A payment system failure and its consequences for interrepublican trade in the former Soviet Union

Koen Schoors*

*Phd. in economics
Department of General Economics
University of Ghent
Hoveniersberg 4, 9000 Ghent, Belgium
phone: +32 9 264 34 79
fax: +32 9 264 34 78
E-mail: Koen.Schoors@rug.ac.be

ABSTRACT

The implosion of the Soviet Union coincided with the implosion of trade links between the former republics. We analyse this trade collapse from the point of view of the disintegration of the interrepublican payment system. The objective is to determine whether this payment system failure was indeed a cause of the trade collapse and whether it could have been avoided. First we will analyse how the system for interrepublican payments disintegrated in 1992-1993. This must have constituted a serious barrier to interrepublican trade. Then we estimate the loss of trade that was caused by the payment system failure. Expressing this cost in terms of GDP delivers a good approximation of the welfare loss due to the payment system failure. We compare this welfare loss to the historical example of post-WWII Europe. In this historical period, Europe had a disintegrated international payment system, until the problem was fixed by the foundation of the European Payments Union (EPU). At the end of the paper we reconsider the much debated question, whether a Soviet Payments Union (SPU) could have offered any relief (see for example Van Brabant, 1991; Gros, 1991 and Havrylyshyn and Williamson, 1991). In fact a suchlike institution was conceived and founded but it was never operational. We will describe how the concrete proposal of a SPU looked like and analyse why it failed. In the last section we provide policy conclusions.

1. Introduction

The implosion of the Soviet Union coincided with an implosion of the trade links between the former republics. This stylised fact can be seen from every trade statistic available. In this paper we show that this trade collapse was to some extent unnecessary and due to a payment system failure. We estimate the economic cost of the sudden collapse of interrepublican flows and show how this unfortunate payment system failure could have been avoided without abandoning economic independence by simply founding a payment union of the EPU-type. Section 2 describes how the payment system failure came about. Section 3 measures the costs of this failure in terms of trade losses and GDP. Section 4 provides a realistic alternative that failed for political reasons. Section 5 summarises and provides policy conclusions.

2. History of interrepublican payments

0.1. The chaotic monetary constitution in 1990-July 1992 : the ruble zone

In Perestroika times interrepublican payments were identical to domestic Russian payments. They were routed through the Soviet MFO-system[i]. The only technical difference was the additional involvement of the republican branches of Gosbank in the settlement process. This setting changed in the early nineties.

In the early nineties the power struggle between Gorbachev and Yeltsin (elected president of the Russian Republic in June 1990), or in other words between the SU centre and its republics, was reflected in the structure of the financial system. This is referred to as the "bank war" (Kivilahti, Kero, Tekoniemi, 1993). A first indication of this war showed already in mid-1990 when the central bank of Russia unilaterally required all banks on Russian territory to restructure as commercial banks before end-1990 according to the decrees of 13 July and 16 August 1990 (IMF, 1992b). This caused the reorganisation of the SB in 1991 and their splitting up along territorial lines, mostly in regional banks.
The bank war culminated in December 1990, when the Yeltsin Government voted a law on banking in Russian parliament just some days before a comparable but slightly different law was voted in the

Union parliament. The Russian law explicitly transforms the Russian branch of the NGB into the Central Bank of Russia (CBR), which de facto means that the republican branches of the former NGB become republican central banks (Schoors 1998). Officially the CBR was still subordinate to the NGB, but in practice the CBR turned out to behave very independently from NGB as a real central bank. Finally the CBR even unilaterally assumed NGB remaining centralised powers on November 22, 1991, including the ruble printing press. Moreover the NGB that officially existed till end 1991 did not prepare a credit plan for the republican central banks in 1991 (IMF, 1992c). This environment of growing centrifugal powers in a dying union induced uncoordinated behaviour between central banks of different republics and finally turned out to be the prelude of the disintegration of the ruble zone

This process of disintegration escalated in December 1991. The USSR ceased to exist and all republics became independent (new independent states or NIS). Gosbank ceased to exist as a unified structure and its former republican branches became the central banks of the NIS. These new central banks continued to supply credits to agricultural enterprises, state-owned industrial enterprises, banks and governments. A hybrid monetary system emerged. The creation of cash rubles came exclusively in hands of the Moscow-based Russian Central Bank (CBR). Non-cash rubles could however be issued by each of the new central banks of the NIS by granting central bank credits. This gave birth to an evident free rider problem. Every NIS could be expected to expand central bank credit, since the benefits of monetary expansion would accrue to the expansionary NIS, while the burden of inflation could be expected to spill over to the other members of the ruble zone through payments for intra-republican trade. (Havrylyshyn and Williamsom, 1991). This perverse incentive to expand is stronger for small republics, since they can reap a given benefit in % of GDP at a smaller opportunity cost in terms of higher inflation. In order to reap an equal benefit in terms of NMP, larger republics will have to create more money and the union-wide money supply will raise more. Hence the inflation cost will be higher for them. These conclusions also hold for the other countries involved. The damage to all other NIS of monetary expansion by one of the NIS will be larger if the expansionary republic is larger. Therefore one would expect that small NIS are more urged to expand money supply than large NIS, because their inflation cost will be lower and the damage done to others will be lower too. Such a setup carries a lot of inflationary potential. It was commonly referred to as "the worst monetary constitution one can imagine"[ii]. Empirically it is interesting to see whether Russia did suffer from this awkward monetary constitution in the form of

higher inflation. Many influential authors claim that Russia indeed bore an inflation cost of this setting (see for example Koen, V. and Marrese, M., 1995; Åslund, 1993). This can only be true if monetary policy was more expansionary in other republics than in Russia. This may have been the case in 1990 and 1991. However Gros and Steinherr (1995) show clearly that this was not the case in 1992. During 1992 monetary policies in ruble zone countries have actually been less expansionary than in Russia, with a distinct exception for Ukraine. One can confidently say that the Russian inflation in 1992 was mainly due to the expansionary policy of the CBR itself, rather than to spill-over effects through interrepublican payments, with the notorious exception of Ukraine. The analysis of Gros and Steinherr (1995) actually shows that the two biggest ruble zone countries (Russia and Ukraine) were the most expansionary countries. One may conclude that their lax policies have hurt the smaller ruble zone countries more than they have been hurt themselves by the lax policies of these smaller countries. It may be true however that the lax Russian monetary policy in the second half of 1992 was to a large extent due to the huge CBR credits to CIS-countries.

0.2. The correspondent accounts since July 1992

This hybrid system was soon abolished. At the heart of the CBR, the "worst constitution one can imagine"-scenario was conceived as realistic and feared. This was in a way legitimate because monetary policy of the CBR in the first half year of 1992 was in fact quite strict. Unfortunately the hybrid system was replaced by an even worse system. Already on the 1st of January 1992 commercial banks were obliged to settle all transactions with former republics through correspondent accounts at the CBR. Settlement was in theory conditional on the availability of funds (Granville, 1993). Nevertheless, the CIS countries were allowed to accumulate large payment deficits in their trade with Russia during the first half year of 1992. These deficits were automatically credited to the recipient Russian enterprises by the CBR since there was no efficient system to record them. This followed from the inherited USSR payment system. The IMF (1994) explains the matter more in detail: "..., each branch of Gosbank had correspondent accounts with virtually every other branch, so that it was always possible to know whether a given branch was in deficit or in surplus with the rest of Gosbank. However, the system was not set up to track 'regional' balance of payments as opposed to 'branch' balance of payments." (IMF, 1994, p. 33). As a consequence the CBR was informed only afterwards about the balances and the trade balances were financed with CBR payment overdraft (which is in fact pure non-cash ruble expansion) and

interstate IED. In April 1992, the processing of interstate payments was centralised in the regional offices of the CBR[iii]. On 12 June 1992, Ukraine gave its economy a huge credit injection to solve IEA. Russia feared the inflationary impact on its own economy and the signalling function of the credit expansion in Ukraine as an example for other ruble zone countries. As a reaction, in July 1992 all interrepublican payments were centralised in Moscow by forbidding other RKT to handle any CIS payments[iv]. Also the CBR founded a special department for inter-CIS payments as part of the Information Technology Department of the CBR (Sensenbrenner and Sunderarajan, 1994). The installation of centralised correspondent accounts allowed the CBR to monitor and restrain the dynamics of payments imbalances in interrepublican trade with regard to their influence on Russia's monetary supply. Two measures were crucial to the decree. 1) The CIS countries could only credit these correspondent accounts (pay for Russian imports) if they had sufficient funds on the debit side (from export to Russia), or in other words the correspondent accounts had to be balanced over time. The rationale for this balancing requirement was straightforward. If Russia could prohibit net movements of funds from other countries to Russia, then credit emission in those countries could not -as feared- affect the money supply in Russia. Off course one could not expect balance right away. Therefore the other crucial point of the decree was that 2) Russia granted every CIS country a line of credit at the start in order to provide room for structural adjustment[v].

For various reasons the credit lines were exhausted quickly, for some countries already within three months after the establishment of the credit lines. One of the reasons may have been the soft creditor reputation of the CBR. The CIS countries probably gambled that the CBR would be weak and raise the credit limit, as it had done in the past. They rightly did so because Viktor Gerashenko had been appointed Chairman of the CBR in July 1992 and he indeed allowed the technical credits to rise beyond any limit[vi]. The central problem for Russia was the soft policy of Gerashenko. This also applied to cash rubles. While before July 1992 there had been a severe cash squeeze, this changed radically in the second half of 1992 and cash was delivered on demand to the ruble zone countries. Note however that cash deliveries were also accounted for as technical credits by the CBR. The credit lines were abused by the CBR and Russian enterprises to expand the domestic money supply. So the system of the obligatory balanced correspondent accounts combined with the technical credits could not stop the flow of credit from Russia to the republics in 1993 because of the double-edged role of the CBR, as can be seen from table 1.

Therefore the system was changed in April 1993. All standing technical credits were converted into state to state debts, denominated in US dollars and with LIBOR interest rates and managed by the Ministry of Finance instead of the CBR. Also credit lines were opened for the remainder of 1993, but they were tied credits for buying specific Russian goods and they were subject to approval of the CBR (Granville, 1993). These changes limited the discretionary power of Gerashenko of the CBR.

Table 1. The Russian correspondent accounts by end 1992

	Correspondent account balance by end 1992 in bn rubles		
	excluding cash rubles (1)	including cash rubles (2)	(1) as % of GDP
Armenia	9	35	12.8
Azerbaijan	34	51	17.4
Belarus	69	102	7.2
Georgia	38	69	28.4
Kazakhstan	235	407	14.8
Kyrgyzstan	20	42	10.9
Moldova	18	27	7.5
Tajikistan	17	36	42.5
Turkmenistan	111	172	34.4
Ukraine	862	862	21.7
Uzbekistan	117	292	28.1

Source : Adapted from IMF (1994), p. 26.

Gros and Steinherr (1995) describe how the system worked in practice. Every CIS-based importer of Russian goods transferred payment orders for import from Russia to its local bank, which in turn sent it to the country's national bank. The respective CIS national banks periodically sent a batch of payment orders to the CBR in Moscow. The payments from the CIS importer were booked on the liability side of the correspondent account with the country concerned while Russian payments for Russian imports from that country were booked on the asset side of the correspondent account.

This approach of the correspondent accounts had some obvious disadvantages. As a result the trade between CIS countries was seriously hampered. In practice there was a lot of confusion and additional delay due to the reform. The implementation of a more centralised system increased and

slowed down the payments traffic between Moscow and the Russian regions. A lot of payment documents got lost between the two systems and had to be rerouted. Also the centralised RKT-system which followed the MFO-system, caused quite some trouble by itself[vii]. Add to this that the settlement of inter-CIS payments via correspondent accounts became unreliable, as a consequence of the unpredictable blocking of payments by the CBR because the correspondent account concerned was in deficit. As a consequence even liquid enterprises could in some cases not purchase the required Russian inputs because their country as a whole was in deficit and thus payments were blocked. The system clearly affected the efficiency of the allocation of goods. More structurally, the practice of correspondent accounts put the additional constraint of bilateral balancing on intra-CIS trade. Such a crackdown from multilateral balancing to bilateral balancing is potentially harmful to trade and welfare. We show the point by means of a simple example. Assume that a Republic A has a deficit with Russia but a surplus with other republics, with its intra-CIS balance of payments in equilibrium. Bilateral balancing would reduce Republic A's import from Russia and its export to all other countries. Republic A's domestic producers would be hurt by lower revenues from export to CIS countries and lower supplies of intermediary and primary goods from Russia.

There are some arguments that indicate that the harm done by bilateral balancing is substantial. An important factor is the stickiness of the FSU trade structure. One can reasonably assume that the trade structure of the FSU could adjust only slowly. The widespread monopolistic organisation of Soviet industrial production as a consequence of the Soviet location policy of industrial production is the main culprit for this lack of flexibility[viii]. During 1992-1993 economic reforms in Russia and the introduction of the correspondent accounts in July 1992 enforced an abrupt price adjustment and bilateral balancing, which must have been suboptimal. The stickiness of the Soviet trade structure suggests that the optimal adjustment path to a new structure of trade would have been far more gradual than the actual shock adjustment in 1992-1993. It is easy to give examples[ix]. On the other hand it is clear that the Soviet distorted trade pattern had to change anyway because of the abolishment of central planning and the transition to market practices. Gros and Steinherr (1995) showed that, according to existing gravity models, liberalisation of foreign trade would inevitably redirect Russian trade towards the West. Simple DOT-data even suggest that this redirection of trade started already before the big bang of January 1992. Tarr (1994) estimated the terms of trade effect on interrepublican trade from the introduction of world prices. He finds that one may expect major

shifts in the interrepublican terms of trade[x] and hence adjustment. We however argue that this adjustment should have been based on deliberate responses of enterprises to altered incentive structures, rather than on an artificial crackdown of interrepublican trade due to a payment system failure. Payments to the NIS were settled slowly and unreliably or became impossible. Compared to this, payments to third countries were relatively simple and fast.

3. Measuring the adverse effects of bilateralism

0.1. Methodology and data

We estimate the loss of trade that would have occurred if the shift to world prices and the constraint of bilateral balancing would have occurred in January 1988. This estimation is a good indication of the order of magnitude of the shock in 1992, especially because of the stickiness explained above.

For these estimations one needs interrepublican trade data. In the literature interrepublican trade data from 1987 are used. These data were collected by Goskomstat in tempore insuspecto and are the only reliable data available. Because of the stickiness of the Soviet trade structure they should be a good approximation of the structure of interrepublican trade in 1991-1993. A prospective analysis shows that the 1987 data are indeed representative for the trade structure in 1992-1993[xi].

The first step is to convert the ruble denominated Goskomstat data to world prices to see the effect of world prices on interrepublican trade. For most commodities Goskomstat supplies data on export prices received by the FSU. These prices are representative for world market prices. These world price data were used to calculate (roughly) a matrix for interrepublican trade in export prices. The result is a 12x12 matrix of all trade flows between NIS (the Baltic countries excluded) in 1987 and at world export prices. This basic matrix is identical to the matrix used by Gros and Dautrebande (1992). We refer to these data as **matrix 1**.

There is an important bias to be expected from this data set. The Russian interrepublican trade surplus in 1987 is mainly due to the fact that Russia was a large net exporter of gas, oil and energy

in general. In the case of world prices and structural adjustment this export was expected to be redirected to the domestic market or to the more profitable Western markets. Therefore we should eliminate this structural deficit for the use of our calculations.

We propose two methods to perform this correction :

1) Starting from matrix 1, we can construct a matrix where Russia is assumed to be in multilateral balance with the republics, by proportionally reducing Russian exports to the various republics to the effect that total Russian interrepublican exports equal total Russian inter-republican imports. The republics are however allowed to be unbalanced among each other. This delivers a new trade matrix that is multilaterally balanced for Russia. We call this data set **matrix 2**. Matrix 2 comes in some variants. Anecdotal data show that in 1992-1993 Russia was still running a surplus in its trade with the NIS. Therefore we could add hypotheses concerning the % by which Russia reduces its surplus, say 100% (**matrix 2a),** 85 % **(matrix 2b)**, 70% **(matrix 2c)** or 50% **(matrix 2d).**

2) The proportional attribution of the Russian trade surplus is off course too rough an approximation. In matrix three we apply a more refined method. We take into account the latest reliable data for interrepublican trade in oil, gas and coal. In 1990 there existed no reliable matrix for interrepublican trade. However there still was a reliable data set on interrepublican trade in energy (mainly power, coal, gas, oil, and other fuels), because these goods were still strongly controlled by the state. We use the Goskomstat data set on interrepublican trade in energy, as reported by Michalopoulos and Tarr (1992). For every republic we calculate the 1990 interrepublican balance for trade in oil, gas and coal. These balances are used to construct weights, attributing a weight of zero to surplus countries[xii]. The zero weight countries are Azerbaijan, Turkmenistan and Uzbekistan. The structural Russian surplus in matrix 1 is then dissolved by subtracting it from Russian exports to the various NIS with the use of these weights. This delivers **matrix 3**.

The last method fits reality better than the method of matrix 2. One could object to the zero weights for Azerbaijan, Turkmenistan and Uzbekistan. The rationale for this is as follows. These countries may have had a surplus in energy trade, but do not have a structural overall surplus in interrepublican trade. They need their interrepublican exports of energy to finance ditto imports. Also they were not able to redirect energy exports to the West in the short run, because the infrastructure (pipelines, harbours etc.) was deficient. Matrix 3 comes in some variants. We can reasonably assume that Russia's structural surplus is solved only partially through lower energy

exports, for Russia kept running surpluses throughout 1992-1993. Therefore we let the structural deficit decrease with 100% (**matrix 3a**), 85% (**matrix 3b**), 70% (**matrix 3c**) and 50 % (**matrix 3d**).

So we have 1 data set that is adjusted to world prices and 8 data sets that are additionally corrected for the structural Russian surplus according to various assumptions. Starting from these 9 data sets we can analyse the effect of bilateral balancing on trade. There are basically two methods to do this:

1) Kaplan and Schleiminger (1989) suggest to compare the absolute value of bilateral balances to the absolute value of multilateral balances. We calculate two measures, namely the ratio of bilateral to multilateral balances and the difference between bilateral and multilateral balances, divided by GDP. The ratio's are calculated for the 9 data sets. The interpretation is straightforward. The higher the ratio, the more serious the barrier to trade. The rationale is that all balances have to be financed. Bilateralism ceteris paribus induces higher balances to be financed and thus, assuming an upper boundary on financing potential, hampers trade. The assumption of an upper constraint to financing potential fits very well the practice of the correspondent accounts, with the limited technical credits that were exhausted very quickly. The results are reported in table IV.6., panel a, column 4 and 5.

2) A second method is to calculate a bilaterally balanced trade matrix. Technically this amounts to selecting for every trade relation the lowest number of import and export. Then we compare the bilaterally balanced matrix to the original multilateral one and calculate the loss of export in % and the loss of export in % of NMP, due to the bilateral balancing constraint. This method fits the system of correspondent accounts that indeed enforced bilateral balancing. The two measures are calculated for all former republics separately and for the FSU. The measures for the FSU are reported in table IV.6., panel a, column 2 and 3, and for Russia in column 6 and 7.

In order to interpret the results of this analysis, we must compare them to a benchmark. We propose post-world war II (WWII) Europe as the appropriate benchmark. After WWII, the European economy was a war economy. Some of its characteristics are analogous to those of the post-Soviet NIS economies. We indicatively mention obsolete capital stocks, lack of capital investment, high inflation, conversion of the military industrial complex to civil purposes, the lack of consumption

goods and trade on the basis of inconvertible currencies and bilateral agreements. Europe countered bilateralism by establishing the European Payments Union (EPU) in July 1950 (Kaplan and Schleiminger, 1989). The EPU was among other things a multilateral clearing agreement that stimulated multilateral trade in Europe. It also provided for technical credits to facilitate adjustment of deficit countries. In late 1958 current account convertibility was generally restored and the EPU was dissolved.

We apply method 1 and method 2 to trade between the original 16 EPU-countries[xiii] in order to compare our findings for Russia to historical standards. Exactly like for the FSU we constructed a trade matrix for trade flows between EPU-countries. Trade data are import data in dollars from the IMF's publication *Directions of Trade*. We used data for 1949, 1950, 1951, 1952, 1953, 1954 and 1955. This leaves us with 7 16x16 matrices of EPU-trade. GNP-data are from the IMF's publication *International Financial Statistics* (IFS). We applied method 1 and 2 to these 7 matrices in exactly the same way and separated the leading EPU trade country, namely the United Kingdom (UK).The results for the EPU are in table 2., panel b, in the same columns as for the FSU.

0.2. Presentation of results and interpretation

The interpretation of these results is subtle. Column (1) shows that the FSU was much more dependent on intra-FSU trade than was the EPU on intra-EPU trade. Off course NMP and GNP are not totally comparable identities[xiv]. Still it is clear that FSU-dependence on FSU-trade is greater than EPU-dependence on EPU-trade. This is among others due to historical circumstances. European countries were still recovering from WWII and were typically isolated and disintegrated economies. The starting point was relative disintegration. The FSU on the other hand had been isolated from the world economy and had developed a very integrated economy with high interdependency. If we neglect the strongest assumptions (matrix 1, 2a and 3a) we see that the export loss due to bilateral balancing (panel a, column 2) may have been somewhere between 15% and 20%, while in % of NMP (panel a, column 3), the loss must have been between 3% and 5%.

Table 2. The possible harm done by bilateral balancing

Panel a

Data set	trade/ NMP (1)	Export loss in % (2)	Export loss in NMP (3)	Kaplan & Schleiminger (4)	in NMP (5)	Export loss in % (6)	Export loss in NMP (7)
	Former Soviet Union					Russia	
Matrix 1	27.5%	24.9%	6.8%	1.3	2.9%	38.3%	8.6%
Matrix 2a	22.1%	15.2%	3.3%	1.8	2.9%	10.9%	1.5%
Matrix 2b	22.9%	13.7%	3.1%	1.4	1.9%	13.2%	2.0%
Matrix 2c	23.7%	14.0%	3.3%	1.3	1.6%	16.9%	2.8%
Matrix 2d	24.8%	17.2%	4.3%	1.4	2.6%	24.2%	4.4%
Matrix 3a	22.1%	23.0%	5.1%	1.9	4.7%	20.8%	2.9%
Matrix 3b	22.9%	20.3%	4.6%	1.6	3.4%	21.1%	3.2%
Matrix 3c	23.7%	17.9%	4.2%	1.4	2.2%	21.4%	3.5%
Matrix 3d	24.8%	16.8%	4.1%	1.2	1.5%	23.7%	4.3%

Panel b

Data set	trade/ GNP (1)	Export loss in % (2)-	Export loss in GNP (3)	Kaplan & Schleiminger (4)	in GNP (5)	Export loss in % (6)	Export loss in GNP (7)
	EPU					**United Kingdom**	
1949	6.9%	20.7%	1.4%	2.1	1.5%	15.9%	0.8%
1950	7.0%	19.2%	1.4%	2.3	1.5%	20.9%	1.0%
1951	8.0%	21.3%	1.7%	1.7	1.4%	13.2%	0.7%
1952	7.3%	17.7%	1.3%	1.8	1.1%	10.7%	0.5%
1953	7.2%	19.5%	1.4%	2.2	1.5%	13.0%	0.6%
1954	7.2%	21.2%	1.5%	1.8	1.3%	22.2%	1.0%
1955	7.6%	20.3%	1.5%	1.9	1.5%	20.1%	0.9%

Comparing to EPU-experience (panel b), we see that the loss of export due to bilateral balancing would in the EPU as a matter of fact have been more severe in terms of export loss (around 20 % in 1949-1951), but less severe in terms of lost

GNP (always around 1.5%). The difference is off course due to the different degree of trade integration. We also observe that, in terms of NMP, Russia seems to lose less than the other FSU-countries (comparing column 2 and 6 in panel a). This is due to the fact that Russia was the least dependent on FSU-trade of all FSU republics. This again is easily explained by Russia's scale and vast natural resources. So, the consequences of bilateral balancing seem to have been serious for the FSU, but less serious for Russia than for others.

4. The 'Soviet Payments Union' revisited

Looking at the destructive effects of bilateralism identified above, one might conclude that a payments union would have been a useful institute for the CIS. Already at the time of the demise of CMEA, several authors had proposed an East European Payments Union (Bofinger ,1990; Kenen, 1991, and others). When the Soviet Union fell apart several authors followed this line of reasoning and argued in favour of a so-called 'Soviet Payments Union' (SPU) on the ground of economic arguments (Van Brabant; 1991; Gros, 1991; Havrylyshyn and Williamson, 1991). In all this literature the European Payments Union (EPU) was referred to as a benchmark. Other authors strongly argued in favour of the ruble zone. Amazingly the IMF was a long time in this position (IMF, 1992). Duchêne (1994) finds no economic grounds for the maintenance of the ruble zone. Åslund (1993) and Eichengreen (1993) argue in favour of a clean break with the Soviet Union and favour free trade and current account convertibility.

Eichengreen (1993) rightly claims that other factors than simply economic rationale lie at the heart of the success of the EPU. The EPU played a special, historically unique role in post-WWII Europe and fitted in the framework of European integration. The FSU on the other hand was moving in the opposite direction. He argues that the actual choice for the NIS is between bilateralism and convertibility. History seemingly proved him to be right. Still this does not exclude that a SPU could have been a useful and temporary instrument (as was the EPU). Indeed free trade and convertible currencies are the best safeguards against trade disruptions and it is clear that they should be the ultimate goal. However, the transition from the hybrid ruble zone to ultimate free trade and convertibility is not possible without serious disruptions. Therefore the SPU could have played a useful though temporary role. Note for example that at the time of splitting of Czechoslovakia in the Czech and the Slovak Republic, the two new countries agreed on a payments arrangement (see

Baliño, Dhawan and Sunderarajan, 1994). The agreement allowed payments between the two countries to be cleared and settled through their central banks. The unit of account and settlement was the ECU. The agreement avoided the disruption of payments and provided a transitory mechanism between the former Czechoslovak currency union and the final current account convertibility, without having to pass the phase of bilateralism[xv]. This shows that one does not need the special historical context of integration for a payments union to work, as Eichengreen argues. Therefore we think that the failure of the SPU is due to other factors. We argue that 1) a SPU could have made a major contribution to the softening of the burden of transition from a purely economic point of view, but that 2) the feasibility of a SPU was low because of the specific post-Soviet environment with Russia as the dominant partner.

After the introduction of the correspondent accounts, Russia tried at several occasions to reestablish a kind of Post-Soviet Monetary Union (PMU). This did not succeed because of the disequilibrium in decision power between Russia and the other republics. In October 1992 minds were changing in favour of a multilateral payments and settlement mechanism. I was happy to be involved in the work of EES-AGIR[xvi]. In this function, I was an unimportant but close witness of the rise and the demise of the so-called Interstate Bank (ISB). On 9 October 1992 there was an important summit of the CIS Heads of State in Bishkek, the capital of Kyrgyzstan. They concluded the famous Bishkek-agreement. This agreement called for a coordination of monetary, credit and exchange rate policies for all countries that retained the ruble as legal tender[xvii]. On the same date the heads of state decided to create a working party for the establishment of an ISB[xviii]. Initially the ISB was perceived in the western press as a kind of central bank for the ruble zone. Also some CIS-countries feared that it would become a kind of central bank, dominated by Russia. However the text of the decision explicitly calls for proposals for activities of the ISB that are related to the creation of a payment mechanism[xix].

The last quarter of 1992 was devoted to the drafting of an agreement on the establishment of the ISB and on a charter for the ISB. Specialists of EES-AGIR and the IMF were deeply involved in the process of drafting. During the drafting it became clear that the ISB would indeed become rather an institution for multilateral interrepublican clearing and settlement than a bank. The ISB would be only a bank in the sense that it provides technical credits. On 22 January 1993 the heads of state signed a treaty in which they approved the proposed draft agreement and the ISB charter with two

amendments. The amendments concerned the accounting and settlement unit and the distribution of voting rights. The unit of account became the ruble instead of a hard currency as proposed by the Western experts and the distribution of voting rights was changed so that Russia received 50% of the voting rights. The two amendments changed the heart of the agreement because they turned the ISB into a Russia-dominated institution instead of a neutral one, as it was initially conceived.

The ISB also provided a system of technical credit that was analogous to the one applied in the EPU. This allows deficit countries to gradually adjust their interrepublican trade deficits. Every member country received a technical credit limit. The limit was proportional to gross inter-republican trade of the country concerned. The charter provided also a settlement schedule. The proposed schedule was exactly the same as the EPU one. For the first 20% of the credit limit, cumulated monthly balances were fully credited. Then gradually, in layers of 20%, settlement in rubles was required. Cumulated balances exceeding the limit had to be fully settled in rubles. Such a gradual system of technical credit provides strong incentives for deficit countries to solve structural deficits, but still allows temporary trade deficits.

On 14 May 1993, the Heads of State called for the ratification of the agreement and the charter by the member states and set the deadline for the start of operations of the ISB on October 1, 1993. During 1993 the agreements and the charter were indeed ratified by the majority of countries and the ISB was formally founded. Unfortunately the agreement was never implemented. The ISB was founded but never showed any activity near to its mission.

How to explain this implementation failure? First of all, implementation failures were fairly general for CIS-agreements in 1992-1994. Second, we found in table 2. that the export loss in % of GDP as a consequence of bilateralism is lower in Russia than in the other republics. There is less at stake for Russia than for the others. Also the CBR controlled interrepublican payments through the, be it inefficient, system of correspondent accounts. Russia and specifically the CBR were reluctant to exchange this strong position for the more neutral ISB, while gaining only a relatively little efficiency. In short, Russia and the CBR were doubting the usefulness of the ISB and they were able to hamper the implementation since Russia had 50% of the voting rights and the CBR was in practice staffing the ISB[xx]. In post-WWII Europe on the contrary the dominating partner was the US, an outsider in favour of the EPU and the Bank for International Settlements (BIS). Third, in July

1993 the CBR unexpectedly introduced new cash rubles that were clearly Russian instead of Soviet. Since the common Soviet cash ruble was the last remainder of what used to be the ruble zone, this move forced all NIS to choose between becoming a province of Russia or leaving the ruble zone. All countries, excluded Tajikistan that was in civil war, decided to establish their own currencies. Gradually all countries established some form of convertibility to the ruble. This was the decisive step that settled the issue in favour of convertibility. We gathered all the relevant data on the erosion of the ruble zone from various Russian newspapers and the Economic Commission for Europe in table 3.

Table 3. The introduction of national currencies by the former republics

	PARALLEL CURRENCIES IN THE FORMER REPUBLICS						NATIONAL CURRENCIES (SOLE LEGAL TENDER) IN THE FORMER REPUBLICS					
	PARALLEL WITH THE OLD SOVIET RUBLE			PARALLEL WITH THE NEW RUSSIAN RUBLE			TEMPORARY VERSION OF NATIONAL CURRENCY			FINAL VERSION OF NATIONAL CURRENCY		
	name	date	rate	name	date	rate	name	date	rate	name	date	rate
Armenia							Dram	34294	90 R : 1 DR	Dram	06/12/93	60 R : 1 DR
Azerbaijan	Manat	15/08/92	10 R : 1 MA							Manat	34334	
Belarus	Rubel	05/92	10 R : 1 Rl				Zaichik	34485				
Estonia										Kroon	33774	0.125 DM : 1 Kr
Georgia	Coupon	04/93	1 R : 1 C				Coupon	34182		Lari		
Kazakhstan										Tenge	15/11/93	500 R : 1 T
Kyrgyzstan										Som	01/05/93	200 R : 1 So
Latvia	Rublis	07/05/92	1 R : 1 Rs				Rublis	33804		Lats	34147	
Lithuania	Talonas	04/92	1 R : 1 Ta				Talonas	33877		Litas	34174	100 T : 1 Li
Moldova				Coupon & Lei	end 07/93					Lei	29/11/93	
Russia										Ruble	34201	
Tajikistan							Pre 93-ruble	34341				

Turkmenistan										Manat	01/11/93	500 R : 1 MT
Ukraine	Karbovanets	10/01/92	1 R : 1 Ka				Karbovanets	33919		Hryvna	35309	10,000 K : 1 H
Uzbekistan	Sum-coupon	15/11/93		Sum-coupon	06/12/93	1 R : 1 S-C	Sum-coupon	34334				

5. Summarising remarks and discussion

The paper clarifies that the direct cause for the collapse of interrepublican trading system in the FSU was the collapse of the payment system for intra-CIS payments. We analyse in detail how this payment system collapse came about. The main culprit seems to be the chaotic monetary constitution of the ruble zone in early 1992 and the fear at the heart of the CBR for inflationary pressures. As a reaction the CBR enforced the correspondent account system, which can hardly be called an improvement. The system turned out to be a complete failure and induced trade disruptions that were unnecessary and inefficient for all countries concerned. We showed that this payment system failure was costly to all CIS-countries. When compared to historical standards the welfare cost of bilateralism in the FSU proved to be even larger than the welfare cost in post-WWII-Europe. Therefore from an economic point of view it would have certainly been beneficial to the Soviet Union to have a kind of payments union too. We showed that a 'Soviet Payments Union' (SPU) could have substantially reduced the trade loss and welfare cost of transition from a monetary union to full economic independence in the FSU. Indeed such a SPU could have avoided several percent points of the steep fall in GDP. We also describe how a form of SPU was concretely proposed, elaborated and founded in the form of the Interstate Bank (ISB). Unfortunately the ISB was never operational. The reason why the ISB failed was largely political. Russia was a dominant partner in the whole construction and preferred to carry the economic cost of bilateralism rather than to render some of its bargaining power vis a vis the republics.

This paper addresses an unpopular problem, namely the management of economic disintegration and its implications for regional trade flows and welfare. We found in particular that the disintegration of the Soviet trade area was badly managed and that the economic cost of mismanagement was high. Our approach can however be extended to related phenomenons and countries. It is relevant to understand events not only in the Soviet Union, but also in CMEA-countries, and in separated countries such as former Czechoslovakia (where a payments union was implemented) and former Yugoslavia. This approach also offers a way to reinterpret the economic consequences of decolonisation, in terms of excessive trade shocks.
This work may also be relevant to disintegration processes that could emerge in the future in very large countries such as Russia[xxi], China or India.

Endnotes

Reference list

- Åslund, A., 1993, "Systemic Change and Stabilization in Russia", in *Post-Soviet Business Forum*, Royal Institute of International Affairs, London, 24 p.

- Baliño, T.J., Dhawan, J., Sunderarajan, V., 1994, "The payments system and Monetary Policy in Emerging Market Economies in Central and Eastern Europe", *IMF Working Papers, No.* WP/94/13, January 1994

- Bofinger, P., 1990, "A Multilateral Payments Union for Eastern Europe", *CEPR Discussion Paper*, No. 458, London

- Duchêne, G., 1994, "Intégration ou désintégration économique dans l'ex-URSS", *Revue Economique*, Vol. 45, No. 3, May 1994, pp. 575-588

- Eichengreen, B., 1993, "A Payments mechanism for the former Soviet Union : is the EPU a relevant precedent?", *CEPR Discussion Paper*, No. 824, August 1993

- Granville, B., 1994, "Farewell, ruble zone", *Stockholm Institute of Eastern European Economics Working Papers*, No. 95, OI-WP-95/94

Granville, 1993

- Gros, D., Dautrebande, B., 1992, "International trade of former republics in the long run : an analysis based on the 'gravity' approach", *CEPS Working Document*, No. 71, 1992

- Gros, D., Steinherr, A., 1995, *Winds of Change: economic transition in Central and Eastern Europe*, Longman Group, London, 544 p.

- Gros, D., 1991, "A Soviet Payments Union ?", *CEPS Working Document*, No. 58, November 1991, 21 p.

- Havrylyshyn, O., Williamson, J., 1991, "From Soviet DisUnion to Eastern Economic Community", *Policy Analysis in International Economics*, No. 35, Institute for International Economics, Washington D.C.
- IMF, 1992a, "Common Issues and Interrepublic Relations in the former USSR",

IMF Economic Reviews, April 1992, Washington D.C.

- IMF, 1992c, "Russian Federation", *IMF Economic Reviews*, April 1992, Washington D.C.

- IMF, 1992b, "The economy of the former USSR in 1991", *IMF Economic Reviews*, April 1992, Washington D.C.

- IMF, 1994, "The Russian Federation in Transition, External Developments", *IMF Occasional Paper*, No. 111, February 1994

- Kaplan, J., Schleiminger, G., 1989, *The European Payments Union*, Clarendon Press, Oxford

- Kenen, P., 1991, "Transitional Arrangements for Trade and Payments among CMEA Countries", *IMF Staff Papers*, Vol. 38, June 1991, pp. 235-267

- Kivilahti, T., Kero, J., Tekoniemi, M., 1993, "Russia's Financial and Banking Reforms", in Sutela, P., editor, 1993, "The Russian Economy in Crisis and Transition", *Bank of Finland Studies*, No. A86, Helsinki

- Koen, V., Marrese, M., 1995, "Stabilisation and Structural Change in Russia, 1992-1994", *IMF Working Papers,* No. WP/95/166, June 1995

- Michalopoulos, M., Tarr, D., 1992, "Transitional Trade and Payments Arrangements for States of the Former USSR", *Studies of Economies in Transformation*, No. 2

- Schoors, K., 1998, *The emergence of a commercial banking system in Russia and its influence on transition in 1992-1994*, doctoral dissertation, January 1998

- Sensenbrenner, G., Sunderarajan, V., 1994, "The Payments System and its Effects on Monetary Operations: Recent Experience in the Russian Federation", *IMF Working Papers,* No. WP/94/133, November 1994

- Tarr, D.G., 1994, "The Terms-of-Trade Effects of Moving to World Prices on Countries of the Former Soviet Union", *Journal of Comparative Economics*, Vol.

18, No. 1, February 1994, pp. 1-24

- van Brabant, J., 1991, "Key Problems on Creating a Central European Payments Union", *Banca Nazionale del Lavoro Quarterly Review,* No. 177, June 1991, pp. 119-150

---

i.From 1988 on a lot of state enterprises founded their own house banks for the management of their financial activities. These banks had initially no access to the payment system of Gosbank (later the CBR). Also the former monobank was split into a number of independent commercial banks. As a consequence of these reforms a system of direct payment settlement between bank branches through a network of correspondent accounts (MFO) arose. Gradually more and more payments were routed through this MFO-system. The MFO-system increasingly grew out of control of Gosbank and proved to be slow and ineffective. The reasons are obvious. The system was essentially a chaotic web of correspondent accounts between bank branches, not between banks. This means that also intra-bank payments were routed through the system. Technically there was a lack of telecommunication and automatisation in payment settlement. The system was based on mailing of payment documents between banks and manual processing. Also there was a problem of human resources. Bank employees were neither trained nor experienced in payment settlement and therefore the whole MFO-system developed by trial and error. Regulation of commercial banking was absent, and competition was in practice absent, which created room for abuse by the banks. Also the new independence of state enterprises increased the number of payments. This combination of factors created a considerable increase in the amount of float money. Payment delays of several weeks were not unusual.

ii. This dictum is commonly attributed to Stanley Fisher.

iii. See the letter of the CBR of 30 April 1992, No. 4.

iv. See the decree of the Russian Federation of 21 June 1992 (effective 1 July) and the letter of the CBR of 9 July 1992, No. 14.

v. These technical credits were granted at zero interest rates.

vi. At the end of June (before the appointment of Gerashenko that is) the stock of credits to former republics was 325 bn rubles, while at the end of 1992 the stock reached 1545 bn rubles (Granville, 1994). So in the second half year of 1992, credits to the republics rose with 375%, which was substantially more than the inflation in this period (175%), or the growth agreed with the IMF (66%).

vii. Schoors (1998) gives a full description of the RKT-system. The CBR (or Gosbank before December 1990) understood that the MFO payment system was deficient and that it was abused by the new commercial

banks. Already on November 23rd, 1990, the former Gosbank issued regulations for the organisation of a network of regional cash settlement centres (or RKT) and computer centres (CC). This RKT-system was intended to replace the MFO-system. Every bank could open correspondent accounts with the RKT and effect payments through these accounts. The RKT-system became fully operational only in October 1991, just before the dissolution of the FSU and the price liberalisation in Russia. It coexisted with the MFO-system until April 1992 when the CBR made the RKT-system compulsory for all interbank payments (Coopers and Lybrand, 1992). It was mainly G. Matiyukhin, the new and inexperienced chairman of the CBR, who insisted on this excessively high degree of centralisation in payment settlement (Åslund, 1993). This obligatory use of the RKT-system led to congestion in several RKT, payment delays and a build-up of arrears (Åslund, 1993) and urged the CBR to withdraw the requirement in May 1992 (Sensenbrenner and Sunderarajan, 1994), which meant the 'reintroduction' of the MFO-settlement system. With respect to intrabank settlement, banks were always free to set up their own system. Sberbank was the first bank that introduced a system for settlement of intrabank payments between its clients. Some other large banks followed. However, the majority of commercial banks preferred to settle intrabank payments through the RKT-system. Russia started in 1992 with an underdeveloped payment system and without a worthy market alternative for the RKT-system, which had distinctive weaknesses. First, the capacity of any production line is determined by the capacity of the bottleneck. Because of the pyramid structure of RKT-payments, lack of capacity or sheer incompetence in only one RKT could slow down the whole chain of payment settlement. Second, the lack of automatisation and telecommunication and the huge flow of documents reduced the efficiency of the system, certainly for interregional payments. This was aggravated by sometimes unclear procedures and regulations. Third, the brain drain of (relatively) experienced staff to the emerging commercial banking sector left the RKT-system with relatively inexperienced staff. This continuous loss of knowledge must have contributed to the delays in payment settlement. Fourth, there were some specific Russian phenomenons that jammed the RKT. Schoors (1998) shows that the clearing of interenterprise debt (IED) and the subsequent flow of documents in the second half of 1992 constituted a serious blow to the efficiency of the system. Sensenbrenner and Sunderarajan (1994) show that the net credit of the CBR to the government slowed down payments through the RKT-system. They found a stable and significant relationship between changes in RKT-float and changes in CBR-credit to the government. The intuition behind this finding is that the irregular waves of credit are transferred to the receivers through the RKT-system and cause capacity problems and bottlenecks. The clearing of IED was so far unique and CBR-credit to the government decreased steadily throughout the period under study, so the influence of these factors is phased out over time. Fifth, the system favoured the former state banks because Sberbank, Rosselkhozbank and Promstroibank did not have to pass the RKT-system. Instead they had direct access to the computer facilities of the CBR. This resulted in strongly reduced settlement delays, a strong competitive advantage in an inflationary environment. Last but not least, the RKT-system created a large amount of debit float. This debit float reduced the liquidity of the banking sector and of the whole Russian economy. Moreover the debit float was not only large but also variable, due to unpredictable delays in settlement and to waves of CBR-credit to the economy (Sensenbrenner and Sunderarajan, 1994). This large and variable payment float affects the efficiency of reserve management by commercial banks. Schoors (1998b) finds indications that banks hold large excess reserves to secure themselves against unpredictable shocks in payment float.

viii. For many products there was only one producer in the whole FSU with all republics being dependent on that producer. More generally there existed a centrally planned pattern of regional specialisation of industrial production. This pattern of regional specialisation was distorting because it was founded on central planning and not on economic rationale. It was mirrored in production infrastructure, distribution infrastructure and the structure of interrepublican trade. These structural factors are sticky. It is not simple to change this pattern in the short run. Bilateral balancing may have caused unnecessary abrupt disruptions in this pattern and the consequences may have been rather serious given the larger stickiness.

ix. Kazakhstan produces crude oil and also operates refineries. These refineries were situated close to the Russian border and traditionally refined Russian oil, while its own oil was refined somewhere else. This was a structural dependence because there were pipelines to bring the Russian crude to the Kazakh refineries, but not from the domestic oil production to the domestic refineries. So the refineries could not switch to domestic oil in the short run, while the breakdown of interrepublican trade urged Russian oil producers to export their oil to other destinations. As a result, the Kazakh refineries stood idle. In this example the Kazakh refineries are the main losers. There are however plenty examples where both parties got hurt. The cotton producers in Uzbekistan and the Russian textile industry were for example mutually dependent and the breakdown of trade meant a major blow for both.

x.Tarr (1994) uses Goskomstat data for 1989 and 1990 and finds that the winners of this shift in the terms of trade would be Russia, Turkmenistan and Kazakhstan, while the biggest losers were estimated to be the Baltic states, Belarus and Moldova. His findings support the idea that raw material and energy exporters would gain at the expense of machinery builders and other sectors. This was to be expected given the distortion of relative prices due to central planning.

xi. We used trade data of Goskomstat for 1987 and the first quarter of 1993, when the crisis of interrepublican payments fully arose. We calculated for every republic (interrepublican exports - interrepublican imports)/((interrepublican exports+ interrepublican imports)/2), which is the interrepublican trade balance as a proportion of interrepublican trade. We regressed 1993-data on 1987-data and included a dummy for Tajikistan, which was in civil war at the time. We found 1%-significance and an adjusted R^2 of more than 80%. This supports the idea that the 1987 trade structure was still quite representative for 1993.

xii.The weights were:

Ukraine	58,2%
Belarus	17,5%
Uzbekistan	0,0%
Kazakhstan	11,9%
Georgia	3,3%
Azerbaijan	0,0%
Moldova	3,2%
Kyrgyzstan	2,2%

Tajikistan	1,6%
Armenia	2,2%
Turkmenistan	0,0%
Total	100,0%

The surplus countries were -next to Russia- Uzbekistan, Azerbaijan and Turkmenistan.

xiii. These were in alphabetical order Austria, the Belgian-Luxemburg Economic Union, Denmark, Germany, Greece, France, Iceland, Ireland, Italy, the Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey and the United Kingdom (Kaplan and Schleiminger, 1989)

xiv. It is widely accepted that 1,3 x NMP is comparable to GNP.

xv. Recently full convertibility has been established in both countries and the payment system has been abolished.

xvi. Advisory Group on Interstate Economic Relations of the European Expertise Service (EES-AGIR), financed by the TACIS-programme of the EU.

xvii. At that moment only the Baltic countries had independent currencies. The other countries had often cash substitutes in the form of coupons, but retained the ruble as legal tender and remained in the ruble zone.

xviii. Decision of the heads of state of the CIS, 9 October 1992, issued at the summit of the heads of state of the CIS, Bishkek, October 1992.

xix. Naming a clearing institution the 'Interstate Bank' (ISB) may seem strange but after all the same happened with the EPU, where the central clearing institution was named the 'Bank for International Settlements' (BIS). The banking functions of the BIS were initially also limited to the granting of technical credits, within the limits provided by the EPU.

xx. The first president of the ISB was Mr. Solovov, vice-president of the CBR. During the negotiations on the charter, it became clear to us that Mr. Solovov was clearly not convinced of the use of the ISB for Russia. Having him as a president was a clear sign that the ISB would not be operational in the short run.

xxi.The danger of Russia's economic disintegration has never been closer than today. At the occasion of the crisis in the summer of 1998, this tendency came clearly to the surface. The regional banks of Primore, Ekaterinburg, Samara, Moscow and Saint-Petersburg were pooling there payment systems in order to avoid to become independent of the federal payment system. Separate currencies for the regions is only one step further. Governor Titov of Samara already ordered the issue of a regional bills that can be used as payment documents substituting the ruble. The governor of Sverdlovsk still has the 'Ural franks' that were printed at the occasion of the possible foundation of the Republic Ural that never materialised. Lebed-junior of Chakassia announced that he would not pay his federal taxes. Tyleev of Kemerov is accumulating reserves in

terms of foreign currency and gold, which is in bold contradiction of federal laws. Nikolaev of Jakutia is doing the same. The fiscal federalism of the Russian state is collasping altogether. The regions are not receiving the transfers Moscow owes them and are in return very reluctant to transfer the share of the tax income they are due to the federal centre (Argumenty i fakty, 10/9/98). If this situation continues for more than a year, Russia will face a de facto disintegration of economic live. Only some gigantic enterprises and institutions guarantee the unity of the country, namely Gazprom, UES, Sberbank and the central bank. The rest of the country seems to be falling apart.