Odling-Smee and Pastor, 2001), populist policies, and sometimes violent conflicts. After the new national currencies were introduced in 1992−1993 and more effective anti-inflationary policies were launched in the mid-1990s, inflation moderated to a low two-digit annual level. However, this relative stability did not receive sufficient fiscal policy support, and most of the currencies crashed badly in the period of Russian and CIS financial crisis in 1998−1999.

The economic boom of 2000s allowed a return to macroeconomic stability, this time with stronger macroeconomic fundamentals in terms of fiscal and external balances (among others, rapidly growing official international reserves, and additionally − in oil-producing countries – a build-up of large sovereign wealth funds). Nevertheless, these better fundamentals proved insufficient to withstand the adverse consequences of the global financial crisis of 2008−2009: several CIS currencies again experienced devaluation/ depreciation. The entire region entered a period of increased macroeconomic uncertainty even though most of the countries recorded growth recovery in 2010−2012 and somewhat reduced their external and internal macroeconomic imbalances.

While monetary policy and monetary policy regime (MPR) are not the only determinants of a country's macroeconomic stability they do play a crucial role in ensuring stable domestic prices, building confidence in the national currency, and preventing the risk of financial instability. As to the first criterion, price stability, most CIS countries failed to bring inflation down to a low one-digit level even in the period of relative stability in the early and mid-2000s. Confidence in national currencies, though improving somewhat in 2000s, has never reached a high level (as demonstrated by the persistently high degree of dollarization) and has proved to be fragile in time of distress.

The question of the optimal MPR ('corner' solutions vs. intermediate/hybrid regimes) was hotly debated in the aftermath of the series of emerging-market crises in the

[1] In this paper the 'CIS countries' are the twelve former Soviet republics (all but the Baltics). Georgia formally left the CIS in 2009.

second half of the 1990s (see Dabrowski, 2004, for an overview of the debate). It was also discussed in individual CIS countries – in Russia, Ukraine, Kyrgyzstan and others (see e.g. Dabrowski, Paczynski and Rawdanowicz, 2002 in respect of Russia). Later, in the years of robust growth and relative macroeconomic stability, the issue gradually faded away from the economic policy agenda. MPRs were not even analyzed in systematic cross-country comparisons[2]. It was only the IMF, in its individual country reports, that periodically advised moving towards a more flexible exchange rate regime and inflation targeting (IT), albeit the advice was not necessarily followed by national monetary authorities. However, in the new macroeconomic circumstances brought on by the global financial crisis of 2008−2009 and the consequent state of turbulence, this debate is worth revisiting, which is the main purpose of this paper.

Our analysis concentrates on the evolution of MPRs in CIS countries over the decade of the 2000s and early 2010s and is based on the available cross-country statistics and other information provided by the IMF and other international institutions. The national statistical and information databases published by the respective central banks, IMF country reports, studies and analyses of other authors, and our own empirical observations[3] serve as additional sources of empirical material.

The analysis starts with the definition and classification of MPRs and a discussion of the range of MPRs from which individual countries can choose, depending on the degree of their financial and trade openness and other economic and institutional characteristics (Section 2). Then in Section 3 we analyze the degree of financial openness of CIS economies *de jure* (the degree of both current and capital account convertibility of individual currencies) and *de facto* (openness to private financial flows). Section 4 provides a comparison of MPRs in CIS countries and their evolution over the 2000s and early 2010s based on the IMF Annual Report on Exchange Arrangements and Exchange Restrictions. These findings will be tested against the empirical data on exchange rate movements and changes in central banks' international reserves (Section 5). Based on these findings we will try to assess in Section 6 the impact of MPRs on countries' inflation performance and crisis resilience, especially during the periods of global/ regional financial distress such as 1998−1999 and 2008−2009. This will conclude with a discussion on practical choices

[2] For the CIS, the last such systematic analysis was conducted by Keller & Richardson (2003).
[3] In 1990s and 2000s the author of this paper had a unique opportunity to participate in many policy research, policy advising and policy evaluation projects related to individual CIS countries and the CIS region as a whole.

which CIS countries have in respect of their future MPRs. Section 7 summarizes our findings and conclusions.

2 The choice of MPR in a world of unrestricted capital movements

2.1 Definition of MPR

The concept of MPR has various meanings in the economic literature (for a broader overview see Bordo & Schwartz, 1997). Some authors use this notion to characterize a broader institutional or even constitutional setting governing money supply and monetary policy, render it a synonym for monetary standard (see e.g. Leijonhufvud, 1984; Howels & Biefang-Frisancho Mariscal, 2006). At the other end of the spectrum, changes in MPRs are sometimes understood as changes in direction or priorities of monetary policy, e.g. in the degree of restrictiveness, or as a focus on certain economic objectives (see e.g. Davig & Doh, 2008).

Our use of this term, which falls between these two extremes, refers to a set of operational rules governing monetary policy in the contemporary system of fiat money. In the first instance, it describes the nominal anchor(s) used by a given central bank. We do not distinguish between the MPR (or monetary framework) and exchange rate regime, as is the case e.g. in the IMF Annual Report on Exchange Arrangements and Exchange Restrictions (see Section 4). We consider the exchange rate as an ordinary monetary policy instrument/ anchor and exchange rate policy as an integral part of monetary policy.

2.2 Typology of MPRs

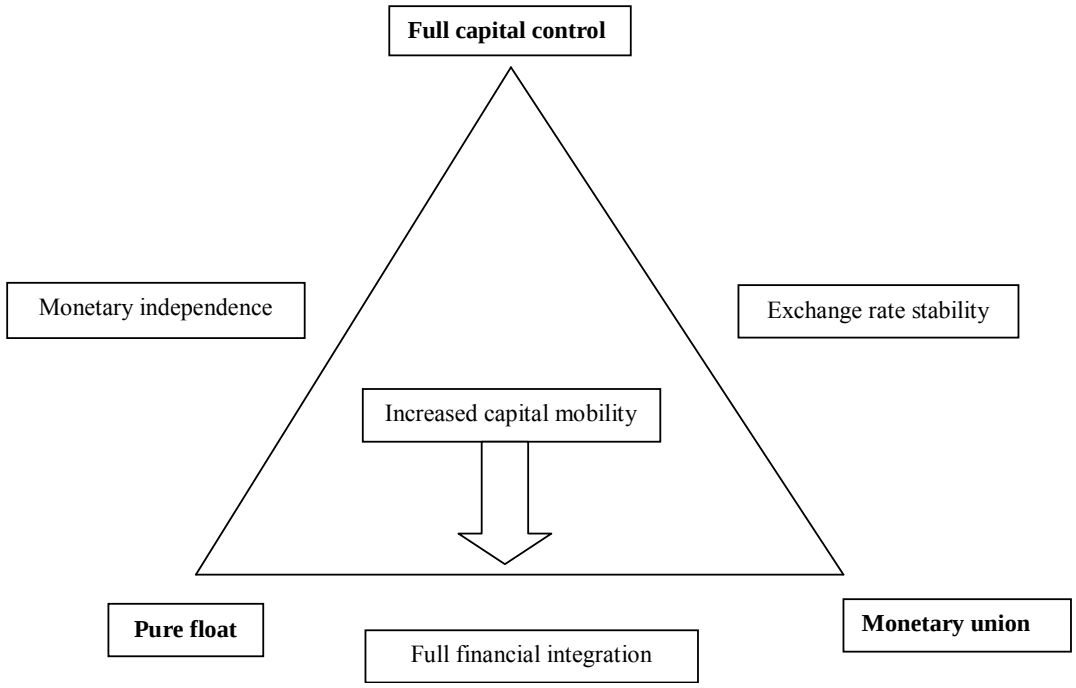
Our conception of MPR, presented above, is close to that of Mishkin (1999), who analyzes four basic types of MPRs: (1) exchange-rate targeting, (2) monetary targeting, (3) inflation targeting, and (4) monetary policy with an implicit but not an explicit nominal anchor.

Table 1 Typology of MPRs

Type of regime	Regime
Hard peg	Multilateral monetary union (common currency) Adoption (unilateral) of other country's currency Currency board
Hybrid regimes	Fixed-but-adjustable peg Horizontal band Crawling peg Crawling band Managed float
Free float	Money aggregate targeting Inflation targeting (IT) No explicit target or multiple targets

Source: Author's own analysis

Figure 1 The Impossible Trinity



Source: Frankel (1999)

However, our typology of MPRs is a bit more complex (see Table 1) and derives from an analysis of interrelations between exchange rate management and targeting other nominal variables (such as money aggregates or inflation) in a world of unrestricted capital movements. These interrelations are often described as the principle of the 'impossible trinity' (see e.g. Frankel, 1999), or the 'macroeconomic trilemma' (see e.g. Obstfeld et al, 2004). According to this principle, a country must give up one of the following three goals: ex-

change rate stability, monetary independence, or financial market integration (see Figure 1), it cannot have all three simultaneously.

Consequently, according to the above principle, in an environment of (largely) unrestricted capital movements there are two safe 'corner' solutions or regimes which a country can choose: either the so-called hard peg (two options: adopt another country's currency or set up a currency board) with no policy discretion as to money supply, interest rates and inflation target; or a free float, which entails such discretion. Between those two corners, there is a zone of hybrid (intermediate) regimes, such as fixed but adjustable pegs, crawling pegs, horizontal bands, crawling bands, and managed floats, in which policymakers try to target both exchange rates and other variables, e.g. money aggregates, interest rates, or inflation.

2.3 Strengths and weaknesses of MPRs

Based on a rich economic literature on MPRs, we now briefly analyze the pros and cons of them, starting with the hybrid ones and then moving to both corner solutions − free floating and hard.

2.3.1 Hybrid regimes

Hybrid regimes, which are used by many countries (including the entire CIS region – see below) and recommended by some economists[4], entail some flaws and serious risks[5].

First, they are unlikely to offer the advantages of either 'corner' solution, as they are unable to provide either the exchange rate stability associated with 'hard' pegs or the discretion in managing domestic liquidity that comes with free floats. On the contrary, hybrid regimes may create substantial exchange rate variability (actual or expected when the peg is not considered credible by economic agents) while making the money supply largely exogenous (beyond the control of the monetary authorities).

Second, such regimes are technically very difficult to operate because of fluctuating demand for money and changing market expectations. More generally, multiple objectives and multiple instruments cannot be easily coordinated and used in a fully consistent

[4] See Williamson (2000) who, however, also recommends some forms of capital control.
[5] See Dabrowski (2000 and 2004) for a broader discussion of the flaws and risks associated with hybrid regimes.

way. This is sometimes referred as the Tinbergen rule, which says that a given policy objective (in case of monetary policy – price stability) can be best achieved by using just one instrument. Moreover, short-term economic and political pressures may tempt policy makers to ignore tradeoffs between the two goals and attempt the impossible feat of stabilizing the exchange rate and pursuing discretionary monetary policies simultaneously.

Third, the transparency − and therefore credibility − of hybrid regimes is inferior to that of the corner solutions.

Thus it was hardly surprising that, with increasing financial globalization, hybrid regimes recorded several spectacular failures such the collapse of the Bretton Woods system in the early 1970s, the ERM crisis of 1992−1993, and a series of emerging-market crises in the mid and second half of the 1990s. The latter involved, among others, Mexico in 1994−1995 and the subsequent 'Tequila' crises in Latin America, then the Asian crisis of 1997−1998, the Russian and CIS crisis of 1998−1999 (see Section 6.3), Brazil in 1999, Argentina in 1999−2002, and Turkey in 2000−2001. There were also some smaller-scale episodes of macroeconomic and financial turmoil: Bulgaria in 1996−1997 and the devaluation of the Czech crown in 1997.

This dramatic experience lent additional weight to the argument that intermediate regimes were not a viable option (see e.g. Obstfeld & Rogoff, 1995; McCallum, 1999; Eichengreen & Hausmann, 1999; IIE, 1999). On the other hand, countries that have continued to employ extensive capital controls (e.g. China and India) seem to be able to operate hybrid regimes in a relatively safe manner.

2.3.2 Free float

This is the 'corner' solution that is often recommended[6] as the best alternative to hybrid regimes, especially the fixed-but-adjustable peg, after the currency crises in 1990s. Free float creates room for sovereign monetary policy and allows for controlling domestic inflation, which is largely exogenous when a country has an exchange rate target. Such a regime is institutionally compatible with central bank independence; under the opposite 'corner' solution (hard peg), central bank independence becomes irrelevant). It allows the economy to adjust smoothly to both nominal and real external shocks.

[6] See e.g. Berg, Borensztein & Mauro (2002) and Corbo & Schmidt-Hebbel (2001) who recommended an IT strategy based on free floating in Latin America in the early 2000s.

However, its adoption is associated with numerous challenges, both strategic and operational.

First, if monetary policy of a given country suffers from a lack of credibility (e.g., due to fresh high-inflation memory or chronic inflationary inertia), which usually manifests itself in a high level of actual dollarization, high interest rates will be needed for a prolonged period of time to restore confidence and bring inflationary expectations down (in the absence of a firm exchange rate anchor).

Second, for the small economies with high exposure to foreign trade, a floating exchange rate means additional transaction costs and competitiveness uncertainty stemming from exchange rate-related risk.

Third, in countries with a shallow domestic financial market, any larger financial transaction with a non-resident (e.g., privatization deal) may significantly influence the nominal exchange rate. The same applies to changes in terms of trade, especially in countries which are dependent on exports of primary commodities.

These three challenges are sufficient to explain the 'fear of floating', the term first used in economic literature by Calvo and Reinhart (2000)[7]. We will return to this issue in the context of actual MPRs in CIS countries in Section 5.4.

If monetary authorities can overcome 'fear of floating' they must choose an intermediate monetary target other than the exchange rate. As seen in Table 1 in Section 2.2 there are three possibilities: IT, monetary aggregate and multiple targets (including those related to real economy like output gap or employment).

IT is the most transparent variant of an independent monetary policy, as it helps to discipline both the monetary authorities and inflationary expectations. However, it requires a high degree of legal and economic independence for the central bank, an explicit price stability mandate, a developed money market, certain analytical, modeling and forecasting skills, both within the central bank and outside (e.g., independent inflation forecasts provide important proxies for inflationary expectations)[8].

As outlined by Svensson (2010) the IT strategy "*…is characterized by (1) an announced numerical inflation target, (2) an implementation of monetary policy that gives a major role to an inflation forecast and has been called forecast targeting, and (3) a high*

[7] More precisely, the 'fear of free floating', as managed floating is more readily accepted.
[8] On preconditions of the successful adoption of IT see Batini & Laxton (2006) and Gemayel et al.(2011), Box 3.

degree of transparency and accountability." Consequently, "*…Inflation targeting is highly associated with an institutional framework that is characterized by the trinity of (1) a mandate for price stability, (2) independence, and (3) accountability for the central bank*".

Money aggregate targeting is not necessarily a technically easier option for the monetary authorities because of the unstable demand for money in most emerging-market economies. And such a framework may be less understandable and transparent than IT for the wider public.

The third variant (multiple targets) is even less transparent and involves all the risks discussed in respect of hybrid regimes.

One must also keep in mind the increased cross-country interdependence in the monetary policy sphere. In a small open economy money supply is at least partly exogenous as a result of unrestricted financial flows. Even under a freely floating exchange rate and IT the room for maneuver in national monetary policy is limited and is determined by political and economic tolerance of exchange rate fluctuation. 'Leaning against the winds' of international financial markets usually leads to either appreciation or depreciation of the domestic currency. Excessive appreciation reduces the competitiveness of domestic producers while excessive depreciation may entail negative pass through to inflation, and the consequent increase in domestic-currency value of foreign-currency-denominated liabilities and may trigger a flight from the domestic currency, especially in countries with fresh memories of high inflation/ hyperinflation, insufficient credibility of national monetary policy and a high degree of dollarization or euroization. To respect these limitations, the central bank's interest rate decisions must take into account international financial market trends and not deviate too much from them. On the other hand, changes in interest rates on international financial markets are determined by monetary policy decisions of central banks of major advanced economies, in particular, the US Federal Reserve.

2.3.3 Hard peg

This 'corner' solution eliminates most problems involving the credibility of national monetary policy and the national currency, i.e. the inability to borrow long term in the domestic currency, called the *original sin* by Eichengreen & Hausmann (1999), transaction costs and exchange rate risk. The same relates to the imperfect status of the central bank, the shortage of central bank instruments, analytical, forecasting and communication skills, which

become less relevant when the country gives up its monetary sovereignty and relies totally on an external anchor. This is also a regime which is fairly transparent for all economic agents. However, there are three potential economic problems[9] connected with this option.

First, a hard peg means the giving up one of the key economic instruments, the exchange rate, which at least hypothetically allows the economy to adjust to idiosyncratic (country-specific) external shocks[10]. Most countries (including CIS countries) are not able to participate in a multilateral currency union like the EMU, in which they could at least marginally influence decisions on the common monetary policy. The available options are the unilateral adoption of a major currency (USD or EUR) or a currency board. In either case it will be necessary to adjust to monetary conditions in the other country/block. However, as we discussed in Section 2.3.2, even in a free float regime a small open economy is often forced to follow the monetary policies of the large players, and changes in nominal exchange rates dictated by the financial markets do not necessarily help it adjust to external shocks (which are often pro-cyclical rather than anti-cyclical).

Second, this is a choice of the right anchor, taking into consideration the currency structure of trade and financial transactions of a given country and the high volatility of exchange rates between major currencies. Such a choice might be particularly difficult for countries with a diversified currency structure of trade or economies that are internally dollarized/euroized but have most of their trade invoiced in other currencies.

The currency basket reflecting a country's foreign transactions structure, being the standard solution to this problem under the hybrid regimes, is technically difficult to operate under a currency board. It reduces transparency (and, automatically, credibility) and is unable to eliminate exchange rate volatility in respect of individual trade and financial transactions denominated in a concrete currency. The same kinds of objections concern anchoring to a composite accounting unit such as the SDR[11]. And both solutions are obviously impossible if the country adopts another country's currency.

The choice of anchor currency has become even more complicated since the experience of 2000s and early 2010s. The major global currency, US dollar, which was earlier considered a symbol of monetary stability in many developing and transition countries,

[9] Here we do not discuss potential political problems such as reluctance to give up monetary sovereignty and/or the national currency, often seen as the symbols of country's independence.
[10] This function of the exchange rate was first analyzed by Mundell (1961) and Mc Kinnon (1963) in the theory of an optimum currency area.
[11] Between 1994 and 2004 the Latvian *lat* followed a very narrow (+/- 1%) peg to SDR, actually a regime very similar to currency board. On January 1, 2005 lat was re-pegged to EUR.

has become a victim of an excessively lax US monetary policy driven largely by domestic economic considerations. This led to a major inflation push in many emerging-market economies, including those of the CIS (see Section 6.1) in 2005−2008 and again in 2010−2011. On the other hand, the euro in 2010−2012 experienced serious credibility problems related to the sovereign debt crisis in many EU economies. Thus, selecting a firm anchor is no longer a trivial task.

Third, surprisingly, the hard peg is not always considered by financial markets as fully credible and they can test its sustainability. This happened with the currency board in Argentina, abandoned in 2002, and with the currency boards of Hong Kong in 1997 and the Baltic countries in 2008−2009, which successfully withstood market pressures but at a high cost. Since 2010 the Eurozone has experienced similar disintegration pressures, which have been resisted so far but again at a high cost.

3 Financial openness of CIS economies

Before we will turn to a comparative analysis of the MPRs in CIS countries we will try to determine the actual degree of their financial openness. As discussed in Section 2.2 this is the important factor in determining a country's room for maneuver in choosing its MPR.

The degree of financial openness can be assessed by analyzing the formal regulation of cross-border capital flows and exchange restrictions or the size of actual financial flows. Below we use both approaches.

3.1 Current and capital account restrictions

All CIS countries except Turkmenistan accepted obligations related to current account convertibility of their currencies (Article VIII of the IMF Articles of Agreement[12]). Turkmenistan continues to operate its foreign exchange regulations on the basis of Article XIV of the IMF Articles of Agreement (Transitory Arrangements) as one of only 19 countries in the world. However, as demonstrated in Table 2, several CIS countries continue various kinds of restrictions/ controls on current account transactions which in some cases result in multiple exchange rates and parallel foreign exchange markets. This concerns, in first in-

[12] http://www.imf.org/external/pubs/ft/aa/pdf/aa.pdf

stance, Turkmenistan[13] and Uzbekistan even if the latter formally accepted obligations under the Article VIII. Belarus and Ukraine also occasionally resorted to restrictions on current account transactions in trying to halt speculative attacks against their currencies. These actions led to temporary foreign exchange black markets and the associated multiple exchange rates.

Furthermore most CIS countries continue to employ controls, in various degrees, on payments for invisible transactions and current transfers and on proceeds from exports and invisible transactions. This is usually motivated by a desire to limit circumventing the remaining capital controls through current account transactions. However, in practical terms, it means incomplete current account convertibility of most CIS currencies. Only Armenia and Kyrgyzstan have fully eliminated such controls.

Table 2 Summary features of exchange arrangements and regulatory frameworks for current and capital transactions

Country	Exchange restrictions and multiple currency practices	Control for payments on invisible transactions and current transfers	Controls on proceeds from exports/invisible transactions	Capital controls
Armenia	No	No	No	Residual
Azerbaijan	No	Yes	Yes	Partial
Belarus	Temporary in 2011 (including MCP)	Yes	Yes	Far-going
Georgia	No	Yes	Partial	Residual
Kazakhstan	No	Yes	Partial	Partial +
Kyrgyzstan	No	No	No	Partial
Moldova	No	Yes	Partial	Far-going
Russia	No	No	Partial	Partial
Tajikistan	No	Yes	Partial	Far-going
Turkmenistan	Article XIV, numerous restrictions on current transactions	Yes	Yes	Far-going
Ukraine	Temporary between Oct 2008 and May 2010 (including MCP)	Yes	Yes	Far-going
Uzbekistan	Numerous restrictions on current transactions and MCP	Yes	Yes	Far-going

Source: Annual Report on Exchange Arrangements and Exchange Restrictions, IMF, October 2012, Table 9 and "Summary Features", pp.71−79 and author's assessment

[13] Turkmenistan unified the exchange rate of its manat in 2008.

Regarding capital account restrictions only two countries – Armenia and Georgia – can be considered truly open to all kinds of both incoming and outgoing financial flows. The remaining controls and restrictions, which we denote as 'residual' relate to international regulations, such as UN financial sanctions against certain countries and territories, anti-terrorism and anti-money laundering measures, etc. In this respect these two countries do not differ from OECD and EU members.

The next group – Azerbaijan, Kazakhstan, Kyrgyzstan and Russia – maintains partial capital controls using such 'soft' instruments as notification and reporting requirements. Their use seems to be most extensive in Kazakhstan. These countries also have partial restrictions on foreign ownership of certain domestic assets.

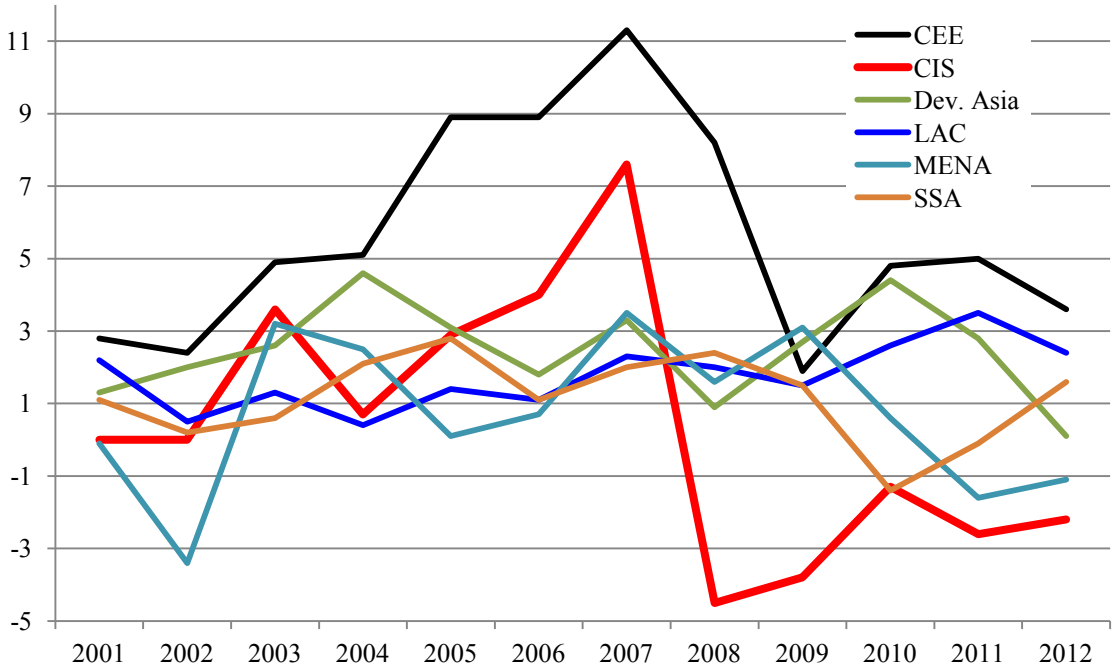
The remaining six countries – Belarus, Moldova, Tajikistan, Turkmenistan, Ukraine and Uzbekistan – continue to employ substantial capital controls of various kinds.

3.2 Actual financial openness

The actual degree of financial openness does not always correspond with the formal regime of capital and current account controls. On the one hand, the existing financial restrictions can be circumvented through current account transactions, those capital account transactions which remained unrestricted, off-shore markets and various kinds of derivatives. On the other hand, lack of formal capital controls is not always sufficient to ensure the deep integration of domestic financial markets with the international one. The domestic financial sector and financial market may be considered by international investors as too small, immature or risky because of the country's poor business climate, flawed regulations, ineffective contract enforcement and macroeconomic and political instability.

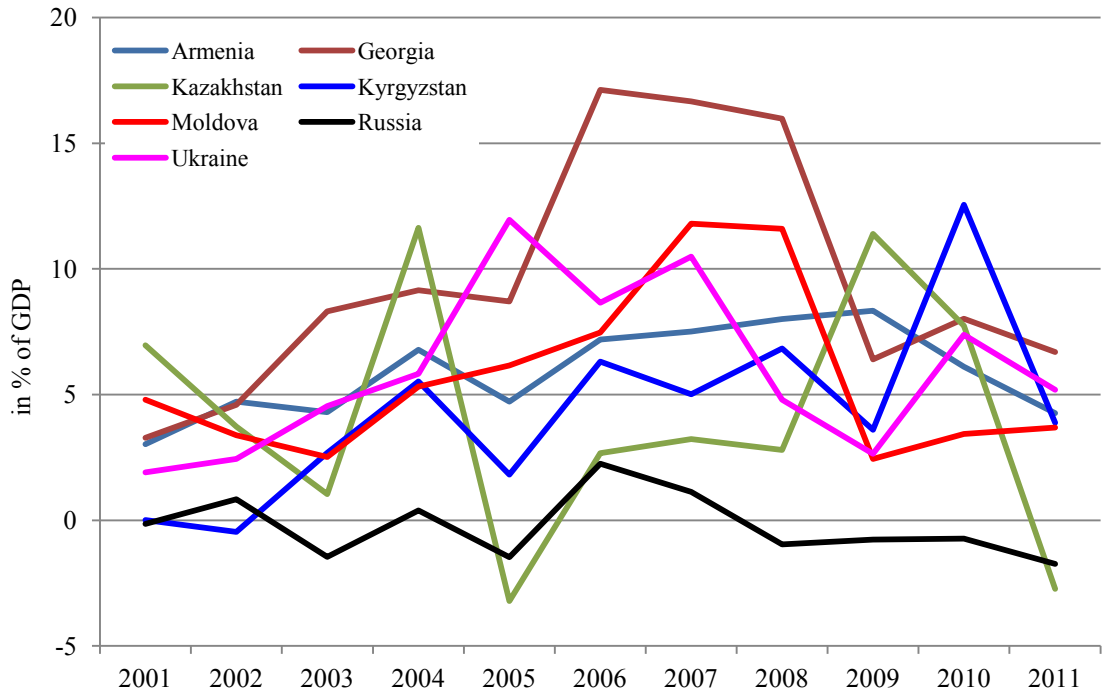
As seen in Figure 2, before the 2008 global financial crisis the CIS region lagged behind Central and Eastern Europe (CEE) in terms of total amount of net private capital flows (including FDI) relative to GDP, but they were comparable to other emerging-market regions or even exceeded them (in 2006−2007). However, since 2008 the net flows became negative (i.e. capital outflows exceeded capital inflows) making the CIS the worst-performing group of countries. Apart from less favorable global environment, this was due to a deteriorating investment climate in the CIS region.

Figure 2 Net private capital flows to emerging-market regions, 2001−2012, in % of GDP



Source: IMF WEO database, April 2013, author's own estimation

Figure 3 Net private capital flows to selected CIS economies, 2001−2011, in % of GDP



Source: IMF Balance of Payment Statistics

A closer inspection of Figure 3 suggests that this trend was much impacted by the performance of Russia, a country suffering from chronic capital flight, which only incidentally (2002, 2004, 2006−2007) benefited from net imports of private capital. Other countries shown in Figure 3 managed to attract substantial but fluctuating year-on-year net flows before the crisis and remained in positive territory after 2008. However, in smaller countries the aggregate net flows were strongly dominated by FDI, i.e., both privatization transactions and green field investments.

Table 3 Portfolio investment, net incurrence of liabilities, debt securities (excluding exceptional financing), in % of GDP

Country	2006	2007	2008	2009	2010	2011
Armenia	0.15%	−0.11%	0.06%	0.07%	0.13%	−0.11%
Azerbaijan	0.10%	0.25%	−0.06%	−0.12%	0.05%	0.04%
Belarus	−0.06%	0.00%	0.00%	0.00%	2.26%	1.57%
Georgia	0.89%	0.27%	0.13%	−0.26%	2.25%	0.50%
Kazakhstan	2.33%	−1.27%	−0.61%	0.99%	10.53%	0.02%
Moldova	−0.19%	−0.14%	−0.08%	−0.15%	0.00%	0.00%
Russia	0.30%	−0.24%	−0.75%	0.39%	0.45%	0.13%
Tajikistan	0.00%	0.01%	0.00%	0.00%	0.11%	0.00%
Ukraine	3.03%	3.55%	−0.93%	−1.39%	2.98%	0.66%

Source: IMF Balance of Payment Statistics, IMF WEO database and author's own estimation.

To better illustrate the size of cross-border financial flows, which may be directly relevant for monetary policy making and its room for maneuver, we computed the part of net private portfolio flows associated with purchasing/selling debt securities (relative to GDP). This is an imperfect measure, as it nets the inflows and outflows over the calendar year and so neglects the amplitudes of short-term changes in countries' external financial accounts. Nevertheless it illustrates the size of the phenomenon, i.e. the importance of private capital flows related to debt securities and money markets.

Table 4 Spread between reference lending and deposit rates, in basic points

Group of Countries	Country	Data of	Basic points
CIS	Armenia	2011 Dec.	737
	Georgia	2012 Q4	813
	Kazakhstan	2012 Q4	153
	Russia	2012 Q4	402
	Ukraine	2012 Q4	485
EU	Belgium	2012 Q2	112
	Croatia	2011 Q4	415
	Czech Rep.	2012 Q3	430
	Estonia	2012 Q4	191
	Germany	2012 Q4	324
	Latvia	2012 Q3	366
	Lithuania	2012 Q3	267
	Poland	2012 Q3	287
	Romania	2012 Q3	722
	Slovakia	2012 Q3	353
	UK	2011 Q4	258
Emerging markets	Argentina	2011	1120
	Brazil	2011 Q4	984
	Indonesia	2012 Q4	641
	Mexico	2012 Dec	1172
	Turkey	2012 Q4	716

Source: IMF Financial Soundness Indicators (FSI), http://elibrary-data.imf.org/Report.aspx?Report=4160293

The statistics presented in Table 3 clearly demonstrate that such private financial flows are of marginal importance in CIS economies (less than 1% of GDP), apart from a few isolated cases such as Kazakhstan in 2006 and 2010, Ukraine in 2006−2007 and in 2009−2010, and Belarus and Georgia (both in 2010).

Looking at CIS financial markets from another angle, the incomplete IMF FSI data on spreads between lending and deposit rates (available for only 5 CIS countries) in Table 4 indicate their relatively large size, compared to most EU countries, but similar or sometimes narrower than in non-European emerging market economies. This suggests that CIS financial markets remained rather shallow and segmented, and not fully competitive.

Summing up, in the early 2010s financial markets in CIS countries remained only partly open to external capital flows, both *de jure* and *de facto*. This gave their monetary authorities some room for maneuver in operating hybrid MPRs.

4 MPRs in CIS countries as recorded in IMF annual reports

Every year the IMF publishes its Annual Report on Exchange Arrangements and Exchange Restrictions, which compares MPRs of all IMF member countries. It is based on regime classification which differs in details from that proposed here in Section 2 and which has been modified several times in the 2000s. Two main differences (compared to our classification) relate to (1) using a two-dimensional description of the regimes, i.e. distinguishing between exchange rate regime/ arrangement and monetary policy framework and (2) more detail and slightly different typology of exchange rate arrangements. Nevertheless the IMF classification scheme is based on the same principles as ours, i.e. distinguishing three classes of regimes: hard peg, free float, and hybrid versions between the two 'corners'. Both the differences and changes in IMF regime classification relate to this last category, hybrid regimes.

Changes in IMF typology (Table 5) resulted from the attempt to move from classification of *de jure* regimes, i.e., as officially declared by the monetary authorities of individual countries (with only brief IMF comments when the actual regimes differ from the formal ones) to the one which describes *de facto* regimes (see Habermeier et al, 2009 for a detail analysis). As will be documented in our analysis below, this effort has proved only partially successful: in many instances the actual regimes still differ, sometimes substantially, from the *de facto* regimes reported by the IMF.

The changes in IMF regime typology have rendered more complicated the analysis of historic changes in MPRs in any given country or group of countries. To deal with this problem we made some simplifying assumptions where we deemed the definitional changes to be minor or non-essential; i.e. we assumed the continuity of a given regime, in spite of its new name, as illustrated in Table 5. While we did not conduct a detail analysis of regime definitions and their changes[14] it is worthwhile noting that for regimes ER21, ER22, ER24 and ER26 the exchange rate fluctuation margin cannot exceed 2% for 6 months or more.

An even bigger problem in the historic analysis relates to the gradual shift of IMF classification from *de jure* to *de facto* regimes, a process that still seems to be ongoing.

[14] For definitions of individual regimes in each Annual Report, see http://www.imfareaer.org/Areaer/Pages/CompilationGuide.aspx

This means the regime description in any year *t* can reflect the actual regime to a lesser degree than in the subsequent years *t+1*, *t+2*, etc.

Table 5 Changes in IMF classification of exchange rate regimes and monetary policy frameworks, 2000−2011

Symbol	Exchange rate regime/ arrangement	Comments
ER11	No separate legal tender	
ER12	Currency board	
ER21	Conventional peg	Since 2008; before: other conventional fixed peg arrangement (including de facto peg arrangements under managed floating) (2000−2001), other conventional fixed peg arrangements (2002−2006), other conventional pegged arrangement 2007
ER22	Stabilized arrangement	Since 2008
ER23	Pegged exchange rate within horizontal band	
ER24	Crawling peg	
ER25	Crawling band	Until 2007
ER26	Crawl-like arrangement	Since 2008
ER27	Other managed arrangement	Since 2008
ER28	Managed floating with no pre-announced path for exchange rate	Floating since 2008
ER3	Independently floating	Free floating since 2008
Symbol	Monetary policy framework	Comments
MP1	Exchange rate anchor	
MP11	As above: against a single currency	
MP12	As above: against a composite	
MP2	Monetary aggregate target	
MP3	Inflation targeting framework	
MP4	Fund-supported or other monetary program	Until 2006
MP5	Other (no explicitly stated nominal anchor)	

Source: Annual IMF Reports on Exchange Arrangements and Exchange Restrictions, 2000−2011, see http://www.imfareaer.org/Areaer/Pages/ExchangeRegimes.aspx, author's own analysis and assessment

Despite these methodological difficulties, we offer Table 6, which provides comparisons of MPRs in CIS countries and their evolution over the period of 2001−2012 based on the subsequent Annual IMF Reports on Exchange Arrangements and Exchange Restrictions. In addition, Table 7 presents the most recent record available (as of April 30, 2012) in a more detail manner.

The two-dimensional regime classification used by the IMF, based largely on countries' own declarations, has produced results which sometimes seem either inconsistent, from the point of view of the principle of 'impossible trinity', or even improbable in practice. This concerns regimes which are characterized as combinations of a relatively rigid peg (ER21, ER22, ER24, ER26) and a monetary aggregate target (MP2), as e.g. in Tajikistan (2011−2012), Ukraine (2012) and Uzbekistan (2011−2012). At the other end of the spectrum, the cases where managed floating (ER28, since 2008 called simply 'floating') is combined with an exchange rate target/ anchor (MP1) do not represent actual floating regimes but rather hidden forms of currency peg (as in Kyrgyzstan and Ukraine in 2008). Generally speaking, such paradoxical characteristics may reflect either the flaws in the regime classification process itself (which may continue to rely too much on authorities' declarations rather than on analysis of the actual regime) or attempts by monetary authorities to pursue obviously inconsistent policies. When we move to an analysis of actual exchange rate movements and changes in official international reserves (Section 5) we find more such inconsistencies.

At first sight, Table 6 gives the impression of great heterogeneity and frequent changes in MPRs in the selected countries. However, a closer inspection of the results (especially of additional comments which refer to actual vs. declared regimes) and taking account of IMF typology, gives us a different picture.

Table 6 Evolution of MPRs in CIS countries as reported by the IMF, 2001−2012

Country	03.2001	12.2001	12.2002	12.2003	12.2004	04.2006	04.2007	04.2008	04.2009	04.2010	04.2011	04.2012
Armenia	ER3, MP4	ER3, MP4	ER3, MP4	ER3, MP4	ER3, MP4	ER3, MP4	ER28, MP4[b]	ER28, MP3[d]	ER28, MP3[d]	ER28, MP3[d]	ER28, MP3[f]	ER28, MP3[d]
Azerbaijan	ER28, MP5	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP4	ER21, MP11[b]	ER24, MP11[b]	ER25, MP12	ER22, MP11	ER22, MP11	ER22, MP5[e]	ER22, MP5[e]
Belarus	ER28, MP5	ER25, MP11	ER25, MP11	ER25, MP11	ER25, MP11[a]	ER21, MP11[b]	ER21, MP11[b]	ER21, MP11	ER23, MP12	ER23, MP12	ER22, MP12	ER27, MP5[g]
Georgia	ER3, MP4	ER3, MP4	ER3, MP4	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP2	ER27, MP11	ER27, MP3[d]	ER27, MP3[d]	ER28, MP3[d]
Kazakhstan	ER28, MP4	ER28, MP4	ER28, MP5	ER28, MP5	ER28, MP5	ER28, MP5	ER28, MP5[b]	ER21, MP11	ER23, MP11	ER26, MP11	ER26, MP11	ER26, MP11
Kyrgyzstan	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP11	ER27, MP11	ER27, MP5	ER27, MP5	ER27, MP2
Moldova	ER3, MP4	ER3, MP4	ER28, MP4	ER28, MP4	ER28, MP2	ER28, MP2	ER28, MP2	ER28, MP2	ER28, MP2	ER28, MP2	ER28, MP3	ER28, MP3
Russia	ER28, MP4	ER28, MP4	ER28, MP5	ER28, MP5	ER28, MP5	ER28, MP5	ER28, MP5	ER21, MP12	ER27, MP12	ER27, MP12	ER27, MP5	ER27, MP5[h]
Tajikistan	ER3, MP4	ER3, MP4	ER28, MP4	ER28, MP4	ER28, MP4	ER28, MP2	ER28, MP2	ER21, MP11	ER27, MP2	ER27, MP2[e]	ER22, MP2[e]	ER22, MP2[e]
Turkmenistan	ER21, MP11	ER21, MP11	ER21, MP11	ER21, MP11	ER21, MP11[b]	ER21, MP11[b]	ER21, MP11[b]	ER21, MP11	ER21, MP11	ER21, MP11	ER21, MP11	ER21, MP11
Ukraine	ER28, MP4	ER28, MP4	ER21, MP11	ER21, MP11	ER21, MP11[b]	ER21, MP11[b]	ER21, MP11[b]	ER28, MP11	ER27, MP2	ER27, MP2	ER27, MP2[e]	ER22, MP2[e]
Uzbekistan	ER28, MP5	ER28, MP5	ER28, MP5	ER28, MP5	ER28, MP5[b]	ER28, MP5[c]	ER21, MP11[b]	ER24, MP11	ER24, MP11	ER24, MP11	ER24, MP2[e]	ER26, MP2[e]

Notes: [a] - frequently adjusted bands, [b] - de facto different than de jure, [c] - multiple exchange rates, [d] - preliminary steps towards IT, [e] - de facto exchange rate anchor to USD, [f] - de facto exchange rate anchor to basket, [g] - de facto broad band to USD, [h] - de facto broad band to basket

Source: Annual IMF Reports on Exchange Arrangements and Exchange Restrictions, 2000−2011, see http://www.imfareaer.org/Areaer/Pages/ExchangeRegimes.aspx and Table 5.

Most of the recorded regimes fall into the category of the hybrids. No CIS country has run a hard peg (ER11 or ER12). And only a few countries, for a rather short period of time in the early 2000s, recorded another 'corner' solution, i.e. independent float (ER3). This concerns Armenia (2000−2005), Georgia (2000−2002), Moldova (2000−2001) and Tajikistan (2000−2001). And these were the years when the IMF definition of independent float did not rule out central bank interventions and the IMF Annual Report relied mainly on central banks' information on the declared regimes. For the subsequent years Armenia, Georgia and Moldova reported managed floats (ER28) with monetary policy frameworks other than exchange rate anchor, i.e. either monetary aggregate target, or inflation targeting, or monetary targets agreed under the IMF sponsored programs[15]. Only is Georgia in one report (2008/9) recorded as a country with an exchange rate target.

[15] The monetary policy framework called 'Fund-supported or other monetary program' (MP4) and used in IMF Annual Reports until 2006 was in fact a form of partial money aggregate targeting regime. Most IMF

The cases of reported inflation targeting (IT), which included Armenia (since 2008), Georgia (since 2010) and Moldova (since 2010), were usually associated with comments on preliminary steps towards this regime, which were repeated in subsequent Annual Reports. Other IMF publications, especially the subsequent IMF country reports, provide the same picture: the attempts to adopt IT regimes in CIS countries are still in the very initial stages and face several institutional, policy and instrumental obstacles (see e.g. Dabla-Norris et al, 2007).

Table 7 IMF de facto classification of exchange rate arrangements and monetary policy frameworks in CIS countries, April 30, 2012

Country	Exchange rate arrangement	Monetary policy framework	Anchor currency	Comments
Armenia	Floating	Inflation targeting (preliminary steps)	No	Smoothing interventions
Azerbaijan	Stabilized arrangement	Other (no explicitly stated nominal anchor)	No	De facto exchange rate anchor to USD
Belarus	Other managed arrangement	Other (no explicitly stated nominal anchor)	No	De facto broad band to USD
Georgia	Floating	Inflation targeting (preliminary steps)	No	Interventions through auctions
Kazakhstan	Crawling like arrangement	Exchange rate anchor	USD	
Kyrgyzstan	Other managed arrangement	Monetary aggregate target	No	Managed float/ad hoc tracking of USD
Moldova	Floating	Inflation targeting	No	Smoothing interventions
Russia	Other managed arrangement	Other (no explicitly stated nominal anchor)	No	De facto broad band to USD/EUR basket
Tajikistan	Stabilized arrangement	Monetary aggregate target	No	De facto exchange rate anchor to USD
Turkmenistan	Conventional peg	Exchange rate anchor	USD	
Ukraine	Stabilized arrangement	Monetary aggregate target	No	De facto exchange rate anchor to USD
Uzbekistan	Crawling like arrangement	Monetary aggregate target	No	De facto exchange rate anchor to USD

Source: Annual Report on Exchange Arrangements and Exchange Restrictions, IMF, October 2012 and Author's comments

Summing up at this stage of analysis, we can assume that Armenia, Georgia and Moldova have pursued relatively flexible exchange rate policies over the decade of 2000s, although they can hardly be considered free floaters and inflation targeters. Tajikistan *de facto* em-

programs include performance criteria which set a ceiling on the central bank's net domestic assets (frequently disaggregated into net credit to government and net credit to commercial banks) and a minimum level of net foreign assets.

ployed an exchange rate target (USD) through most of the period studied, especially in the latter part.

Within the class of hybrid regimes the dominant variant could be described as a soft peg, i.e. one in which the central bank employed *de facto* and with various degrees of flexibility an exchange rate target (in most cases the USD and only rarely the USD/EUR basket – see CBRF, 2013 on changes in the composition of Russia's bi-currency basket), but it did not declare it officially and, most importantly, it did not commit itself publicly to any *ex ante* specific exchange rate target. On the contrary, in many instances the authorities officially declared a floating exchange rate, or at least their desire to move towards such, or frequently changed the declared regime, as in the cases of Azerbaijan, Belarus, Kazakhstan, Tajikistan and Uzbekistan.

In a few cases the reported regimes represent the conventional peg (ER21) under which the authorities announce *ex ante* an explicit exchange rate target, but such the target can be periodically adjusted. This holds for the official exchange rate of Turkmenistan. However, one should remember that this is a country which does not have a currency convertible for current account transactions and multiple exchange rate practices that have continued over a long period of time (until 2008). Belarus and Ukraine were close to such a regime before the 2008−2009 crisis, and a few other countries (e.g. Azerbaijan) pegged sporadically.

Other countries belonging to the group of 'soft' peggers – Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan – represented a greater degree of exchange rate flexibility, at least in terms of reported regimes. Actually, Kyrgyzstan seemed to be very close to the group of floaters (Armenia, Georgia and Moldova), at least before the 2008−2009 crisis.

The global financial crisis of 2008−2009 disrupted the previous regimes, as could be observed at least in Belarus, Kazakhstan and Ukraine. As a result, Belarus and Ukraine moved towards a more flexible form of reported regimes than before the crisis.

5 Actual MPRs – empirical analysis

The results of the analyses of the Annual IMF Reports on Exchange Arrangements and Exchange Restrictions presented in Section 4 will now be tested against the actual changes in exchange rates and in official international reserves of individual countries.

5.1 Exchange rate movements

Figures 4a−4j present exchange rate movements of ten CIS currencies[16] against both USD and SDR[17]. The purpose of including SDR was to detect potential pegs to currency baskets rather than solely to the USD. Based on this setup one can draw both general and country-specific conclusions.

None of the countries had a stable exchange rate in the period studied (in contrast to the Baltic countries) and all the currencies except AZM tended to depreciate over time. All the currencies were hit hard during the Russian and CIS financial crisis of 1998−1999 even though some (AZM, GEL, KGS,) partly recovered shortly after this major shock. The same happened in all the countries except Azerbaijan (which enjoyed a major oil boom) during the global financial crisis of 2008−2009 when international liquidity suddenly dried up following the collapse of Lehman Brothers. However the extent of exchange rate dip was less than a decade earlier. Again some currencies (GEL, MDL and RUR) managed to partially recover in the subsequent period. And what is even more important, the crisis-related depreciations of 2008−2009 followed a period of currency appreciation in several countries (Armenia, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Ukraine), sometimes quite substantial appreciation (Armenia).

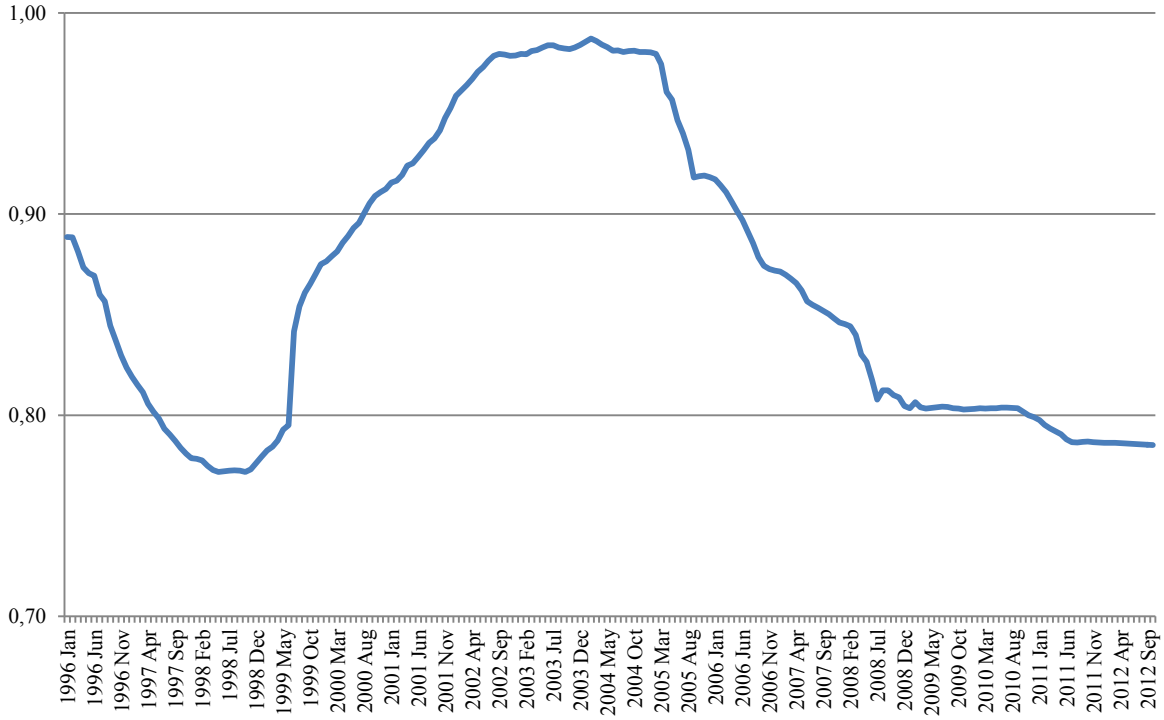
[16] The Armenian dram (AMD), Azerbaijani manat (AZM), Belarusian ruble (BYR), Georgian lari (GEL), Kazakhstani tenge (KZT), Kyrgyzstani som (KGS), Moldovan lei (MDL), Russian ruble (RUR), Tajikistani somoni (TJS) and Ukrainian hryvna (UAH).

[17] In case of Azerbaijan the full dataset of AZM movement against the SDR has not been available in the IFS database, so we present only its movements against USD. Data for Turkmenistan and Uzbekistan have not been available. In addition, they continued with multiple exchange rates for quite a long time, so that their official exchange rates tell us very little about their actual MPRs.

Figure 4a Armenia − nominal exchange rate 1996−2012 (monthly averages)

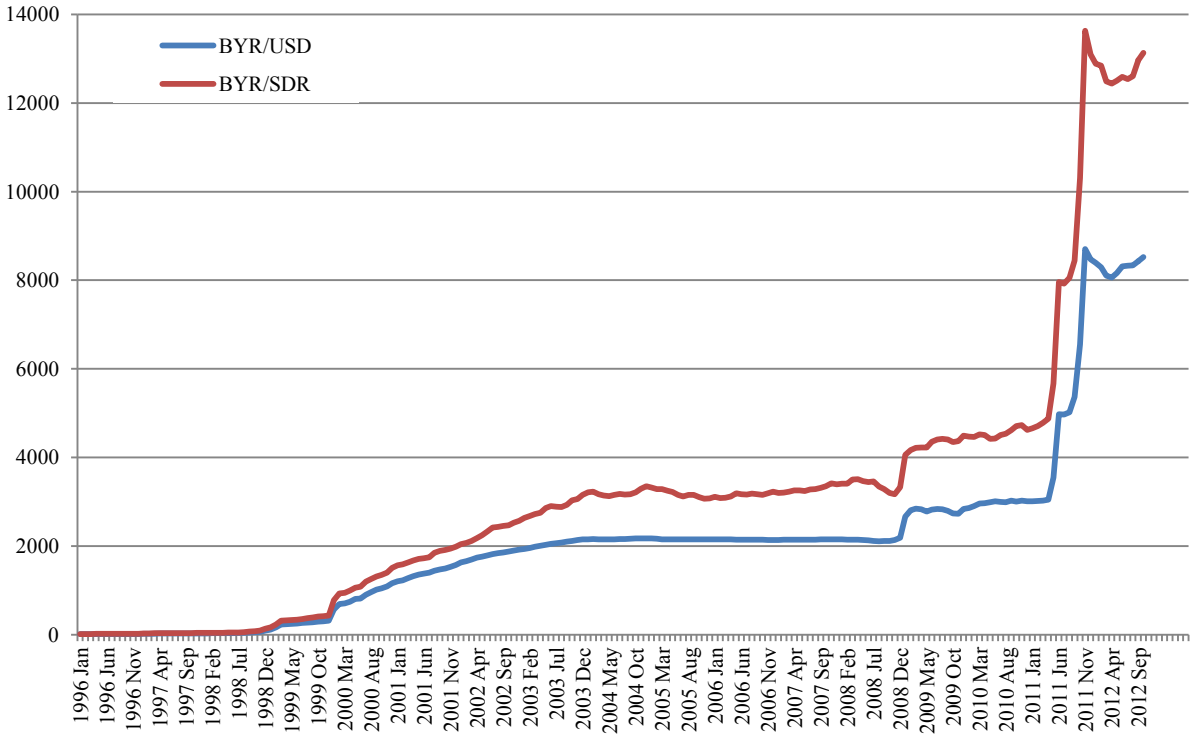
Source: IMF International Financial Statistics (IFS) database

Figure 4b Azerbaijan − nominal exchange rate 1996−2012, AZM/USD (monthly averages)



Source: IMF International Financial Statistics (IFS) database

Figure 4c Belarus − nominal exchange rate 1996−2012 (monthly averages)

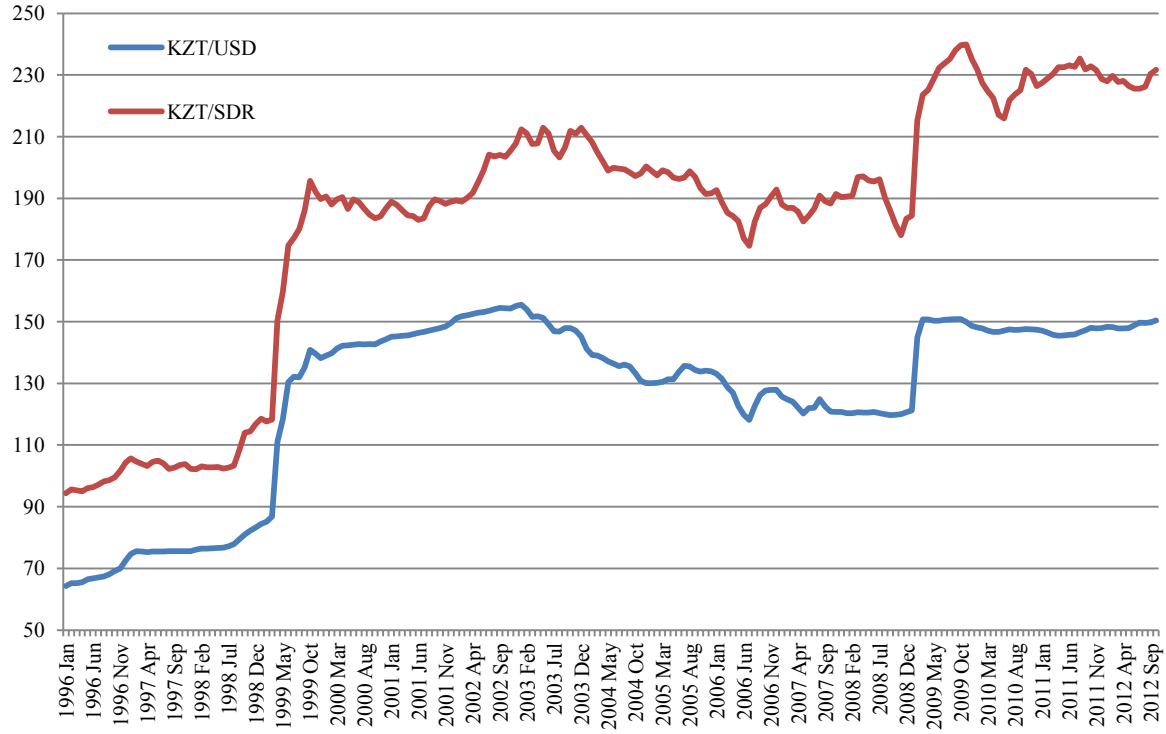


Source: IMF International Financial Statistics (IFS) database

Figure 4d Georgia − nominal exchange rate 1996−2012 (monthly averages)

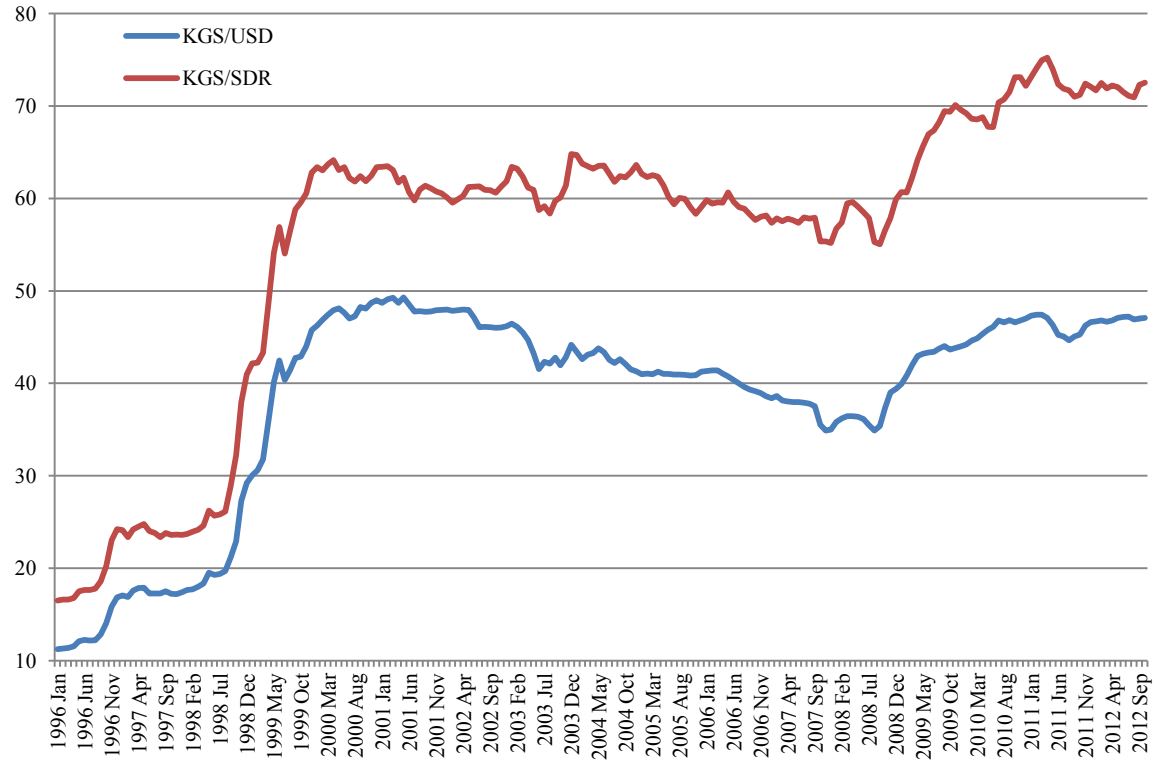
Source: IMF International Financial Statistics (IFS) database

Figure 4e Kazakhstan − nominal exchange rate 1996−2012 (monthly averages)



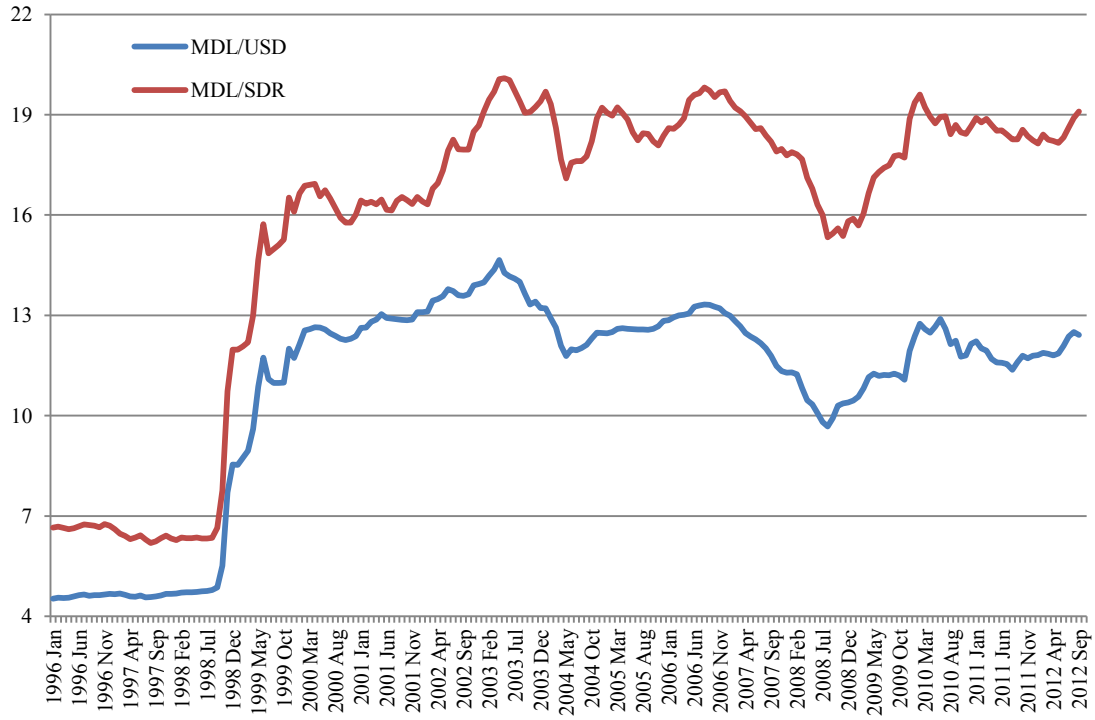
Source: IMF International Financial Statistics (IFS) database

Figure 4f Kyrgyzstan − nominal exchange rate 1996−2012 (monthly averages)



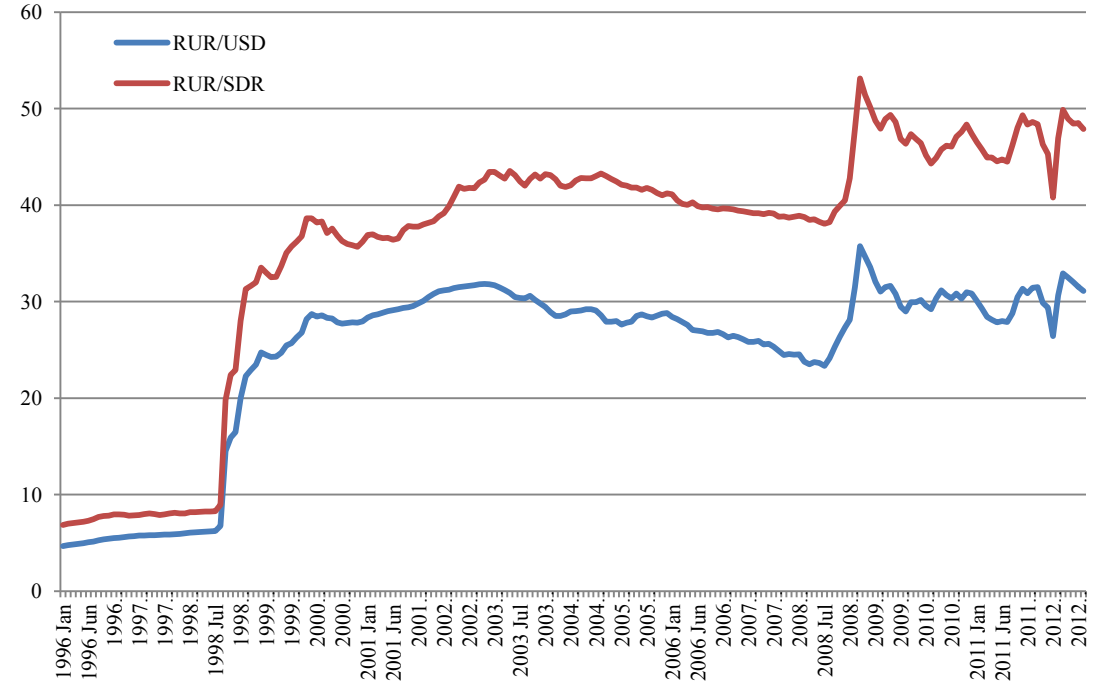
Source: IMF International Financial Statistics (IFS) database

Figure 4g Moldova − nominal exchange rate 1996−2012 (monthly averages)



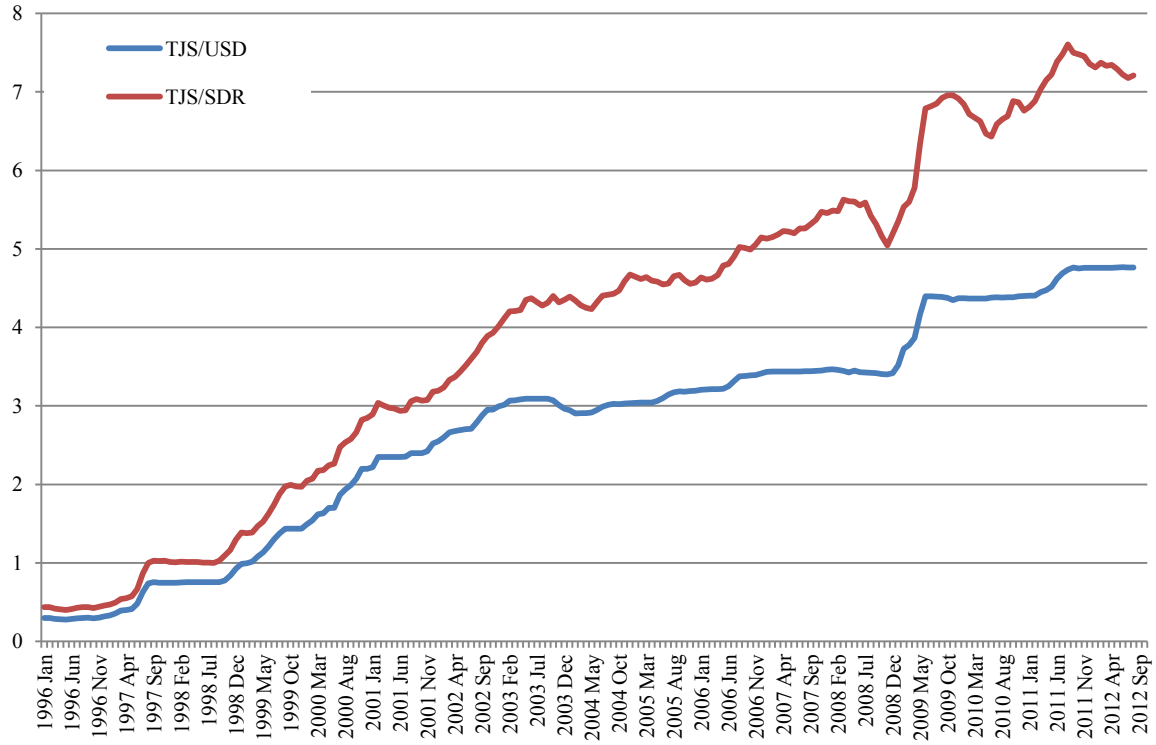
Source: IMF International Financial Statistics (IFS) database

Figure 4h Russia − nominal exchange rate 1996−2012 (monthly averages)



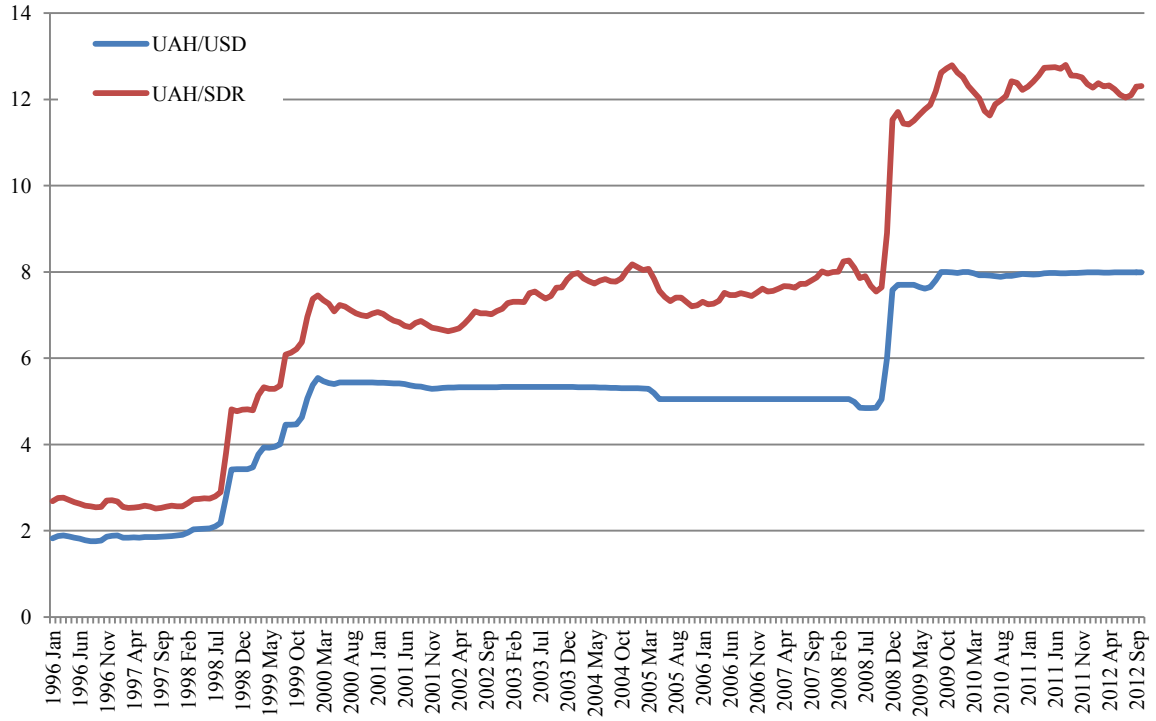
Source: IMF International Financial Statistics (IFS) database

Figure 4i Tajikistan − nominal exchange rate 1996−2012 (monthly averages)



Source: IMF International Financial Statistics (IFS) database

Figure 4j Ukraine − nominal exchange rate 1996−2012 (monthly averages)



Source: IMF International Financial Statistics (IFS) database

In terms of patterns of exchange rate movements, we distinguish three broad categories:

1/ Currencies whose exchange rates appear to be fairly tightly managed vis-a-vis USD, i.e. AZM, BYR, TJS and UAH.

Monetary authorities of Belarus and Ukraine kept their exchange rates (BYR and UAH, respectively) stable in relation to USD up until market pressures forced the adjustments to the new levels (Figures 4c and 4j). These adjustments usually meant major, sometimes abrupt, devaluations (Ukraine in 1998−1999 and in the last quarter of 2008, Belarus in 1998−1999, January 2009 and in the second and third quarters of 2011). However, Ukraine's official adjustments also involved two minor UAH revaluations – in April 2005 and in the second quarter of 2008. This points to an actual regime of fixed but adjustable peg in both countries, although Belarus' experience also included a period of crawling peg devaluation (2000−2003).

The exchange rate developments in Azerbaijan (Figure 4b) indicate a regime of crawling peg against USD with periods of crawling appreciation (until mid-1998 and since March 2004) and crawling peg depreciation (between November 1998 and February 2004). The same kind of regime seemed to prevail in Tajikistan (Figure 4i), with gradual depreciation of TJS against USD but at a varying pace. There were only two short episodes of limited TJS appreciation: between October 2003 and February 2004 and between May and November 2008, the second one being followed by a sizable depreciation.

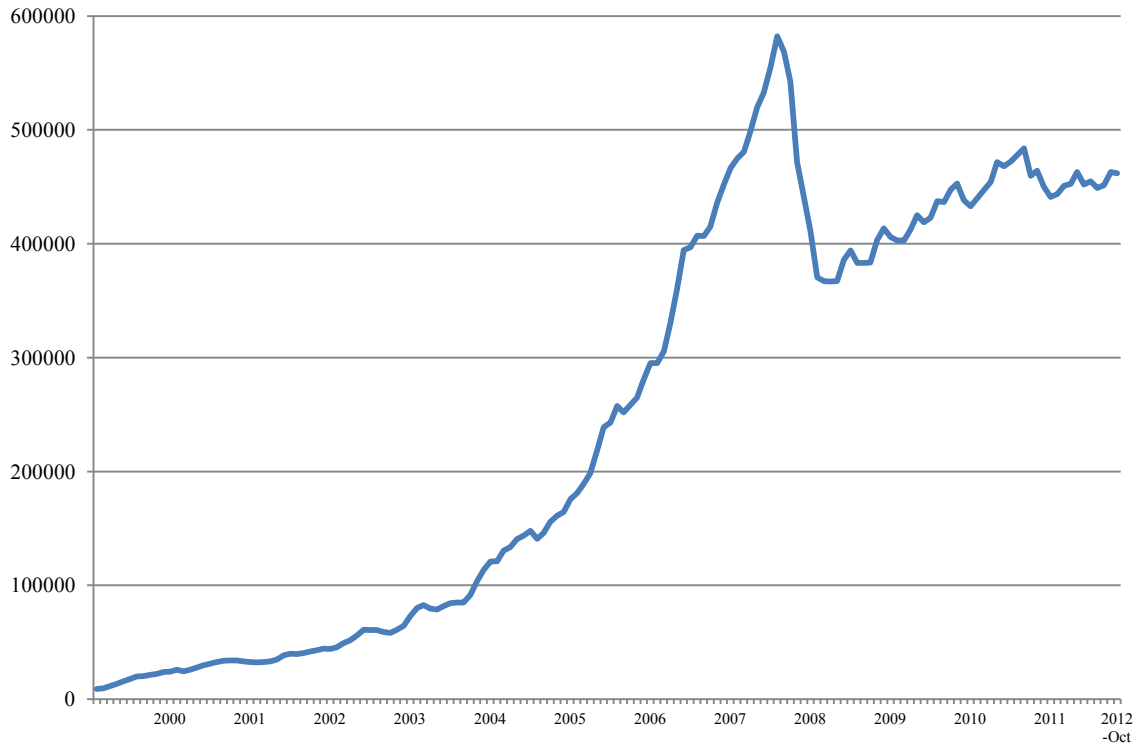
2/ Currencies that seem to follow a predetermined path but in a more flexible way as comparing to the first category, i.e. KZT and RUR (see Figures 4e and 4h). However the direction and slope of the crawl has changed several times. Broadly speaking, until mid-2003 this was a crawling band depreciation interrupted by sharp devaluations of both currencies in the period of Russian financial crisis (1998−1999), which was followed by crawling band appreciations between 2003 and 2008. After the second substantial depreciation in the last quarter of 2008 the currencies seem to move into a horizontal band against USD. Interestingly, the RUR fluctuation band evidently widened after the 2008 crisis, suggesting a more flexible exchange rate policy while the opposite happened with KZT. The Kazakhstani *tenge* experienced its period of widest fluctuations between 2004 and 2007, followed by a less turbulent period. In addition, as Figure 4h suggests, Russia employed a currency basket instead of a strict USD link between October 2004 and August 2008.

3/ The remaining four currencies – AMD, GEL, KGS and MDL –which experienced more volatility (especially the Armenian and Moldovan ones) over the analyzed period than the other six currencies. Consequently, Figures 4a, 4d, 4f and 4g suggest some sort of a float in those countries. To check on the degree of freeness of the float we must examine changes in the international reserves of individual countries.

5.2 Changes in international reserves

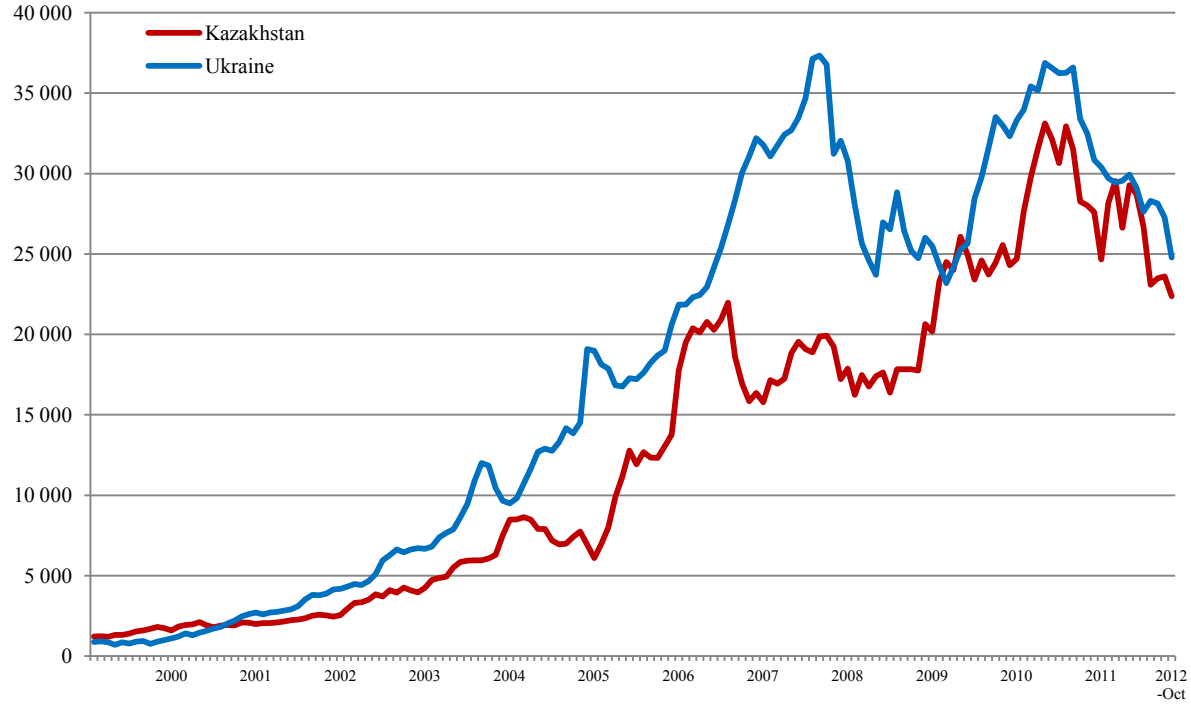
Figures 5a−5e present changes in the international reserves (except gold) of ten CIS countries (all except Turkmenistan and Uzbekistan) over the period 2000−2012, as reported in IMFInternational Financial Statistics. This type of analysis is useful for determining whether there are genuine free floaters in the group of countries under consideration. If country has a free float regime its international reserves should remain largely stable. If the reserves fluctuate this suggests some sort of central bank involvement in managing the exchange rate.

Figure 5a International reserves (except gold) in millions of USD, 2000−2012 (Russia)



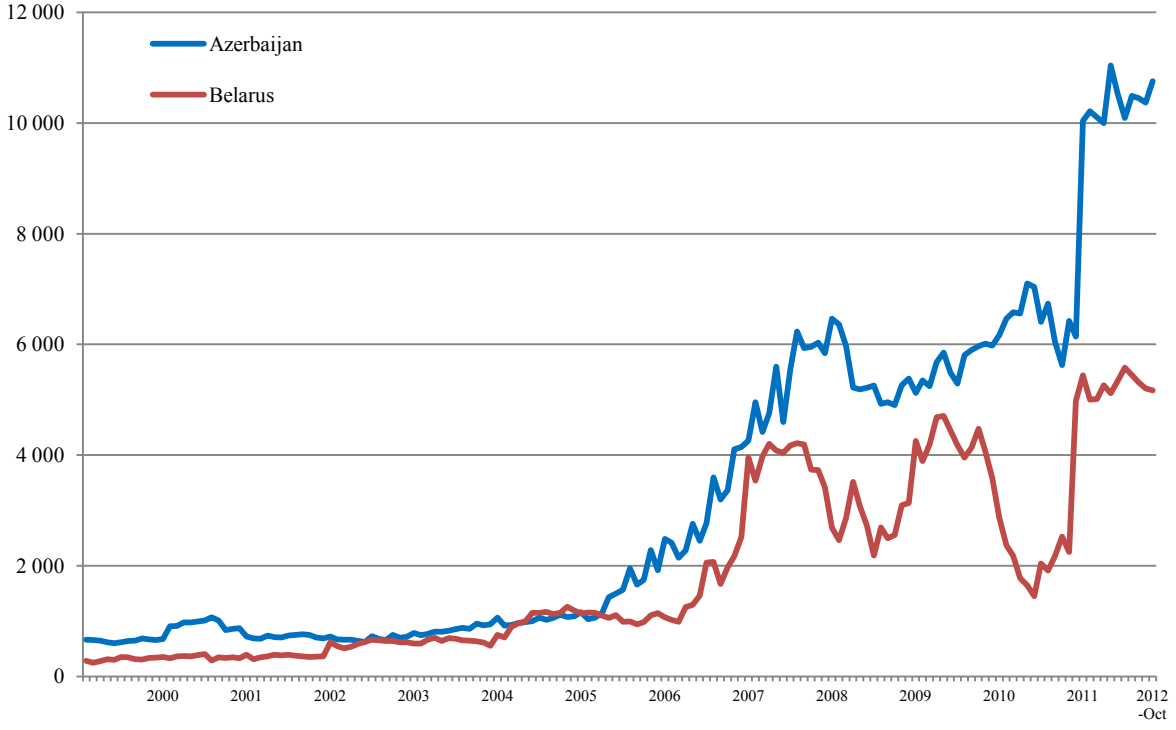
Source: IMF International Financial Statistics (IFS) database

Figure 5b International reserves (except gold) in millions of USD, 2000−2012 (Kazakhstan and Ukraine)



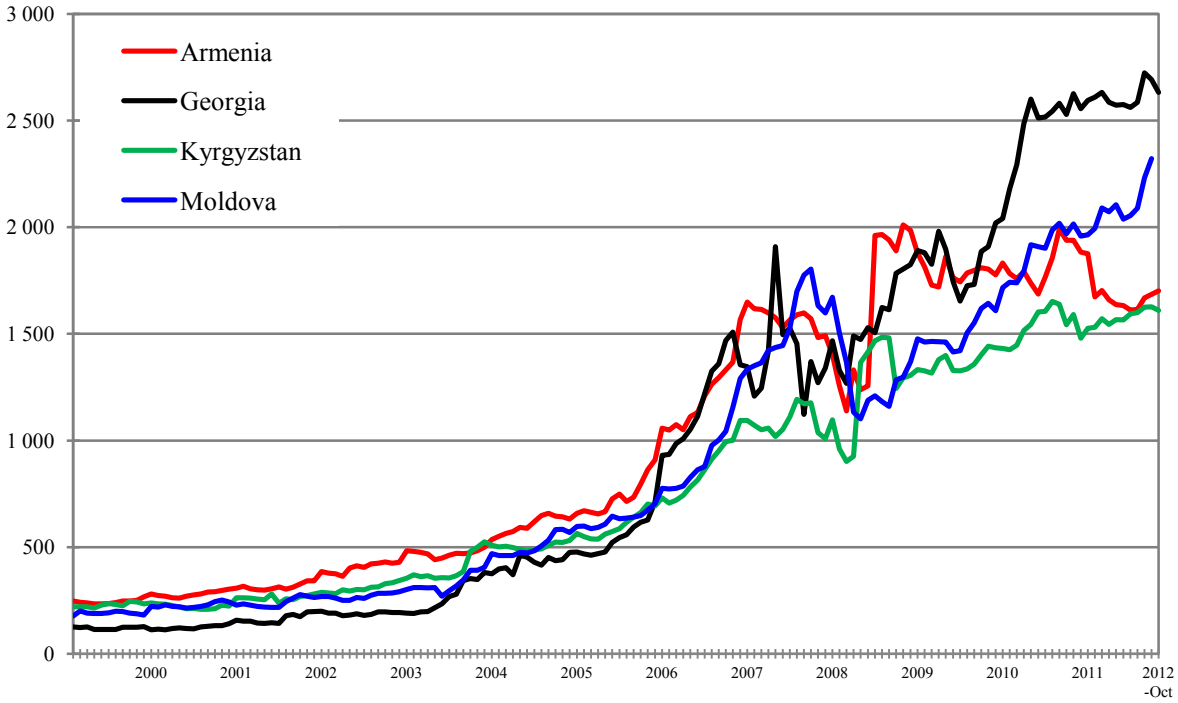
Source: IMF International Financial Statistics (IFS) database

Figure 5c International reserves (except gold) in millions of USD, 2000−2012 (Azerbaijan and Belarus)



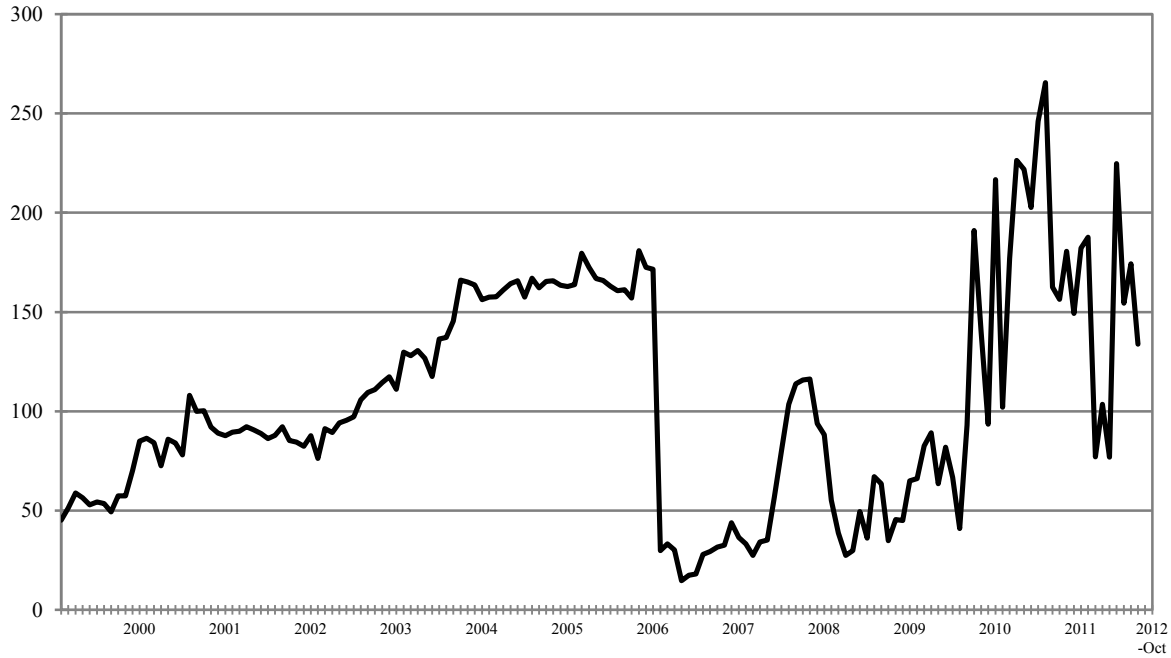
Source: IMF International Financial Statistics (IFS) database

Figure 5d International reserves (except gold) in millions of USD, 2000−2012 (Armenia, Georgia, Kyrgyzstan and Moldova)



Source: IMF International Financial Statistics (IFS) database

Figure 5e International reserves (except gold) in millions of USD, 2000−2012 (Tajikistan)



Source: IMF International Financial Statistics (IFS) database

Data presented in Figures 5a – 5e make clear that none of the countries recorded a stable level of international reserves even in short-term. This observation is confirmed by published data on central bank interventions in the foreign exchange market[18]. Interestingly, the National Bank of the Kyrgyz Republic reported only one small intervention between February 2012 and February 2013, although it had frequently intervened earlier on.

In the long term, in spite of various short-time fluctuations and declining international reserves in the wake of the global financial crisis (2008−2009), the reserves tended to grow in most countries (except Tajikistan), especially in the second half of the 2000s, sometimes rapidly. This may indicate either a sort of mercantilist policy (i.e. maintaining an undervalued exchange rate for external competitiveness purposes) or precautionary measures, i.e. building a buffer against potential speculative attacks and other types of market turbulence (as strongly advised by the IMF after the CIS currency crises of 1998−1999).

According to data presented in Table 8, in Russia alone (perhaps also in Azerbaijan and Uzbekistan) were official reserves at a level that might be considered as excessive from the point of view of backing both prospective import transactions and external financial liabilities. While the ratio of gross reserves to short-term debt seems very high for Armenia, Kyrgyzstan and Tajikistan and relatively high for Kazakhstan, Georgia and Moldova, the respective figures as regards import backing are not excessive. And it is worth noting that in most of the countries the depth of financial markets and degree of external financial openness are still low (see Section 3.2), so that the amount of short-term financial liabilities remains limited.

[18] See e.g. http://www.cba.am/Storage/EN/fin/EArjutain.xls (Armenia),
http://www.cbar.az/assets/2373/Daxili_valyuta_bazarlarinda_aparilmish_emeliyyatlar.pdf (Azerbaijan),
http://www.nbg.gov.ge/uploads/forex/inglish/structure_of_fx_marketusdeng.xls,
http://www.nbg.gov.ge/uploads/statisticaldata/english/exchengemarkets/ticexdaily/tifex_20022009eng.xls (Georgia),
http://www.nbkr.kg/index1.jsp (Kyrgyzstan),
http://www.bnm.md/en/fm_bnm_activity (Moldova),
http://www.cbr.ru/eng/hd_base/VALINT.asp (Russia).

Table 8 Gross official reserves in CIS countries, relative to other indicators, 2012

Country	Billions USD	% of GDP	% of short term debt	Month of prosp. imports
Armenia	1.7	16.5	716.5	4.1
Azerbaijan	10.7	16.5	…	7.2
Belarus	8.1	14.8	45.9	2.0
Georgia	2.9	20.3	113.9	3.8
Moldova	2.3	33.1	102.5	4.3
Ukraine	28.1	17.0	47.6	3.2
Russia	537.6	27.0	307.8	12.7
Kazakhstan	28.3	15.0	174.5	5.1
Kyrgyzstan	1.9	31.9	419.5	3.6
Tajikistan	0.2	4.0	247.6	1.6
Uzbekistan	13.8	30.3	…	10.9

Source: EBRD Vulnerability Indicators,
http://www.ebrd.com/downloads/research/economics/macrodata/vulnerabilities_Jan2013.xlsx

However, if one puts together the above data on international reserves and exchange rate movements (from Section 5.1) it is possible to detect situations in which exchange rate policy was used for the purpose of external competitiveness gains. This concerns the early 2000s when several CIS countries pursued crawling-peg depreciations, despite positive terms-of-trade shock.

5.3 Summary of empirical analysis

The analysis of both actual exchange rate movements (Section 5.1) and changes in international reserves (Section 5.2) confirms our findings from the analysis of formal arrangements (Section 4). All actual MPRs in CIS countries in the 2000s and early 2010s can be classified as hybrids. We found no confirmation of independent (free) floating as reported by the IMF for Armenia, Georgia, Moldova and Tajikistan in the first half of the 2000s. On the contrary, most of floating cases seem to have been fairly tightly managed in terms of central bank interventions in the foreign exchange market. Armenia seems to represent, on average, the greatest exchange rate flexibility, albeit still quite far from genuine free floating.

Referring to our MPR typology presented in Table 1 the four types of actual regimes (all belonging to the hybrid category) can be identified:

- fixed but adjustable peg (Turkmenistan, Ukraine, Belarus)
- crawling peg (Uzbekistan, Azerbaijan, Tajikistan, Belarus)
- horizontal and crawling band (Kazakhstan, Russia)
- managed float (Armenia, Georgia, Kyrgyzstan, Moldova)

Surprisingly, it is the smallest and most open economies that have chosen the most flexible exchange rate policies while the larger ones prefer less flexibility in this respect. Based on international experience, the opposite seems to be the norm. However, the differences within the analyzed group of countries are not so large. As seen in Figures 4a – 4j fixed horizontal pegs were periodically adjusted while crawling pegs and bands were subjected to similar adjustments but in a more gradual way. Under managed floating, the currencies adjusted with more short-term volatility. Thus none of the exchange rates proved to be stable, but the patterns of adjustment differed.

While there has been some movement towards greater exchange rate flexibility since the global financial crisis of 2008−2009 it is too early to say whether this is a sustainable trend and how long it will persist. For the moment, the changes do not seem radical but occurring at the cost of less regime transparency. Even though the exchange rate anchor is not followed as closely as before it has not been replaced by any other explicit nominal anchor. Not surprisingly, the IMF Annual Reports on Exchange Arrangements and Exchange Restrictions of 2010−2012 (see Section 4 and Table 6) record 'other' monetary policy framework with no explicitly stated nominal anchor (MP5) for Azerbaijan, Belarus, Kyrgyzstan and Russia. Countries reported as following an inflation target (MP3), i.e., Armenia, Georgia and Moldova, seem to fit at least partly into the same category (see Section 5.4).

5.4 Fear of floating and failure to introduce IT strategy

The obvious question arising from the above analysis is why monetary authorities of CIS countries are so reluctant to move to genuine free floating and give up interventions in the foreign exchange market, in spite of continued IMF pressure to increase the flexibility of their exchange rates. In fact, the 'fear of floating' is not a unique CIS phenomenon. As known from other countries' experience, there are at least two reasons for the fear: (1) the high degree of actual dollarization and (2) the danger of a high degree of exchange rate

pass-through to domestic prices, which is particularly challenging for monetary policy in the presence of currency depreciation.

Unfortunately, investigation of the degree of actual dollarization is a difficult task. Estimates of use of foreign cash in individual economies do not exist, although anecdotal evidence and some indirect sources (e.g. Judson, 2012 on using USD banknotes outside the US) suggest that the level of cash dollarization in CIS economies continues to be substantial. There are only data on dollarization of bank liabilities, but they are not fully cross-country comparable. The IMF Financial Soundness Indicators (FSIs) database, which includes an indicator of the ratio of foreign-currency-denominated liabilities to total liabilities in the financial sector, is still under construction and covers only an incomplete set of countries (only 6 CIS countries). And this particular indicator (code I24) includes not only deposits but also other financial sector liabilities.

Table 9 Foreign currency deposits as % of total deposits

Country	2007	2008	2009	2010	2011	Source
Armenia			68.5	64.3	60.6	IMF cr1334, table 3
Azerbaijan	47.0	56.1	56.5	44.0		IMF cr1205, table 6
Belarus		38.9	49.5	51.4	65.1	IMF cr12113, table 5
Georgia	65.4	75.7	73.2	68.7	63.5	IMF cr1298, table 6
Kazakhstan		41.0	47.0	37.0	33.0	IMF cr12164, table 5
Kyrgyzstan				55.7	53.9	IMF cr12329, table 4
Moldova				45.6	42.2	IMF cr12288, table 4
Russia		26.4	25.4	20.2	18.7	IMF cr12217, table 4
Tajikistan				61.9	62.6	IMF cr12110, table 5
Ukraine	32.1	44.0	47.2	42.1	42.6	IMF cr12315, table 7

Note: yellow fields indicate preliminary estimates
Source: IMF Country Reports

In Table 9 we present the ratios of foreign currency-denominated deposits to total deposits, form the recent IMF country reports on CIS countries. Because of methodological problems mentioned above caution is recommended in respect to cross-country comparative analysis. Nevertheless, one can draw the conclusion that the level of dollarization of CIS economies, at least of their banking liabilities, remains high or very high, with the exception of Russia where it is moderate. It increased in the aftermath of the 2008−2009 crisis and then began to recede slowly.

Table 10 allows for interregional comparison based on the most recently available IMF FSI data (the above mentioned indicator, I24). The CIS countries, except for Russia, represent one of the highest levels of liabilities dollarization/euroization, along with the Baltic countries and countries of South-Eastern Europe, higher than Central Europe and other emerging-market regions (especially Asia) and much higher than Eurozone countries.

Table 10 Foreign-currency-denominated liabilities to total liabilities

Region	Country	The latest data	% of total
CIS	Armenia	2012 Dec	64.9
	Georgia	2012 Q4	69.3
	Kazakhstan	2012 Q2	38.8
	Moldova	2012 Q3	49.4
	Russia	2012 Q4	25.2
	Ukraine	2012 Q4	49.2
South-Eastern Europe	Bosnia & Herzegovina	2012 Dec	65.2
	Bulgaria	2011	54.8
	Croatia	2012 Q4	77.8
	Macedonia	2012 Q3	45.1
	Romania	2012 Q3	37.7
	Turkey	2012 Q4	41.2
Central Europe	Czech Rep.	2012 Q3	14.1
	Poland	2012 Q3	20.6
	Slovakia	2012 Q3	3.8
Baltics	Latvia	2012 Q3	85.8
	Lithuania	2012 Q3	51.5
Other EU	Germany	2012 Q4	8.5
	Greece	2012 Q3	6.5
Latin America	Brazil	2012 Q4	11.1
	Chile	2013 Jan	21.3
	Colombia	2013 Jan	6.8
	Peru	2012 Q4	47.1
Asia & Africa	India	2012 Q3	6.2
	Indonesia	2012 Q4	16.3
	South Africa	2012 Dec	5.7

Source: IMF Financial Soundness Indicators

Regarding the exchange rate pass-through to domestic inflation, Korhonen and Wachtel(2005) showed that it remained high in CIS economies (compared to other emerging markets) in the first half of 2000s. It should not be surprising if one takes into consideration their relatively high shares of imports in GDP, especially of consumer goods.

Thus the 'fear of floating' may be a sufficient explanation of why the repeated IMF attempts to promote the IT regime in CIS countries have failed so far. There are still

other obstacles on the way to the IT regime such as limited legal and economic independence of some central banks, shallow financial and money markets in smaller countries, deficits of analytical, modeling and forecasting skills needed to conduct this kind of monetary policy strategy[19]. Clearly, the conditions for successful adoption of IT, as discussed in Section 2.3.2, are not yet in place in the CIS region.

6 Inflation performance and crisis resilience

Having mapped out the actual MPRs we would proceed to check whether and to what extent they impacted inflation performance and how they behaved in the periods of macroeconomic and financial stress.

6.1 Inflation performance

As mentioned in Section 1, in the first half of 1990s CIS countries experienced very high inflation or even hyperinflation (see Table 11). In most countries, except Belarus, Tajikistan, Turkmenistan and Uzbekistan where economic reforms were delayed (for various reasons, in case of Tajikistan this was a civil war), the macroeconomic situation stabilized somewhat in 1996−1997. However, the Russian currency and financial crisis of 1998−1999 and the follow-up series of substantial currency devaluations/ depreciations in virtually all CIS economies triggered a new wave of high inflation.

Table 11 CIS: end-of-year annual CPI inflation in %, 1993−2000

Country	1993	1994	1995	1996	1997	1998	1999	2000
Armenia	10,896.2	1,884.5	31.9	5.8	21.9	−1.3	2.0	0.4
Azerbaijan	1,350.0	1,792.1	84.6	6.7	0.4	−7.6	−0.5	2.2
Belarus	1,996.6	1,959.7	244.0	39.3	63.1	181.7	251.2	107.5
Georgia	n/a	n/a	57.4	13.7	7.2	10.7	10.9	4.6
Kazakhstan	2,165.0	854.6	60.4	28.6	11.3	1.9	18.1	9.8
Kyrgyzstan	929.9	62.1	32.1	34.8	13.0	16.8	39.9	9.6
Moldova	837.0	116.1	23.8	15.1	11.1	18.2	43.8	18.5
Russia	839.9	215.1	131.3	21.8	11.0	84.4	36.5	20.2
Tajikistan	7,344.0	1.1	2,144.2	40.5	163.6	2.7	30.1	60.6
Turkmenistan	n/a	1,327.9	1,261.5	445.8	21.5	19.8	20.1	7.4
Ukraine	10,155.0	401.1	181.7	39.7	10.1	20.0	19.2	25.8
Uzbekistan	884.8	1,281.4	116.9	64.4	50.2	26.1	26.0	28.2

Source: IMF World Economic Outlook Database, October 2012

[19] See Bakradze & Billmeier (2007) on remaining obstacles to introduce IT in Georgia.

The first half of 2000s proved less turbulent for the global economy, compared to the second half of the 1990s and was marked by high growth rates almost everywhere, including the CIS. The latter benefited from a global commodity boom and delayed but positive effects of the painful decade of post-communist transition (1990s). CIS economies grew at a high rate (many of them over 5% annually – see Table 15 in Section 6.2), their external and fiscal balances radically improved (see Table 14 in Section 6.2), demand for money also grew rapidly. However, as seen in Table 12, inflation performance although better than in 1990s, was still far from superior. On average, inflation in the CIS region remained higher, than in other emerging-market regions, not to mention the Eurozone (Figure 6). Several CIS countries experienced problems with sustainable disinflation to single-digit levels. This concerned, in first instance, Belarus, the worst performer thorough the entire decade. However, Uzbekistan, Ukraine, Russia, Moldova and, for shorter periods of time, Azerbaijan, Kyrgyzstan and Turkmenistan also recorded two-digit annual inflation rates, sometimes approaching or even exceeding 20%.

Table 12 CIS: end-of-year annual CPI inflation, in %, 2001−2011

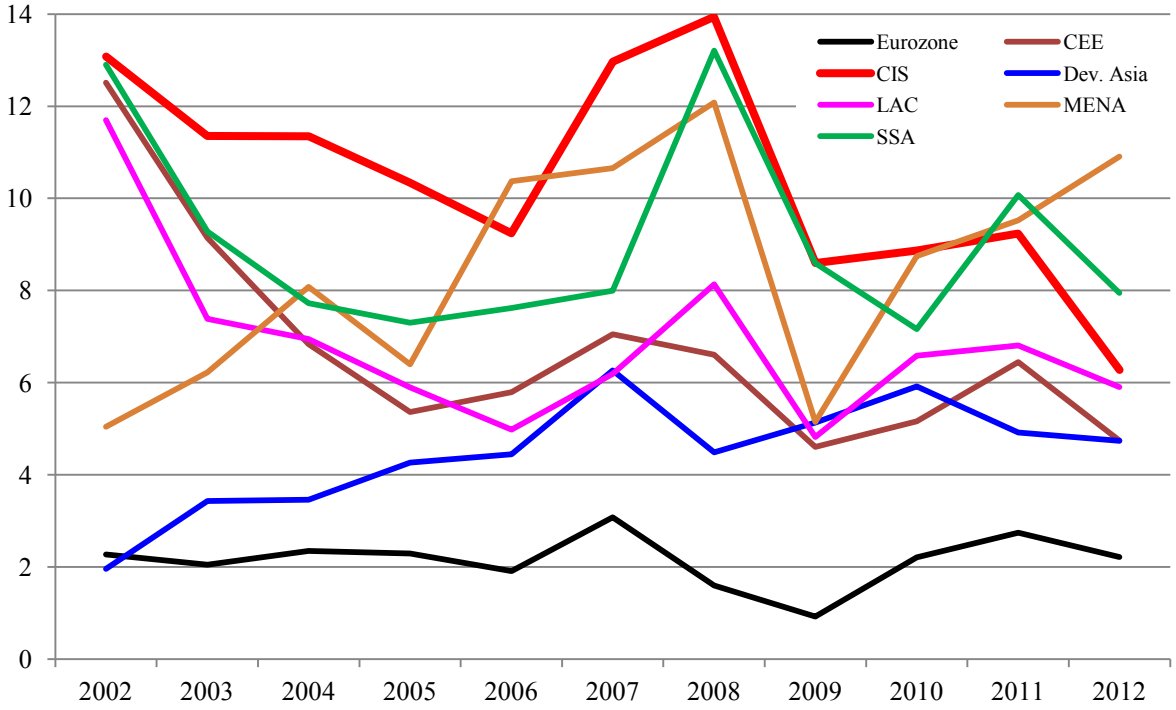
Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Armenia	2.9	2.0	8.6	2.0	−0.2	5.4	6.7	5.3	6.7	8.5	4.7
Azerbaijan	1.4	3.3	3.6	10.4	5.5	11.4	19.5	15.4	0.7	7.9	5.6
Belarus	46.1	34.8	25.4	14.4	7.9	6.6	12.1	13.3	10.1	9.9	108.7
Georgia	3.4	5.4	7.0	7.5	6.2	8.8	11.0	5.5	3.0	11.2	2.0
Kazakhstan	6.4	6.6	6.8	6.7	7.6	8.4	18.8	9.5	6.2	7.8	7.4
Kyrgyzstan	3.7	2.3	5.6	2.8	4.9	5.1	20.1	20.1	0.0	18.9	5.7
Moldova	6.4	4.4	15.7	12.5	10.0	14.1	13.1	7.3	0.4	8.1	7.8
Russia	18.6	15.1	12.0	11.7	10.9	9.0	11.9	13.3	8.8	8.8	6.1
Tajikistan	12.5	14.5	13.7	5.7	7.1	12.5	19.8	11.9	5.0	9.8	9.3
Turkmenistan	11.7	7.8	3.1	9.0	10.4	7.1	8.6	8.9	0.1	4.8	5.6
Ukraine	6.1	−0.6	8.2	12.3	10.3	11.6	16.6	22.3	12.3	9.1	4.6
Uzbekistan	26.5	21.6	7.8	9.1	12.3	11.4	11.9	14.4	10.6	12.1	13.3

Source: IMF World Economic Outlook Database, October 2012

The period immediately preceding the global financial crisis (2006 to mid-2008) was marked by the worldwide inflation pressure generated by the expansionary monetary policy of the US Federal Reserve and the weak US dollar. CIS countries, whose currencies were linked more or less closely to the USD, were unable to resist this pressure. As result, all of them except Armenia and Turkmenistan recorded two-digit inflation in 2007. This situation continued in the first half of 2008. After the Lehmann Brothers bankruptcy and consequent sudden drying up of global liquidity and the strengthening of the USD, the ex-

ternal inflation pressure abated and inflation in the region receded. However, a few countries such as Belarus, Ukraine and Uzbekistan had to struggle with the inflationary effects of currency devaluation.

Figure 6 Major regions: end-of-year annual CPI inflation in %, 2002−2012



Source: IMF World Economic Outlook Database, April 2013

Table 13 offers a useful summary of inflation performance in 2000s. The second column gives the cumulative inflation for the entire decade and the fourth column cumulative inflation for the second half of the decade (and 2011). The third and fifth columns give country rankings − from the lowest to highest inflation rate.

In the first ranking (with base year 2000) the first two positions are occupied by 'managed floaters', aspiring to adopt IT strategy – Armenia and Georgia, followed by two relatively 'fixed peggers' – Turkmenistan and Azerbaijan and then another 'floater', i.e., Kyrgyzstan. The worst inflation performance is by non-credible peggers such as Belarus and Ukraine or countries experimenting with various forms of crawling peg/ band depreciation, i.e., Uzbekistan, Tajikistan and Russia.

Table 13 End-of-year cumulative CPI inflation, 2011, comparing to 2000 and 2005

Country	2000=100%	Rank	2005=100	Rank
Armenia	166.3	1	143.4	2
Azerbaijan	222.7	4	176.1	7
Belarus	1043.1	12	342.0	12
Georgia	198.2	2	148.9	3
Kazakhstan	241.0	6	173.2	5
Kyrgyzstan	229.9	5	190.4	9
Moldova	257.8	7	162.1	4
Russia	328.7	10	173.5	6
Tajikistan	315.3	9	190.1	8
Turkmenistan	209.7	3	140.5	1
Ukraine	288.7	8	203.9	11
Uzbekistan	407.0	11	200.4	10

Source: IMF World Economic Outlook Database, October 2012, Author's own estimates

In the second ranking (base year 2005) Turkmenistan obtains the first rank followed by the group of 'floaters' − Armenia, Georgia and Moldova. Interestingly, Russia improves its ranking position (comparing to the entire decade), which may be associated with the period of greater actual (two-way) flexibility of the RUR.

Summing up, the floating regime (even in its tightly managed variant and without IT strategy in place) can help in fighting inflation, provided the monetary authorities do not hesitate to allow their currencies to appreciate when as needed to cushion external inflation pressure. Crawling peg/ band depreciation and non-credible fixed pegs, which crash periodically, are the worst solutions.

6.2 Resilience to currency crises

Following discussion in Section 2.3 and based on results of empirical analysis in Sections 4 and 5 we now try to discover how individual MPRs behaved in periods of macroeconomic and financial stress and contributed to the occurrence and depth of the currency crises. We define currency crisis as a sudden decline in confidence in a given currency, leading to a speculative attack against it and resulting in its substantial depreciation (Dabrowski, 2003, p. 5).

A visual inspection of Figures 4a – 4j in Section 5.1 indicates two pan-regional crisis episodes, i.e., the period of 1998−1999 when all CIS currencies underwent abrupt

devaluation/ depreciation and the financial shock in the wake of the collapse of Lehmann Brothers in 2008−2009. In both cases the currency crises were accompanied by banking crises[20] in several but not all countries.

However, there were also important differences between the two episodes. The series of 1998−1999 crises was underpinned, to a large extent, by severe fiscal instability in the whole region while ten years later the role of fiscal imbalances proved much smaller (Table 14). In this sense, the 1998−1999 crises could be seen as largely 'home made' even though global contagion created by the 1997−1998 Asian crisis, the sudden collapse of oil prices in the first half of 1998, and the intra-regional contagion (due to abrupt devaluation of RUR) each played a role. In 2008 the role of external shock (drying up of liquidity in the global markets) was dominant, and as soon as the aggressive monetary easing by major central banks provided an effective rescue for the financial market, the exchange rates of CIS currencies either recovered or stabilized at a new level.

Table 14 CIS: General government net lending/borrowing, in % of GDP, 1998−2010

Country	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Armenia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	−2.1	−2.0	−2.3	−1.8	−7.7	−5.0
Azerbaijan	n/a	n/a	0.4	0.0	−0.4	−1.8	1.0	2.4	1.2	2.3	20.0	6.6	14.0
Belarus	−0.1	0.3	−0.2	−1.9	−2.1	−1.1	0.4	−0.7	1.4	0.4	−2.0	−0.7	−1.8
Georgia	n/a	n/a	−2.0	−0.7	−0.2	−0.6	3.7	2.2	3.4	0.8	−2.0	−6.5	−4.8
Kazakhstan	n/a	n/a	n/a	n/a	1.9	4.0	2.6	6.0	7.7	5.2	1.2	−1.3	1.5
Kyrgyzstan	n/a	n/a	−10.7	−6.7	−5.9	−5.2	−4.9	−3.8	−2.7	−0.6	1.0	−1.1	−5.8
Moldova	−5.0	−6.3	−3.5	−0.3	−0.8	0.7	0.7	1.5	0.0	−0.2	−1.0	−6.4	−2.5
Russia	−8.0	−3.8	3.3	3.2	0.7	1.4	4.9	8.2	8.3	6.8	4.9	−6.3	−3.4
Tajikistan	−4.7	−4.0	−5.6	−3.2	−2.4	−1.8	−2.4	−2.9	1.7	−5.5	−5.1	−5.2	−3.0
Turkmenistan	1.1	2.3	−0.5	0.7	0.2	3.7	1.4	0.8	5.3	3.9	10.0	7.0	2.0
Ukraine	−2.8	5.1	−3.3	−3.0	−1.8	−0.9	−4.4	−2.3	−1.4	−2.0	−3.2	−6.3	−5.8
Uzbekistan	−3.8	−3.0	−2.5	−1.4	−1.9	0.2	0.6	1.3	5.4	5.2	10.2	2.8	4.9

Source: World Economic Outlook database, April 2013

In addition, there were a few country-specific crisis episodes, among others, an abrupt devaluation of BYR in 2011 caused by domestic fiscal, quasi-fiscal and credit expansion (see Chubrik, 2011 and 2012 for details).

[20] We define a banking crisis as an actual or potential bank run or failure that induces banks to suspend the internal convertibility of their liabilities (Dabrowski, 2003, p. 5). Analysis of the causes and consequences of banking crises in CIS countries is beyond the scope of this study.

When one analyzes the history of the 1998−1999 crisis, the hybrid character of MPRs surfaces as one of the major causes. As we mentioned in Section 6.1, fixed/crawling pegs/bands, which dominated CIS MPRs after the mid-1990s, helped to take inflation down and stabilize somewhat inflationary expectations in 1996−1997, but they could be neither stable nor credible because of deep fiscal imbalances. And they had to crash in a very dramatic way, which involved an additional spillover mechanism − multiple equilibria − in which the initial currency depreciation increases the expectation of further depreciation and triggers flight from the domestic currency. As a result, depreciation overshot comparing to a hypothetical variant of smoother adjustment that would be possible under a more flexible exchange rate regime[21]. The same scenario was repeated during the 2011 currency crisis in Belarus.

This is a typical scenario of the first-generation model of currency crisis as developed, among others, by Krugman (1979) and Flood & Garber (1984). This model focuses exactly on the inconsistency between the exchange rate peg and expansionary monetary and fiscal policies.

The picture is less clear in respect of the 2008−2009 crisis. First, as we mentioned before, the crisis was triggered almost entirely by an external shock while domestic fundamentals such as fiscal balances or level of international reserves appeared to be reasonably good in most of the countries. Second, MPRs at that time represented, on average, a greater degree of actual exchange rate flexibility than ten years earlier.

Nevertheless, two countries which ran fixed-but-adjustable pegs before the crisis (Ukraine and Belarus), one which was close to such a regime (Kazakhstan[22]), and one country running a de facto crawling peg (Tajikistan) experienced particularly abrupt and painful exchange rate adjustments, and their exchange rates never recovered to pre-crisis levels. Floating currencies (MDL, GEL and AMD) seemed to adjust more smoothly and partly recovered when the external shock abated.

[21] Unfortunately, we cannot verify empirically such a counterfactual hypothesis because no CIS country had a floating exchange rate regime before the 1998-1999 crisis.
[22] In case of Kazakhstan the banking crisis, which started in 2007, there was an additional factor (apart from external post-Lehmann shock) which contributed to the exchange rate adjustment.

Table 15 CIS: annual growth rates of real GDP, in %, 2001−2011

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Armenia	9.5	14.8	14.1	10.5	14.1	13.2	13.7	6.9	−14.2	2.1	4.6
Azerbaijan	6.5	8.1	10.5	10.2	26.4	34.5	25.0	10.8	9.3	5.0	0.1
Belarus	4.7	5.0	7.0	11.5	9.4	10.0	8.6	10.2	0.2	7.7	5.3
Georgia	4.7	5.5	11.1	5.9	9.6	9.4	12.3	2.3	−3.8	6.3	7.0
Kazakhstan	13.5	9.8	9.3	9.6	9.7	10.7	8.9	3.2	1.2	7.3	7.5
Kyrgyzstan	5.3	0.0	7.0	7.0	−0.2	3.1	8.5	7.6	2.9	−0.5	5.7
Moldova	6.1	7.8	6.6	7.4	7.5	4.8	3.0	7.8	−6.0	7.1	6.4
Russia	5.1	4.7	7.3	7.2	6.4	8.2	8.5	5.2	−7.8	4.3	4.3
Tajikistan	10.2	9.1	10.2	10.6	6.7	7.0	7.8	7.9	3.9	6.5	7.4
Turkmenistan	20.4	15.8	17.1	14.7	13.0	11.0	11.1	14.7	6.1	9.2	14.7
Ukraine	12.2	5.2	9.6	12.1	2.7	7.3	7.9	2.3	−14.8	4.1	5.2
Uzbekistan	4.2	4.0	4.2	7.4	7.0	7.5	9.5	9.0	8.1	8.5	8.3

Note: yellow fields indicate preliminary estimates
Source: IMF World Economic Outlook Database, October 2012

Looking at real sector performance (Table 15) in 2009 (the peak of the crisis), of the four most hard hit countries, there were both ‘floaters’ (Armenia and Moldova) and ‘peggers’ (Ukraine and, in softer version, Russia). Most likely, there were other factors than MPRs, which determined GDP growth or decline in that period. Interestingly, the same observation holds for CEE countries, where the crisis hit both peggers and floaters hard (Dabrowski, 2010).

Summing up, non-credible exchange rate commitments (pegs) of various type, i.e. those which are not supported enough by sound macroeconomic fundamentals (especially fiscal balances) may increase the probability of currency crisis and its severity. They are also obviously inefficient in anchoring price stability and low inflationary expectations.

6.3 Policy recommendations

As our discussion of potential strengths and weaknesses of individual MPRs in Section 2.3 remains inconclusive we cannot offer any single recommendation to CIS monetary authorities in this respect. Furthermore it is very unlikely to find a one-size-fits-all type solution for the entire region. Instead, the choices must be country-specific. The former Soviet republics were never homogeneous in terms of size, GDP-per-capita, sector structure, trade links, natural endowment, human capital, etc. While until 1991 they all had at least the

same economic system and economic policies, institutions and currency (each as a part of the single centralized state). Since the collapse of the USSR one can observe an increasing divergence of their development trajectories, including external economic relations, financial sector developments, economic institutions and economic policies.

Currently, all CIS countries run hybrid MPRs. Taking into consideration their rather limited financial openness, *de jure* and *de facto* (see Section 3), substantial buffers of international reserves (Section 5.2), low levels of public debt (in most but not all countries), as well as the relative financial calm in this part of the world, they can continue with such regimes in the short-term. However, assuming the increased capital mobility and financial openness of this region, they will have to move towards one of the 'corners'.

Our findings relating to inflation performance (Section 6.1) and crisis resilience (Section 6.2) suggest some benefits of greater exchange rate flexibility (although still within the hybrid class of regimes). The IMF has also consequently advocated more exchange rate flexibility since the end of the 1990s. All this makes a free floating 'corner' more probable at the moment, either in an IT or money aggregate targeting variant.

Nevertheless the 'fear of floating' discussed in Section 5.4 and very much present in CIS has its rational grounds (low credibility of national currencies, dollarization, high exchange rate pass-through to domestic inflation, transaction costs related to high exposure to foreign trade) and cannot be simply ignored. Some of these problems can be addressed by means of prudent macroeconomic and financial policy in all its aspects (monetary, fiscal, income, etc.) conducted consistently over the years. Other (institutional and technical) obstacles to implementing IT strategy in CIS countries, discussed in Sections 2.3.2 and 5.4, seem to be easier to overcome but would require upgrading central banks independence, and their internal governance, analytical, forecasting and communication capacity.

The opposite 'corner' solution ('hard peg') also cannot be totally excluded from consideration, in particular, in small open economies with shallow financial markets. However, this option may become more feasible when major central banks end their phase of extraordinary monetary easing and exchange rates between major currencies stabilize somewhat.

As we argued above there is no ideal MPR; each variant has strengths and weaknesses, in various proportions. This mean that specific country choices will not be easy and will require consideration of various, sometimes contradictory, arguments coming both from theoretical models and empirical experience.

7 Summary and conclusions

After introducing national currencies in 1992−1993 and stabilizing them in mid the 1990s, most CIS countries ran a peg to the US dollar ranging from a fixed-but-adjustable peg to a crawling band. Almost all these arrangements collapsed in 1998−1999, during the financial and currency crises. After the crises, most CIS countries formally announced a move to the floating regime but *de facto* re-pegged their currencies to the US dollar at the new level. However, during the 2000s some of them moved gradually to more flexible arrangements, such as pegging to a basket of currencies, accepting a broader band of exchange rate fluctuations, or trying a managed float. The latter concerns three small countries – Armenia, Georgia and Moldova, which also tried to go to IT but never moved beyond the preliminary stages.

As result, in the early 2010s all the CIS countries continued with hybrid MPRs, and none have been able to overcome the 'fear of floating', in spite of a continued IMF push towards greater exchange rate flexibility. This seems to be the main obstacle to implementing IT, apart from the problems of shallow financial markets, insufficient independence of central banks, and underdevelopment of their analytical, forecasting and communication capacities.

Hybrid regimes crashed during the 1998−1999 crisis and did not perform particularly well a decade later, during the 2008−2009 global financial crisis. They also failed to deliver on disinflation to a low one-digit level. This failure also reflects a lack of a full political consensus regarding price stability and a continuous burdening of monetary policy with policy goals and tasks other than low inflation, for example, financing fiscal deficits, supporting marginal exporters (via an undervalued exchange rate), supporting privileged sectors, and other quasi-fiscal activities.

Continuation of hybrid regimes is perhaps possible in the short term, given the current low level of financial openness of CIS economies, both *de jure* (remaining capital account and, sometimes, current account restrictions) and *de facto* (shallow financial markets, poor business climate). However, if one assumes irreversibility of financial globalization, on the one hand, and continuous economic reforms in the CIS region, leading to their greater financial and investment openness, an increasing number of countries will face problems involving the principle of 'impossible trinity' (or 'macroeconomic trilemma'). Consequently, they will have to move away from the hybrid regimes towards either mone-

tary independence under a truly free floating exchange rate (with either IT or a monetary aggregate target) or give up monetary independence by adopting a hard peg.

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