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On Balance of Payments Crisis in Serbia: If it ain't broken, why fixing it might still be a good idea?

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When you are in a hole, first thing you should do is to stop digging
-Anglo-American proverb-

"Yes there are two paths you can go by but in a long run,
There is still time to change the road you're on"
-Led Zeppelin, Stairway to heaven-

ABSTRACT: *Contrary to mainstream opinions, with external deficit of more than 16% of GDP and foreign debt of 16 billion €, Serbia is at the verge of balance of payments crisis. It is most likely going to unravel as a sudden stop phenomenon, after which considerable real depreciation of national currency will be finally forced by both domestic and international portfolio adjustment. However, if Serbian monetary authorities manage to coordinate real exchange rate depreciation with urging reforms on a wider macroeconomic front, capital flow reversal does not necessarily have to bite into long-run economic growth and employment. In fact, it might prove to be a starting ingredient of bottoming out. One thing is for sure: Serbia won't be able to maintain the present level of spending for much longer. Hopefully sooner rather than later, irrational or morally hazardous exuberance shall dissipate and leave room for inevitable rebalancing along the national saving-investment axis.*

Introduction

In spite of the fact that recent policy migration -from dirty float (which in fact was dirty peg) to more flexible exchange rate regime- pretty much disabled the possibility of currency crises in Serbia, the country is still at the verge of severe and potentially rather painful balance of payments crisis. Worse still, professional community is largely either ignoring or dismissing the very existence of the alarming external disequilibrium. At the other side of the argument, among the few who are cautiously whispering about it, some analysts are at best underestimating the problem, while others are blowing whistles of doom almost without policy prescriptions whatsoever. On a top of it, there seems to be a profound misunderstanding of the balance of payments concept among Serbian decision-makers and some of their influential local advisers.

The aim of the paper is to debunk expensive myths of the so-called Burns-Lawson-Robichek doctrine, deeply rooted in Serbia's recent economic policy, as well as to consider the inevitability of the balance of payments crisis in Serbia, envisage possible future developments in that regard, review macroeconomic mix deployed thus far and suggest some conditions 'n' cures that might be lurking ahead.

The rest of the paper is organised as follows: first section deals with some basic BoP theory as opposed to Lawson's doctrine itself, second part gives some stylized facts on Serbia coupled with more heterodox theoretical considerations which climax in several policy recommendations. The

third section summarizes the main findings and caveats in the Serbian context, as well as earmarks the allies for future research.

A pinch of theory: It ain't broken…or is it?

After democratic revolution from October 2000, Serbia made long strides in an attempt to join -and take the most of- the European and world economy. Reentering major international financial and political institutions, swift privatisation of socially owned enterprises, efficient (if not entirely effective) reform of nearly collapsed banking sector, and IMF-guided macroeconomic reforms -that improved tax collection and balanced the budget, brought down inflation, liberalised trade and opened the country for foreign investors- were all worthy achievements even more so in such a short period of time and following such a devastating decade (once again "lost for growth") of 1990s. According to the World Bank and EBRD, Serbia was the leader in economic reforms and successful transition in the year 2005. Sovereign debt Paris Club wrote off some $700 mill. of debt. Credit rating improved, growth is steadily catching up by sustaining rates well above those in OECD economies. In 2007, Serbian economy achieved 7% real GDP growth. Mounting foreign exchange reserves, pouring FDI, introduction of fairly formal inflation targeting, steady development of Belgrade Stock Exchange as well as Serbia's lately abstinence from formal stand-by arrangements with IMF, give overall impression that somehow Serbia has been finally closing in towards economic graduation and the league of wealthier nations. At last, but not the least, SAA with the EU seems to be just around the corner, where unresolved territorial issues over Kosovo and Metohija are more likely to speed up Serbia's EU accession rather than stall it for good. However, is there time and ground for celebration?

The aim of this paper is to draw attention to specific aspects of Serbian BoP dynamics and macroeconomic health, in the context of IT framework nowadays typical for increasing number of emerging markets, whose key characteristics can be summarized in phrases like:

- Lawson's doctrine
- sky-rocketing foreign debt
- imported pecuniary expansion (through the combination of net inflow of foreign loans, exhausting remittances and current consumption of finite privatisation revenue),
- fear of floating, "original sin" and dollarisation (euroisation)
- razor-sharp trade-off between loss of competitiveness due to imminent currency appreciation (or evident overvaluation as it is) and edgy inflation expectations if capital inflows were to be monetized,
- transition fatigue, not enough employment, not enough export-driven, sustainable growth.

It is advisable and therefore customary in Serbian public discourse, to make clear what one claims not before taking the actual professional stand on the issue at hand. I find that approach useful in the logical sequence of this paper too. The paper makes no attempt to suggest that small open economies in transition should not run BoP deficits, nor that running BoP deficits (even for number of years) is necessarily bad and undesirable phenomenon. In fact, intertemporal (and international) trade in financial assets that enables BoP deficits is undoubtedly beneficial and indeed often indispensable for small open economies in transition. Yet what is the meaning and what are the consequences of protracted BoP deficits? What or who are BoP deficits caused by? When are they unsustainable after all? From a current account (or essentially merchandise trade balance)

point of view, the sheer fact that Serbia imports net of its' exports understandably prompts many to utter- so what? Moreover, large and prolonged external deficits seem to be the macro light motive in many rich countries as well during the last two decades or so [Blanchard, 2007].[1] Therefore, we shall reintroduce the financial (or more broadly capital account) view of the BoP disequilibria, since this financial perspective of BoP deficits happen to be of crucial interest in the case of Serbia.

Balance of payments represents an interconnected set of accounts which summarizes all the international transactions carried out by individuals, firms and government of one country with their counterparts in the rest of the world [Yarbrough-Yarbrough, 2000]. Since international transactions give rise to two offsetting BoP entries, according to the latest IMF manual,[2] from an accounting perspective its' main three components automatically add up to zero [Krugman-Obstfeld, 2006]:

$$B+\acute{K}+\Phi=0 \qquad (1)$$

Without too much loss of generality of findings, we may often write this fundamental BoP equation simply as: $B+K=0$, where K binds the last two additive terms on left-hand side of *(1)*.[3] From an economic perspective, however, balance of payments is almost never in equilibrium, the trouble being that cumulative and more sizeable external disequilibria bear very real and unpleasant adjustment arithmetic, which so frequently catches up with great many of those who didn't exactly have a saying nor benefit in its accumulation.

Mathematical definition of BoP (dis)equilibrium from the current account perspective is by now common knowledge in open-economy macro:

$$Y-A=X-M+\Omega=B \qquad (2)$$

Here Y stands for GDP, A for absorption (comprising the usual suspects final spending is made of), X, M exports and imports of goods and services, respectively, while Ω denotes net factor proceeds and unilateral transfers. Nevertheless, rather than mechanically repeating the fact that BoP deficit indicates that we imported more from overseas than we managed to export abroad, it is worth noting that this equation painfully reminds us that literally the only way for a country to run BoP surplus is to produce (Y)[4] more than it spends (A). Contrary to popular belief in Serbia and elsewhere, this identity continues to hold even when many or majority of capital/financial transactions are autonomous rather than counterbalancing! In terms of Keynesian static representation, BoP disequilibria are represented by gap between national output (Y) and its' total expenditures (E):

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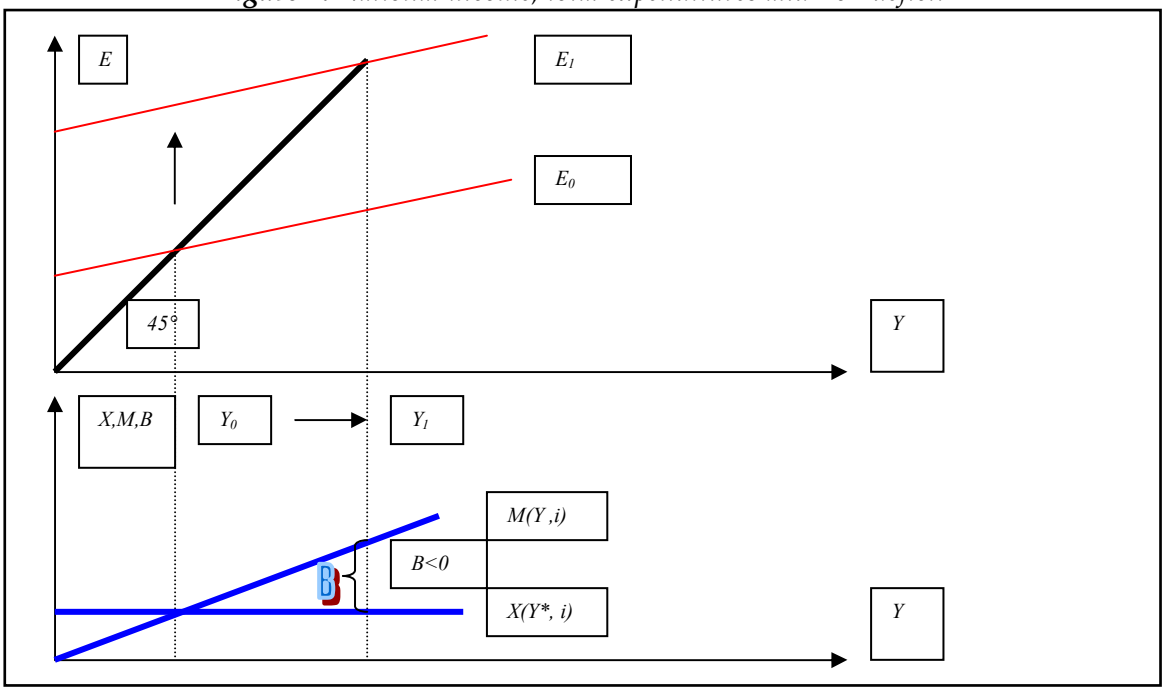
[1] Within the Euroland, Spain and Portugal, for instance, run current account deficits of as much as 10% of their GDP lately, while US in spite of depreciating dollar still has more than 5% deficit in BoP [*Ibidem*].

[2] Due to prominent rise of international portfolio investment flows and the intention to take back the transfers as essentially capital transactions from the current account, aggregate capital account has been broadened so as to comprise of the financial account (which record international trade in financial assets) and the capital account (which tracks only nonmarket activities in international asset movements) [Krugman-Obstfeld, 2006]. Thus, newly established capital account contains unilateral transfers and automatic transactions caused by global migrations etc. In earlier IMF manuals, overall capital account was usually disaggregated into foreign reserves dynamics and the rest of international capital transactions, so as to read: $B+\acute{K}+\Delta R=0$

[3] Quite generally speaking, $K\neq\acute{K}+\Phi$ because the right hand side contains unilateral transfers from the current account as well, but since many central banks still put them on the current account and since they are often relatively insignificant, I shall stick to the approximation in the main text so as to keep things simple.

[4] With sustained, if not improving, exportable quality

Figure 1. *National income, total expenditures and BoP deficit*



Adapted from: Yarbrough and Yarbrough (2000)

Clearly, excessive spending via rising expenditures ($E=A+M-X$) pushes the output up in the short run, but at the unavoidable expense of deteriorating current account. This is especially true for small open countries in transition with limited (or indeed given) export/production potential and considerable import dependence (or import-biased, distorted preferences).

However, from a financial/capital account view point, there are also some important portfolio insights from defining BoP (dis)equilibrium, although formula itself is well-known too:

$$B=S-I=(T-G)+S^P-I \qquad (3)$$

Here S stands for aggregate savings, G for government spending, T for fiscal revenue, S^P for private sector savings and I for investment in Serbia. This capital account view reads that eventual current account deficit has to be financed by surplus of aggregate investment in Serbia over domestic accumulation, *i.e.* that capital/financial account balance countervails so-called "twin deficits" or the sum of net government and private savings. We shall pick up this latter point later on in the paper.

For the time being, it is in order to dwell on some reoccurring anecdotal evidence here, so as to draw a poster child of profound misunderstanding of BoP phenomenon among certain Serbian economists and decision-makers. Classics first: one of the very top Serbian officials gave several statements in the past couple of years on how imperative it was for the country to reverse if not eliminate such a huge BoP deficit "(...) and the only way for us to do that is to attract as much foreign direct investment as possible". Sorry mate, the open-economy macro identity clearly shows that one cannot do both things simultaneously, perhaps not even in the extended short run: so long as we need net capital inflows from abroad we shall unavoidably accumulate BoP deficits. More disturbingly, one academic economist and respectful advisor in Serbia wrote in a conference paper in late 2005 that "(…) since this year's financial and capital inflows in Serbia were even greater than the current account deficit, the overall Serbian BoP was in fact positive"!!! I beg your pardon Sir, but the sum of financial and capital account within the BoP cannot possibly exceed the size of current account disequilibrium since they exactly cancel each other out (in accounting terms), nor it is feasible for "the overall Serbian BoP" to be positive when it actually was in deep and worrisome

deficit in 2005 already!!! Finally, analyses that mirror that of Sanfey (2007), for example, asserting that capital account surplus ($\dot{K}$) in Serbia is recently greater than current account deficit, hence official reserves must be piling up are correct in an accounting sense, yet *de facto* coming to terms with such an imbalance financed by net capital inflows remains equally dubious in terms of its alleged macroeconomic neutrality or indeed sometimes "favourable" outcome *a propos* BoP sustainability drawn from the constellation. We shall return to this seriously counterintuitive paradigm of side-by-side growing reserves & BoP deficit in the last section of the paper. Certainly, this *let it grow* phenomenon is scarcely distinguishable from the Burns-Lawson doctrine itself; moreover, it dissolves into economic cocktail as if made for fireworks. Which prompts one to ask how much is too much when it comes to BoP deficit?

Theory preaches that every current account deficit of 5% of GDP or bigger should be taken as a red alert for macroeconomic watchdogs [Frenkel-Razin, 1996], [Aristovnik, 2006]. Nonetheless, more accurate estimate of potential for and long term sustainability of current account deficits could be grasped only via stressing the intertemporal nature of the BoP concept. The intertemporal approach originally relied on two indisputable facts: *a)* economic well-being of consumption smoothing, *i.e.* ability to balance and coordinate country's income stream/output dynamics with its foreign debt repayment and *b)* that both saving and investment somewhat depend upon time preference - such as life cycle spending requirements or expected return on investment project. Following Obstfeld and Rogoff (1998), for instance, it is possible to construct an intertemporal BoP model simply by sticking to country's budget constraint and transversality condition[5]:

$$-B_t = \sum_{j=t,\infty} \beta^{j-t+1}(Y_t - A_t) \qquad (4)$$

If we recognize β as a discount factor or $1/(1+i)$, and the term in brackets on the right-hand side of *(4)* as net exports needed for current account reversal, formula is unambiguous. However, different specifications of intratemporal[6] as well as intertemporal[7] preferences, imperfect international capital mobility as described by Feldstein-Harrioka puzzle *e.g.*, and not least fiscal shocks gave poor empirical verification and accordingly bad name to intertemporal BoP models. As a matter of fact, not corrected for the aforementioned deficiencies, these models imply that country's optimal response to negative exogenous shocks is to run very large BoP deficits [Edwards, 2001], which was of course overwhelmingly greeted by political cycle myopia and academics who claimed that current account did not really matter. Little it meant that econometric research decisively rejected advice that in the face of financial reform and transition it was safe to run massive BoP deficits, for instance as high as 60% GDP [Edwards, 2004]. Alas, a rise and coexistence of so-called Burns-Lawson doctrine and mounting BoP deficits (which often heavily violate Ricardian equivalence) is to be traced in another, more blurred, side-effect of intertemporal BoP concept. Namely, compared to traditional Keynesian views, the intertemporal approach to BoP unintentionally reduces emphasis on the economy's intratemporal competitiveness measured by the real exchange rate [Nason-Rogers, 2003].[8]

Now, what kind of intellectual baggage bears the so-called Burns-Lawson doctrine? Former Chancellor of Exchequer in UK Nigel Lawson was among the first to engage in outright de-

[5] Practical application of transversality condition, so often conveniently neglected by politicians, requires that in the foreseeable time limit sum of all current account disequilibria must be nullified.

[6] For example, justification for assuming non-separable rather than additive preferences between leisure and consumption in a micro founded open-economy model [Nason-Rogers, 2003, pp.6-7].

[7] Wild swings in world interest rates or for any other reason rising gap between home rate of preference and the reference rate [Blanchard, 2007]. After all, Edwards (1990, p.20) recalls often abstracted fact that national rate of time preference is itself a variable influenced by accumulation rate, investment opportunities and foreign debt sustainability… in a word, influenced by BoP dynamics.

[8] Real exchange rate adjustment -absolutely essential for current account balancing- will be dealt with in the next section.

fense of benign neglect in regard to rising BoP deficits that stemmed from private investors' autonomous behaviour.[9] This was followed by academic apologies of the Lawson doctrine by at least two famous international economists, Jeff Sachs and Max Corden, who both argued that so long as government budget was roughly in balance and/or with declining proportion of GDP, BoP crisis is impossible: private sector's borrowing and spending considerations and current account deficits so induced need not be of any public policy concern [Muellbauer-Murphy, 1990], [Edwards, 2004]. If we are to review the official heuristics of Serbian Ministry of Finance with respect to nature and causes of Serbian BoP dynamics, it used to almost completely mimic the Lawson's own credo with respect to UK: "We are prisoners of the past, when UK current account deficits were almost invariably associated with large budget deficits, poor economic performance, low reserves and exiguous net overseas assets. The present position could not be more different. "[10] In other words, representatives of Serbian Ministry of Finance, Serbian Chamber of Commerce and National Bank of Serbia (to a lesser extent) made clear in several instances in last couple of years that they consider "trade deficit to be sustainable for as long as Serbia manages to cover it through remittances and FDI, moreover, for as long as Serbia's foreign exchange reserves are mounting". What is erroneous about these statements? Clearly, Serbia is not UK or US, to begin with. Serbia does not have London as the world's most important financial market within its borders let alone legal tender serving as a leading vehicle currency, hence every serious regional political instability or global financial crisis could endanger the long-term stability of foreign capital inflows, *i.e.* the long-term solvency of the country. Moreover, private investors'/consumers' behaviour is not always rational in the short to medium run, since lots of capital inflows in Serbia are being simply spent or at best invested in non-exportable sectors, therefore some of the net FDI inflows might be postponing necessary reforms and enlarging their eventual scale. Milesi-Ferreti and Razin (1996), interestingly, characterise BoP sustainability as an imbalance consistent with continuation of present economic policy, or in other words, no dramatic changes in exchange rate, monetary and fiscal policy are deemed inevitable [Hansen-Hansen, 2004]. After all, liquidity problems -detrimental for stability of foreign capital inflow- often arise out of irrational savings-investment and/or consumption smoothing patterns of domestic as well as foreign private agents, which in small open economies in transition all too frequently ended in boom-bust cycles and twin (BoP and banking) crises [Tornell-Westerman, 2003]. Finally, FDI inflows in the long run painfully remind the hosts on its liability- rather than asset nature, whereas in the meanwhile even minor (from a global investor view point) portfolio stock adjustments may render the host country's life "nasty, brutish and short", which are probably the reasons why Fernandez-Arias and Hausmann (2001) as well as Hansen and Hansen (2004), among others, do not consider FDI as reliable source of finance for BoP deficits in the long run. Moreover, the above mentioned intertemporal optimisation/consumption smoothing considerations tackle only the ability, but not the willingness of future generations (or of those very same private agents' that Lawson's doctrine initially presupposes as fully rational) to give up perhaps too large a fraction of its GDP in order to meet its foreign debt repayment tranches, as originally addressed by Eaton, Gersowitz and Stiglitz (1986). All in all, it is nowadays probably sufficient to say that Lawson's doctrine and intellectual spawns of that kind of reasoning were plain-and-simple discredited by the BoP and currency crises in Southeast Asia and even Latin

[9] Almost identical line of reasoning could be found in the statements and papers of Samuel Brittan, and further traced to Sir Terrence Burns, Chief Economic Advisor. H.M. Treasury in the late 1980's and early 1990's. Doctrine is sometimes also associated with the name of Walter Robichek, director of Western Hemisphere operations of the IMF [Nachane, 2007]. However, in as much as the idea gained some popularity in academic circles too, it would be unfair to blame it completely on either Burns, Robichek or Lawson [Muellbauer-Murphy, 1990].

[10] Lawson (1988), quote taken from Muellbauer and Murphy (1990, p.347, footnote 1).

America in the late 1990s, where crashes erupted in spite of roughly balanced government budgets.[11]

Therefore, in a number of papers economists attempted to develop methodology for sustainability tests of BoP deficits. Obstfeld and Rogoff (1998), e.g., justifiably highlight the cases of Australia and Canada who continued to run fairly large BoP deficits for more than 40 years even after WWI, at which time they took off from theoretical transitional paradigm, without going broke or even woke their investors' doubts regarding economic reforms having been pushed through. If not by strict Victorian prudence, international financial Rubicon appears to be defined by maintaining at least a constant ratio of foreign debt to both output and/or wealth [Krugman, 2007]. Hence, provided that output grows at strictly positive rate of g while economy targets a fixed debt to output ratio so as $B_{j+1}=(1+g)B_j$, steady-state pattern of current account imbalance according to Obstfeld and Rogoff (1998) must be:

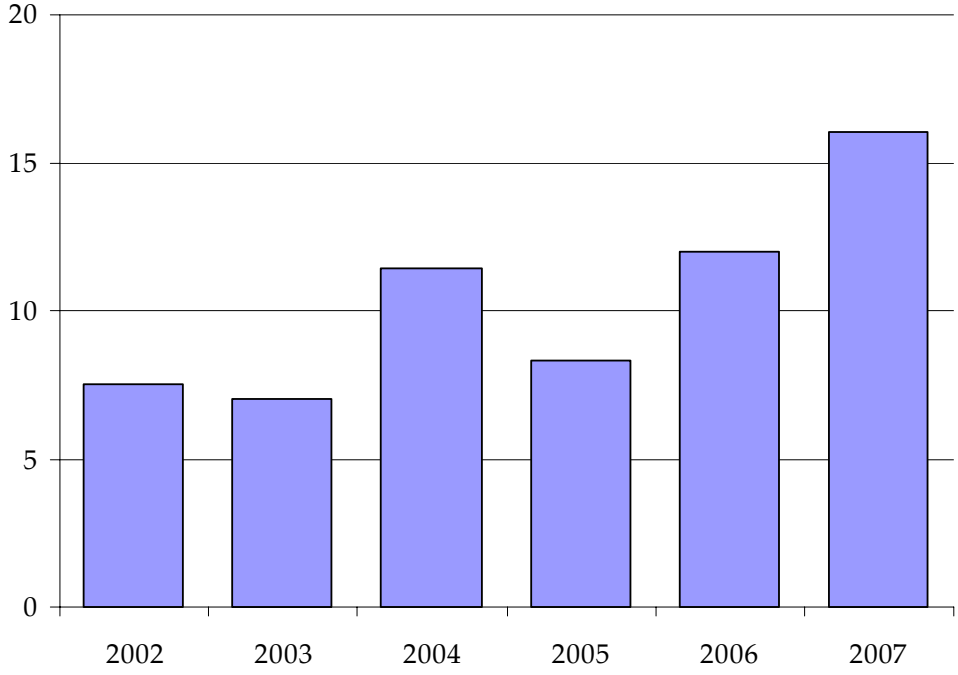
$$B_{j+1}-B_j=gB_j=iB_j+NX_j \qquad (5)$$

Here, NX_j labels net exports, that is (Y_t-A_t), or slightly rewritten,

$$NX_j/Y_j=(g-i)B_j/Y_j \qquad (6)$$

However, if we assume the growth rate to be even higher than the discount rate (which is not unreasonable in a fast growing emerging market world), the state-space realm for intertemporal consumption smoothing becomes theoretically unbounded [Obstfeld-Rogoff, 1998]. This is why transversality condition in practice ought to be imposed at some proximate finite point in order for BoP deficit to be reversed so as to achieve significant reduction in foreign indebtedness. Foreign indebtedness, naturally, amounts to cumulative current account deficits aimed to be eliminated.

Figure 2. *Serbian BoP deficits as percentage of Serbia's GDP*



Source: National Bank of Serbia, * estimate made by Quarterly Monitor (2007)

Now, even a casual glance at recent BoP dynamics in Serbia shows unambiguous signs of concern.[12] Such a colossal external deficit pattern paired with excessively high wages -compared

[11] For in depth analysis see for example Reisen (1998).

not only with Serbian productivity[13] but also with real wage levels of the latest EU entrants- and additionally complicated by unemployment of around 20%, place Serbia in one of the less comfortable corners of Rudi Dornbusch's Latin Triangle [Dornbusch, 2000]. What are statistical and macroeconomic causes of economist's discontent?

In the last couple of years Serbian exports did grow slightly faster than Serbian imports but since imports were circa double the size of imports, trade deficit gained weight. Proverbially inappropriate structure of Serbian exports of goods and their slower pace in 2007 coupled with recent deterioration (trend?) in trade in services (namely, visible fall in unilateral transfers, especially remittances) further obscure the viability of Serbian BoP. Comparative analysis with other transition countries in the region indicates that Serbia is falling behind in terms of international competitiveness too: World Economic Forum made public in its 2007 International Competitiveness Report that Serbia dropped from 87th to 91st place. Unprecedented global upward trend in crude oil prices aggravated the terms of trade and BoP problems further still. However, traditional current account troubles are getting deeper in parallel with certain new developments regarding financial account and international capital flows, as outlined in what follows. While in the first half of the decade Serbia's capital account surplus stemmed primarily from privatisation revenues (clearly finite in amount and duration) which were by and large currently spent rather than invested, in 2005 and 2006 subsidiaries of foreign banks operating in Serbia were the ones who borrowed significant funds abroad very cheaply (at 2-4% *p.a.*) in order to profit from financing central bank's admittedly expensive sterilisation activity (20% *p.a.* on the average). As a consequence, Serbia's sovereign debt in 2006 marked a 9% decrease in real terms, whereas foreign indebtedness of private sector exploded 70% up! However, in 2007 owing to monetary policy switch and administrative obstacles imposed by the National Bank of Serbia (hereafter NBS), this form of carry trade *sui generis* gave room to considerable cross border lending of the corporate sector in Serbia. That latest development is very much encouraged by official claims of Serbian monetary authorities in support of long term "reality" and sustainability of current dinar exchange rate. As a corollary, back in 2006 only three European transition countries (Bulgaria, Latvia and Montenegro) had deeper current account deficits and Estonia had deficit of approximately the same size measured in percentage of their respective GDPs [EBRD, 2007]. So one should not fool him- or herself with patronising comments of politically correct analyzers that Serbia's BoP deficit and foreign debt are still not that large in absolute terms. At the end of 2007, Serbia's current account deficit reaches disturbing 16% of GDP[14], while its foreign debt amounts to almost 60% of GDP.

In a nutshell, Serbia is facing potentially exhausting and quite certainly unavoidable BoP crisis, which once again neither generally condemns running BoP deficits in its transition years nor it has to end in complete macroeconomic doom. Yet, it easily might…and probably will if Serbian authorities and its economic agents continue to ignore the crisis in the making. So to sharpen the working light thrown on the BoP challenge in Serbia, this paper does not claim the inevitability of Murphy's breed: "Nothing works and whatever may go wrong, will", but rather underlines inevi-

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[12] Worsening of Serbia's BoP would appear even clearer if 2004 and 2005 deficits were amended downward and upward, respectively, due to VAT introduction effect which increased imports in 2004 and curb them in early 2005 causing *a priori* tax evasion. See e.g. Petrović and Vasiljević (2007).

[13] Strictly speaking, industrial wage growth has been more or less aligned with industrial productivity in Serbia from 2005 until present. However, sharp real appreciation of dinar during 2006 and 2007 together with inherited excessive employment in state owned and pumped-up employment in government sector post-October 2000 caused that overall Serbian productivity still lags behind the growth of salaries. Already executed and announced wage and pension growth substantiate fears of continued fiscal expansion through the first part of 2008 too. For more information on interplay between unit labour costs, wages and competitiveness in Serbia see Petrović and Vasiljević (2007).

[14] Once properly expressed in constant prices, BoP deficit may turn out to be even slightly larger.

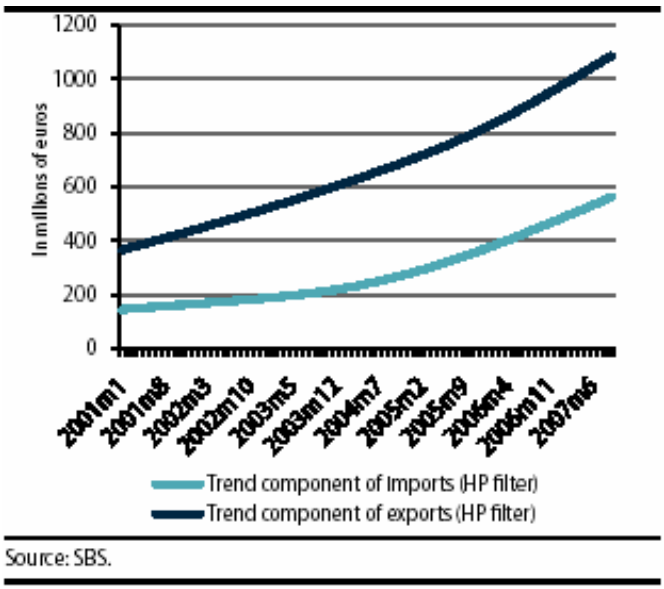
tability of macroeconomic identities and market forces: "What cannot go forever, will eventually stop".

So, where exactly do we stand, what is the likely crisis scenario, what must happen and what could be done? In the next section, concerned with ongoing irrational exuberance of investors in Serbia and the so-called sudden stop threat, I shall try to provide some of the answers to the first three questions posed. The answer to the last piece of this research rhetoric remains to be met in the fourth section of the paper.

Sudden Stop and Irrational Exuberance in Serbia: economics of odds and ends

Preliminary conclusion after the basic BoP arithmetic and statistical facts on Serbian external economic position laid out above, coincides with recent IMF warning that considerable capital inflows in Serbia (as indeed in so many other emerging markets in transition) raise income and spending, but simultaneously expose the country to striking external vulnerability, which if came true, would require paramount macroeconomic adjustment [Sorsa *et alia*, 2007]. In the previous section I have already explained why endless financing of current account deficits is neither sustainable in the long run nor entirely reliable in the short to medium run. In addition, I shall briefly reproduce Hodrick-Prescott filtered, extrapolated trends of Serbian exports and imports of goods extracted by the Serbian Statistical Office (SBS), to highlight the fact that unlike capital account surpluses, current account deficits in Serbia are apparently not showing signs of self rectification in the foreseeable future, as much steeper import trend clearly cracks open the trade gap. Obviously, Serbia's external position cannot be further from sustainable and the longer this collective hypnosis lasts and rapid indebtedness goes on, the harder our eventual landing is going to be.

Figure 3. *Trend components of imports and exports in Serbia*



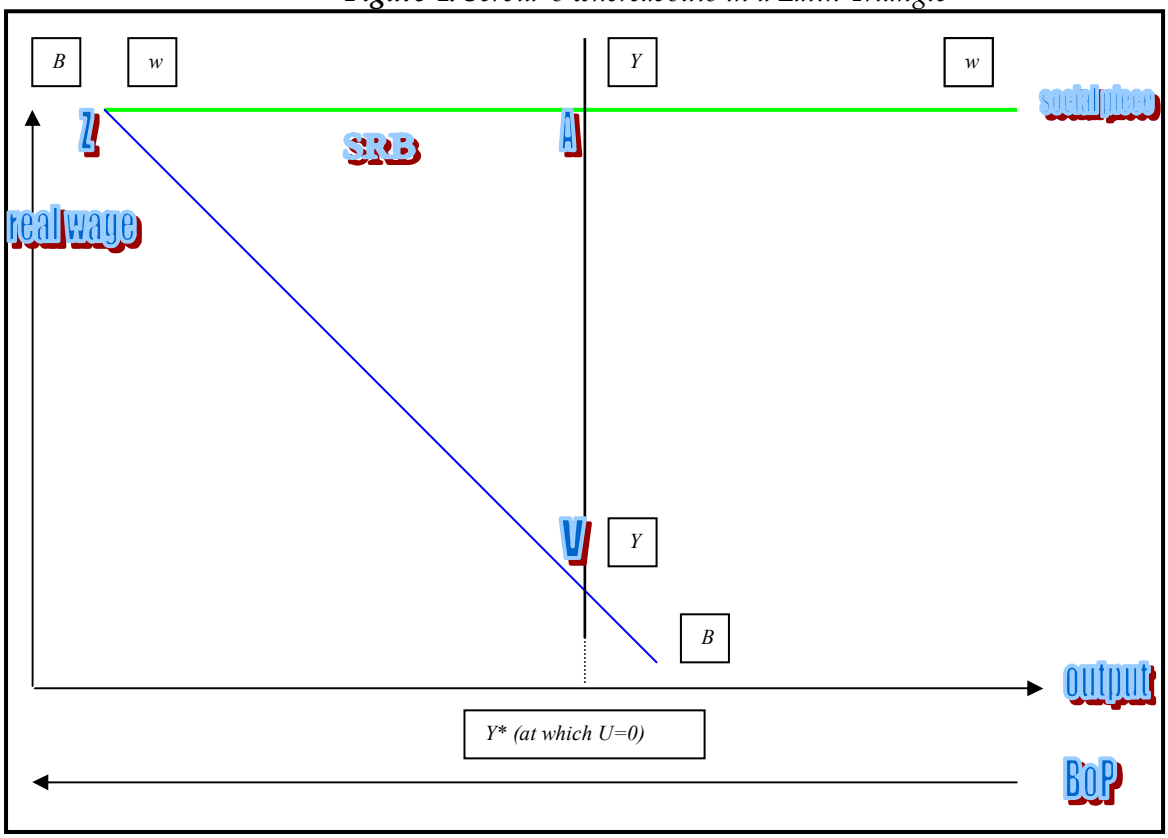
Source: SBS.

In what remains, I argue that the inevitable BoP adjustment may lead to either relatively smooth and gradually relaxing steady-state equilibrium or may take the bumpy road through very costly recession, even a genuine economic plunge. At the moment, it is difficult to prophesy which of the two adjustment paths will (have to) be travelled, since the outcome depends on plethora of both exogenous and inherited factors. However, not least shall it pend on the readiness of eco-

nomic authority to face the adversity already upon us, on determination and coordination in carrying a dozen of cumbersome reforms inclusive significant depreciation of national currency!

In order to produce a snapshot of the current Serbian macroeconomic challenges and decision makers' reaction function at hand, we shall draw upon already mentioned "Bermuda triangle" analysis in open-economy macro and determine whereabouts and results of economic policy mix deployed in Serbia thus far.

Figure 4. *Serbia 's whereabouts in a Latin Triangle*



Adapted from: Dornbusch (2000)

According to Dornbusch (2000), along the *YY* line there is a full employment, whereas any level of output ahead of natural rate *Y** creates an excess demand in the labour market, loss of competitiveness and possibly hyperinflation. External balance is represented by *BB* schedule so that points to the right and above *BB* indicate deficits and vice versa. Finally, *ww* line defines socially acceptable real wage cum benefits package of those employed. In absence of the first best world, there is no common point of intersection between the three schedules. At the point A, policy makers achieve maximum output potential, full employment and manage to keep the labour financially satisfied, but at the expense of BoP deficit. At the point Z social piece prevails and external balance is kept, but unemployment is high and output is depressed. At point V, however, authorities maintain both external balance and full employment, yet at the brink of social unrest: real wages are dangerously low. Now it is of interest to summarize within Dornbusch (2000) Latin triangle framework the macroeconomic evolution of Serbia after being catapulted by positive political and economic shock of democratic revolution and transition from 2000 onwards. Thanks to injected aid, low starting point and post revolutionary euphoria/impatient expectations, target wages quite expectedly rose! Reforms were hasty in Serbia (in part because enough time was lost already) and the natural antagonism between aspirations and constraints has been reconciled in exactly the same way as many times before in Latin America: through borrowing [*Ibidem*]. Serbian

authorities gave their best to push the country to the north east by maintaining high rates of output growth and increasing the real wage, while BoP kept collecting the bill. However, external finance disequilibrium (mirror image of current account deficit) can be postponed only up to the stochastic point in time when international capital inflows run out. In my opinion, as indicated on Figure 4, Serbia's contemporary position is in the upper middle part of the Latin triangle; its' real wage is pretty close to social welfare optimum, but misery of unemployment still cripples the overall living standard in the country, whereas BoP deficit got clearly worse and needs urgent attention. Policy maker's reaction function that would move the country in direction of Z, amounts to trying to cut the absorption, contract GDP while still protecting real wages. Nevertheless, moving too far a left from point A bites into social piece since unemployment would be raging and recession guaranteed, and thus has to be dismissed. The only reasonable reaction which stands the chance to find the way out of crisis is restoring competitiveness and reverting the fundamental macroeconomic disequilibrium, i.e. heading towards point V, while simultaneously reforming Serbian economy in order to translate not only *ww* schedule southwards, but -in the medium to longer run- also shift *BB* schedule to the north-east![15] In the realm of sticky prices and downward-resistant wages, deflation or even administrative freezing of prices/wages probably wouldn't prove terribly effective. Hence, dinar depreciation would have to be the key ingredient of decision maker's reaction function. In fact, a traditionally built case for floating exchange rates is that they speed up and partially substitute necessary macroeconomic adjustment in terms of BoP scales, or to put it differently, that appropriate nominal depreciation makes up for lack of downward price flexibility [Devereux-Engel, 2006].[16] Not withstanding the fact that a fall of wages in real terms will recover Serbian competitiveness, it is fair to say it will most likely reduce aggregate demand cum national output in the short run. Nonetheless, this negative income effect could be more than offset in the medium run by the positive substitution effect that shifts demand onto domestic products [Dornbusch, 2000].

Ongoing and by now immediately visible credit boom in Serbia is threatening Serbian external debt sustainability and invoking a BoP crisis. It is well known that faced with debt crises, if not *ex ante* then certainly *ex post*, international creditors and their state representatives are inclined to demand from the debtor government to sovereignize external private obligations. Therefore, NBS is right in warning against such a steep credit growth in Serbia (in parallel with early sovereign debt repayments and falling indebtedness of banking sector due to injected recap, there is almost 20% credit growth in the first three quarters of 2007). Despite of NBS efforts to mitigate such a credit explosion via introducing vast reserve requirements (45%) for banks borrowing abroad, as especially worrying emerges cross border lending, i.e. direct external indebtedness of private corporate sector in Serbia which amounts to more than 9% of 2007 GDP [NBS, 2007], [Petrović-Vasiljević, 2007].[17] Consumer credits have also exhibited considerable growth momentum at 4% *p.a.*

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[15] I'm well aware there are plenty of Serbian economists who are going to shout "Impossible!" at this instance. Namely, who are going to dwell on Serbian traditional import-dependence, dubious prospects of Marshall-Lerner condition ever been fulfilled in Serbia etc. Be that as it may, I would like to face those of my distinguished colleagues with an alternative. First of all, history of economic thought keeps reminding us that successful growth strategies have always been rooted in maximising the output made with disposable resources, never in winging about scarcity and limitations. At last but not the least, if Serbia continues to pile up foreign debt in trying to achieve Y^*, maintain uncompetitively high *ww* and consciously sacrifice BoP equilibrium, we may expect over time *BB* schedule to shift south-east instead, which in turn would require multiplied pain and belt-tightening to eventually equilibrate its external position.

[16] In the end of the day, Dragutinović (2007, p.9) rightfully argues that if Serbian monetary authorities restrain from any activism and informed judgment in monetary policy making whatsoever, Serbia would be better off in opting for outright dollarisation.

[17] In the quoted figures, Petrović and Vasiljević (2007) stress that extraordinary loan taken by Serbian Telecom in order to execute acquisition of Telecom of Srpska (B&H) has been disregarded, or else cross border lending in Serbia would have reached over 11% of GDP!

and 5%*p.a.* in 2006 and first three quarters of 2007 respectively [*Ibidem*]. Reported steepness of credit boom in Serbia comes at the moment when there is no more low credit base to calm us, since Serbian credit aggregate already amounts to just over a third of Serbian GDP. Many economists think this is still moderate as opposed to credit stocks of 40, 50 or even 60 something percentages of GDP in neighbouring countries [Petrović-Vasiljević, 2007], [Sanfey, 2007]. However, compared with production and export potential[18], stability of business climate and the level of country risk, Serbia fares far worse than the rest of Balkans and might be closer to imminent danger of credit crunch and sudden stop crisis. Lorenzoni (2007) accurately describes such a constellation (without mentioning Serbia) in a theoretical model of inefficient credit boom, where financial frictions result in *a priori* overborrowing and *a posteriori* excessive volatility. The inefficiency of transitional boom-bust cycle is provoked by combination of two factors:

First of all, there are probably traces of moral hazard kind of behaviour on behalf of international investors, as suggested by Krugman (2000) or Roubini and Setser (2004), among others.[19] Furthermore, there is imperfect or imprudent understanding[20] *ex ante* [Sorsa *et alia*, 2007] and limited commitment *ex post* in *de facto* international financial contracts credit booms are made of [Tornell-Westerman, 2003], [Lorenzoni, 2007]. To the extent, correspondent overborrowing and lack of financial commitment could be blamed on reassurance repeatedly being made by the NBS that dinar exchange rate against the euro is not misaligned, is here to stay at the current level and, God forbid, shall be defended by official reserves interventions. Apart from moral hazard or sheer bad judgment on either side, the second remaining determinant of transitional credit boom's inefficiency is the fact that asset prices are being discovered almost exclusively in the spot market, an externality not internalised in private contracts [Lorenzoni, 2007]. Even more so in emerging markets where forward markets are pitifully underdeveloped or nowhere to be seen.

Kiss, Nagy and Vonnak (2006) summarize a recent empirical research done by IMF and find that 70% of credit booms in emerging market world ended in simultaneous consumption and investment boom, while the coincidence probability of credit boom and output boom appears to be rather low. Credit explosions in emerging markets are furthermore often accompanied by sharp real appreciation of national currency and overvalued stock markets, followed by ostentatious drop in prices of these assets at the onset of credit growth adjustment [Kiss-Nagy-Vonnak, 2006]. Sounds familiar? Serbian BoP crisis is almost certainly going to take the guise of sudden stop phenomenon. Sudden stop in dynamics and size of capital inflows, frequently reversed into net capital outflows with mind-blowing speed, may indeed be brought about or called upon by global adverse political or economic events, common lender paradigm and alike exogenous parameters. However, sudden stops are first and foremost national credit events, which expose certain weaknesses after which -practically overnight- countries find themselves bereft from hard currency inflows [Calvo, 2006].

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[18] The volume of Serbian exports currently stands at only 27%, one of the lowest in Western Balkans, while Serbia's seemingly high 8 % points increase of exports from 2002 till present, as a matter of fact, is still below average in Emerging Europe [IMF, 2008].

[19] International lender's moral hazard implies the risk of creditor's willingness to extend credit/or otherwise exploit the international interest differential, which rests on expectation that either political pressures or actual emergency lending by IMF/G7 will secure the full repayment in crisis times [Roubini-Setser, 2004].

[20] Sorsa *et alia* (2007) argue that among foreign bank/company subsidiaries in host countries there may be hidden maturity mismatches since a loan from a parent bank or enterprise booked as a long term may in practice be called at will. On the other hand, some *ad hoc* research prompted NBS top officials to repeatedly warn Serbian citizens on exchange rate clause in their credit contracts which effectively leaves them vulnerable to downside currency risk.

At the end of Milosevic era, external sovereign debt of Serbia together with Montenegro (FRY at the time) was some 12 billion US$.[21] Many Serbian economists back then kept arguing that such a high foreign debt was unsustainable. At the time of this writing, Serbia alone accumulated over 16 billion € of external debt, however, chorus of those very same Serbian economists today claims that this external debt and current account deficit could be sustained indefinitely.[22] On the other hand, not more than a dozen of academically trained Serbian economists[23] in the last 20 years dared to utter that, when BoP is in deep disequilibrium, theory of international finance suggests that there must be something wrong with the exchange rate too. Nevertheless, several of these dissonant views have been predicting not only that dinar ought to be devalued/was in for a fall, but also a harsh macroeconomic price to be paid on a line of duty. Contribution of this last two remaining sections, however, is in explaining *1)* not whether, but whenabouts and why dinar must eventually fall, *2)* how this in fact may be the good news for Serbia and *3)* under which conditions macroeconomic doom won't really materialize in spite of initial adjustment hardships. Persistent external deficits in Serbia are being increasingly financed by recent rapid accumulation of private foreign debt. A million dollar question in sudden stop models of BoP crisis is whether investors could be taken as forward-looking? Do they in fact take into account the size of foreign debt and production potential of Serbian economy while estimating the prospects for future dinar decline? Or are we, perhaps, witnessing some sort of investor myopia or simple we-can-get-away-with-it logic (either by capital flight or by international/domestic pressures for *post festum* bail-out)? Either way, we've got an irrational exuberance equivalent to ignoring the "peso problem"[24] and BoP crisis which should be amended or indeed resolved by nominal depreciation of dinar.[25] Opponents of this policy are expressing fears that an abrupt sudden stop crisis and subsequent hard landing would cut off the supply of foreign savings on which Serbian economy has become so heavily dependant. By building on portfolio balance model of exchange rate, Krugman (1989) explains on US example why reducing harsh external imbalances requires real depreciation by deficit country.[26] However, Krugman (1989, 2007) argues that actually there is never an immediate capital flow reversal! When irrational or imprudent foreign investors realize the unsustainability of host country's BoP position, its foreign debt and subsequently currently prevailing exchange rate, they would indeed try to simulate a sudden stop: everyone shall try to rebalance their portfolios and come out of troubled country (positions). Instead, however, when everybody is trying to sell in capital markets, what usually happens is not a realization of massive selling (capital flow reversal),

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[21] After nine years of penalty interest rates, due to unilaterally broken payment ties by the international community and hammering effect of economic and financial sanctions against Yugoslavia.

[22] For further discussion see for example Kovačević (2006).

[23] Noticeable exceptions are Oskar Kovač and Mladjen Kovačević, to name the most prominent two.

[24] If speculator's perceptions about the future value of exchange rate prove to be seriously wrong, whereas spot rates nonetheless immediately move in anticipation of fundamentals that fail to materialize, than the ex post realized BoP crisis and exchange rate misalignment represent a mirror image of a classical peso problem. Or in Krugman's (2007) own terminology, realization of antagonism between ballooning foreign debt and overshooting real exchange rate brings about the Wile E. Coyote effect. However, Blanchard (1979) proposed an alternative explanation, other than irrational exuberance, that he dubbed rational bubble. I call it imprudent exuberance or the moral hazard bubble. Anyway, rational bubble exists when speculators are more or less aware of the imminent overvaluation of dinar, but continue to hold it for a while after while longer, enjoying and reinvigorating its appreciation. In other words, foreign investors believe they will either be compensated for currency risk with more than sufficient capital gain or will be able to come out of their dinar positions just before depreciation gains momentum.

[25] It goes without saying that in a world of sticky prices nominal currency depreciation helps facilitate necessary real exchange rate adjustment [Krugman, 1987].

[26] In an earlier paper, Krugman (1987) dismisses Ronald McKinnon's myth (yet another ancestor of Lawson's doctrine) that under perfect international capital mobility, little or no real exchange rate changes are needed to globally redistribute savings and close saving-investment gaps.

but rather a huge drop in price of the underlying asset (and its denomination vehicle), in this case the real exchange rate [Krugman, 1989].

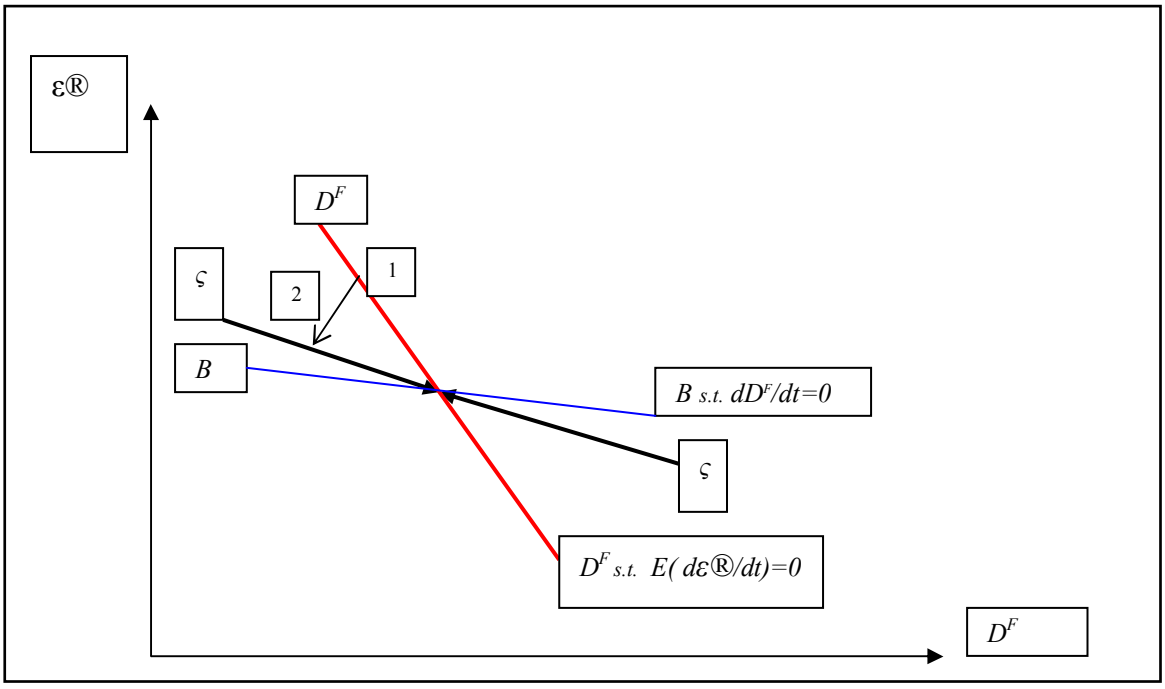
With remarkably little amendments, Serbian BoP crisis and required real exchange rate adjustment can be depicted under the framework laid out by Krugman (2007) and Corsseti (2007). Real exchange rate mechanics is given by following behavioural equation:

$$\varepsilon® = f(D^F, \delta^E) \qquad (7)$$

$$(\delta^E +, \varepsilon® -), (D^F +, \varepsilon® \pm^{SR}_{LR})$$

Real exchange rate $\varepsilon®$ is a negative function of expected rate of dinar depreciation δ^E, while real exchange rate depreciation itself is defined as $d\varepsilon®/dt<0$. Because of portfolio balance effects, dinar exchange rate is also a function of Serbian international investment position – its' net external debt expressed in percentage of GDP. In the short run, net capital inflows and debt accumulation may cause a surge in real exchange rate, but excessive foreign debt and BoP deficits require a real depreciation in the long run.[27] Sustainability criterion in Krugman's (2007) analysis is not simply stabilizing current account deficit as a % of GDP, but rather external debt to GDP ratio. The difference is in the fact that external disequilibrium measured by latter method takes into account both GDP growth (denominator changes[28]) and capital gains or losses. Tolerable BoP deficit is represented by *BB* schedule in Figure 5, as geometric locus of points at which valuation-corrected cumulative current account disequilibrium is a stationary variable, given zero expected change in the exchange rate ($D^F = const.$) [Krugman, 2007]. D^FD^F schedule shows foreign debt evolution provided that $\delta^E=0$, *i.e.* investors do not expect any future depreciation of dinar. However, under fully rational expectations, macroeconomic adjustment would happen along the saddle path $\varsigma\varsigma$ in Figure 5.

Figure 5. *Real exchange rate, Debt/GDP dynamics and BoP adjustment*



Source: Krugman (2007)

[27] Forward looking prudent agents understand this relationship and behave accordingly, which is why rational expectations equilibrium tends to be saddle point stable.

[28] If effectively deployed, increase of foreign debt should bring down external debt to GDP ratio, i.e. decrease the rate of foreign indebtedness!

The actual debt dynamics in Corsseti-Krugman model is described by equation *(8)*:

$$D^{F}_{stac} = D^{F}_{0} + k^{-1}\, dD^{F}_{0}/dt \qquad (8)$$

After log-linearisation of the model, it is also possible to describe relationship between initial ($\varepsilon\circledR_0$), current ($\varepsilon\circledR$) and long run equilibrium value of real exchange rate ($\varepsilon\circledR_{stat}$), consistent with steady state debt D^{F}_{stat} and sustainable current account dynamics:

$$ln\ \varepsilon\circledR_{stat} = (e^{kt} ln\ \varepsilon\circledR - ln\ \varepsilon\circledR_0)/(e^{kt}-1) \qquad (9)$$

Krugman (2007) dubs parameter *k* the rate of convergence, *i.e.* speed and size of elasticity of foreign (Serbian) demand for Serbian (foreign) assets, but, following Corsseti (2007), it is perhaps more convenient and closer in spirit to portfolio models of exchange rate, to think of it as being degree of substitutability between domestic versus foreign bonds. I venture to guess that Serbian BoP adjustment will be characterised by low substitutability, moderate real depreciation on impact, yet fast and furious drop in real exchange rate along the saddle path of accommodation. To put it differently, after some kind of economic shock or even political sunspot, investors shall wake up and take a better look at long run equilibrium exchange rate as well as dinar denominated expected return: subsequently, economy would arguably jump from point 1 on $D^{F}D^{F}$ curve southwestwards to the point 2 on saddle path $\varsigma\varsigma$ [Krugman, 2007]. In the case of Serbia, likewise, this crude awakening from irrational exuberance won't cause a free falling of dinar, *i.e.* a drop directly to the south (and consequent tightening of the debt noose), due to valuation effects of ongoing significant dollar depreciation, in as much as Serbian net foreign debt is denominated in weaker US$ (see Figure 5).

In addition, Chari, Kehoe and McGrattan (2005), in a standard equilibrium model within which sudden stops are generated by tightening country's collateral constraint on foreign borrowing, show that contrary to widespread opinion, sudden stops cause a surge rather than contraction of GDP! They stop short of arguing that capital flow reversals cannot be linked with output drops, but in order for output contraction to be generated by BoP crisis, their model must include additional economic frictions, with negative effects large enough to overturn the positive effect of sudden stop alone. An obvious suspect in the case of Serbia is conceivably a real estate bubble: *i.e.* whether sudden stop phenomenon would cause its burst or not. As many other emerging markets, Serbia has also become a fertile ground for development of real estate bubbles. Real estate bubbles are initially beneficial since they temporarily provide local stores of value&sources of income and increase investment in construction industry. However, Caballero and Krishnamurthy (2005) formally demonstrate how domestic financial underdevelopment not only facilitates the real estate bubbles, but also induces agents to underestimate the aggregate risk embodied in the overall real estate frenzy. To the extent that emerging market monetary policy cannot possibly be so countercyclical as it would be in the OECD countries, sudden stop in Serbia might easily lead to one or two year long recession.

Algieri and Bracke (2007), after applying multinomial logit model on 71 episodes of BoP crisis, find that on average current account deficit correction has been accompanied by mild recession and some real effective depreciation of national currencies. Cluster analysis deployed to account for wild heterogeneity within a sample led them to conclude that majority of incidents has nevertheless been resolved by internal adjustment, where fiscal and monetary contraction were paired with export reorientation.[29] In half of remaining episodes, adjustment has been mainly external, enabled and catalysed by real depreciation yet without economic slowdown [Algieri-Bracke, 2007]. However, in about ¼ of cases external adjustment has been preceded by sluggish growth or even outright recession, possibly reflecting competitiveness challenge of these countries [*Ibidem*].

[29] It is important to stress that this dominantly internal adjustment seems to be characteristic of fast-growing economies.

What are the prospects for Serbia in this respect? What should be done to avert the danger of deepening the crisis? The answer to that is sketched along the last section of the paper, but it may be summarized in: it all depends, and quite a bit. Some things are for sure, however. First of all, I have explained that if we set aside common investor problem, sudden stop will not lead to immediate nor durable negative financial spillover, but rather to a drop in the value of national currency. I have also elaborated why foreign investors won't be willing to cover the gap between Serbian accumulation and investment indefinitely, which makes real depreciation and perhaps some intermittent capital flight look like arguably good news. Hence, decision makers in Serbia need not fear that dinar decline would cut off the supply of foreign savings, because Serbia's chronic dependence on it does not represent sound international finance at all and is not sustainable any more! On the other hand, Serbian nationalists would be barking under the wrong tree if they accuse exchange rate policy of fire sale of Serbian assets that may ensue. It just might prove to be the unavoidable part of portfolio accommodation process. As Krugman (1989) once rightfully articulated, the only way to avoid a fire sale is not to need one, in other words, to decrease domestic (especially import-oriented) spending and thereby avoid over-reliance on foreign capital inflows.

Concluding remarks: Underaged patients and chronic conditions call for heterodox medicine

Serbia has been squandering too much for too long, while it has one of the lowest propensities to invest in today's Europe. To make bad situation worse, imminent BoP crisis is amplified by persistent overvaluation of dinar (which further discourages exports&domestic production and encourages imports) as well as by 25% unemployment (at the end of December 2007). Speculative capital inflows succeeded by cross border lending are swelling Serbian private foreign debt in recent years, while inflation is being controlled by allowing real appreciation of dinar and price control in public sector. All of the above mentioned is extremely bad news and represents a textbook example of erroneous macroeconomic policy. What could be done to tackle those problems more appropriately on fiscal, monetary and official reserves policy fronts?

In terms of monetary and exchange rate policy, the sooner monetary authorities choose to allow for real depreciation of dinar (of probably over 30% to be spread across the next say 6 years), the smaller the damage is going to be. What should be the response of monetary policy in the immediate post-depreciation time span? The chances are that severe monetary contraction followed by a sharp interest rate cut should do the trick, as suggested by Braggion, Christiano and Roldos (2007). Raising interest rates should help mitigate the fire sale effect and provide a cushion for binding collateral constraint, while as adjustment difficulties wear off interest rates might be gradually set to their tranquil or even lower level. However, Serbian central bank chose bad moment (and with no obvious urge) to oblige to bringing down core inflation forecast in 2008 as opposed to core inflation target for 2007. Inflation of agricultural product prices as well as ongoing oil crisis would be conceived by many as hard enough already, while in addition to that, NBS appears to be ignoring the need for real depreciation of dinar (and its price level consequences) by proclaiming perhaps unrealistically low 3-6% core inflation band for an official target just after Serbian headline inflation forecast of 2007 has been *de facto* overshot. If not carefully calculated, inflation and exchange rate targets may mess with each other, resulting in divergent shivers down the monetary stability spine.[30] Luckily enough, exchange rate pass-through in Serbia is found to be much less than unity [Arsić *et alia*, 2005], which gives reasonable room for restoring competitive-

[30] Even more so since -in the event of sudden stop crisis- interest rate spreads on domestic bonds may tilt for more than a notch, thereby making inflation targeting considerably more expensive yet again [Calvo, 2006].

ness and external balance without too high a price in terms of reflation havoc. That said, I must warn against the odds that under domestic liability dollarisation of current Serbian scale, smaller pass-through coefficients may actually increase the probability of financial distress, if Marshall-Lerner condition is satisfied too late! Therefore, NBS should do all in its power to overwhelm "the original sin" constraint, partially at least. On the other hand, it is hardly anything but futile for Governor of NBS to repeat that exchange rate is market-determined (since Serbian central bank recently intervenes only infrequently) [Jelašić, 2007], because that would be equivalent of central bank setting the money supply and leaving the price of dinar entirely to FX market [Calvo, 2006], while in practice NBS sets the interest rate –rather than monetary aggregate- and justifiably manipulates both inflation and exchange rate. Finally, on many occasions market determined exchange rates proved to be capable of differing starkly from fundamental equilibrium exchange rate: irrational exuberance and/or sheer moral hazard, in my opinion, can serve as quite plausible explanation for local FX market failure.

When it comes to the interplay between monetary policy and asset prices, government should do more in creating technical platform, legal environment and disseminating knowledge that would boost financial instruments which provide residents with adequate store of value [Caballero-Krishnamurthy, 2005], [Dragutinović, 2007]. If depreciation affects negatively the net worth of domestic firms or badly hurts real estate by and large, the domestic interest rate may rise (due to the risk premium effect), «(...) exerting an additional contractionary impact on output. If, on top of that, the monetary authorities force a further increase of the interest rate in an effort to curb the exchange rate, the contractionary effect will be emphasized» [Delli Gatti *et alia*, 2007, p.27]. Less often, however, research is focused on how if at all, asset price movements affect the conduct of monetary policy [Clarida-Waldman, 2007]. This reverse causality is especially important should the event of double bubble occur, when simultanious downward revision of expectations about the future value of dinar and expectations about future price of houses[31] may push long-term interest rate either way [Krugman, 2007]. However, demand for housing in fast growing poles of Serbia is such that potential piercing of the real estate bubble is hopefully unlikely to crumble into a genuine slump.

Monetary policy has a difficult and unpopular job in contemporary Serbia. True, there is no help from fiscal policy yet,[32] whereas inflation pressures are being generated outside central bank´s reach so to speak: they are to be pinned to lack of competition in nontradable sector, jump of world and government-controlled prices and consumption biased preferences of Serbian population. If inflation targeting in Serbia is being implemented through some sort of Taylor rule, than higher expected inflation counterintuitively results in nominal appreciation of dinar on impact, as suggested by Clarida and Waldman (2007). This is another channel of perverse exchange rate movement recently witnessed in Serbia, which only postpones eventual rectification of its fundamental misalignment. If, however, inflation targeting is being implemented via some sort of monetary conditions index, this short run collusion should be imediatelly recognised while inflation, output gap-[33] and exchange rate targets better harnessed in a cointegrated manner, but monetary policy

[31] You may also think of those as of suddenly depressed secondary market price of mortgages, due to massive payment inability and defaults brought about by dinar depreciation and diminished real wages.

[32] The thing is that lowering government expenditures - the kind of help NBS is expecting from fiscal authorities is probably not viable, since it would hurt population stratum with still the lowest (if partially non deserved) level of income. As *contradictio in adiecto*, public outcry for decreasing excise duties on petrol&oil derivatives (so that NBS could ease a bit its unpopular monetary restriction) would boil down to fiscal expansion, hardly a helping hand in NBS's BoP and monetary stability assignments.

[33] It seems that lately, trade liberalisation and financial globalisation have been increasingly efficient in reducing output gap fluctuations, hence to the extent emerging markets are really opened and accepted, small economies in transition should in time put smaller and smaller weight on output gap in central bank's utility-based loss function, *i.e.* put greater

task still remains a tough one, since 70% of all deposits is in foreign currency and 70% of loans is indexed to euro (or Swiss franc).

If we turn back to equation *(3)*, it is straight-forward that fiscal policy must be more restrictive, despite roughly balanced government budget.[34] Private sibling`s dissipation urges for equivalent budget surplus which should relatively swiftly suck out excessive liquidity out of corporate sector and households. I would advise this fiscal restrictiveness to consist of progressive tax increase primarily and expenditure cuts only in terms of costly and ineffective subsidies as well as hidden unemployment in the public sector. The reader should bear in mind that inevitable dinar depreciation by definition dwarfs the absolute (let alone real) value of fiscal revenue since VAT is charged on imports too, which means that during initial stages of BoP crisis fiscal restriction must be even more pronounced. Needless to say, there is absolutely no room for further increases of the aggregate wage fund of civil servants and government should not back down before the syndicates in this regard. On average, individual nominal wages in government sector ought to stay where they are, and for quite some time so.

However, I would dare to say that official foreign exchange reserves in Serbia are by any measure counterproductively high. Presumably, NBS is guided by the so-called Greenspan-Guidotti-Obstfeld criterion on size and use of reserves, according to which huge foreign exchange reserves are encouraged in emerging market countries in order to stave off bad equilibria of speculative nature [Calvo, 2006]. The optimal stock of official reserves is always a function of their potential decumulation. Currency crises of the 1990s thought us that reserves are not intended only to fill the financing gap in case of extraordinary/cyclical BoP deficits or whether the problems with favourable roll-over of external short-term debt. Speculative attacks on currencies of countries whose macroeconomic health was in «the grey zone», and intricate multiplicity of equlibria that emerging markets may encounter, have dramatically catapulted the optimal level of reserves. Obstfeld (1996), in his seminal contribution, showed very forcefully how the size of international reserves could prove to be of utmost importance in this coordination game. If reserves are expected to prop up the lender of last resort duty of central bank rather than a few months of imports, then M_2 or even broader money concept is more appropriate denominator as opposed to short-term foreign debt [Calvo, 2006]. However, reserves are not the only macroeconomic fundamental of concern: moreover, it is rather dangerous to intellectually nurture a misconception of the kind. Within a stochastic dynamic equilibrium model calibrated to a sample of emerging markets, Alfaro and Kanczuk (2007) demonstrate that huge reserves do not play a crucial role in successful reserve management. In fact, they show that the optimal policy is not to amass reserves at all, and their finding seems to be fairly resilient to introducing interest rate shocks, sudden stops, contingent reserves etc. [Alfaro-Kranczuk, 2007]. On the other hand, I disagree with some critics who argue that these excess funds could get a much higher rate of return if invested by the state in alternative uses. As a matter of fact, they perhaps would, but then they wouldn't be reserves any more. Nevertheless, if those excessive reserves are accumulated by this or that type of borrowing,[35] that's quite another matter, as one may legitimately ask how economical is this window-dressing business and what kind of insurance against sudden stop these reserves really represent?! Calvo (2006) suspects mercantilist objectives behind such a large accumulation of reserves, more concretely, a misleading desire to generate an artificially high real exchange rate! Sounds familiar? But even if one abstracts

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emphasis on reducing inflation [Loungani-Razin, 2005]. This implies that as Serbia progresses in its European economic and financial integration, the opportunity cost of giving up national currency is going to be gradually reduced.

[34] I don't expect budget deficit in 2008 to exceed 3.5 % of Serbia's GDP.

[35] In Serbian case World Bank loans, reserve requirements etc. Of course, there's another associated issue of difference between gross and net foreign exchange reserves in respect to off-balance sheet liabilities, short to medium term sovereign debt and alike.

from the above written, in financially scorched and hence rather risk-averse Latin America, international reserves went up to around 37% of M_2 on the average in 2006, which is a stunning 10% higher than in pre-crisis 1994 [*Ibidem*]. In Serbia, this figure ranges from 270-260% in the last two years! Enough said... Now, for quite some time, I've been defending the idea that faced with net capital inflows from outside world and inflation cum competitiveness concerns from the inside, early repayment of external debt is superior policy response to costly and ineffective sterilisation. It took two years before NBS came to the exact same conclusion. Many economists presently argue that this policy wisdom is pretty much exhausted, since acute portion of Serbian foreign debt is of private origin. However, fiscal restriction advised earlier could still serve as leverage for further early debt repayment! This is reasonable enough (if confusing at first), having in mind numerous examples of *a posteriori* forced sovereignisation following debt repudiation or default. In addition to that, Prasad and Rajan (2005) laid out perhaps even more valuable mechanism for optimal reserve management in small open economies experiencing large capital inflows. Their proposal essentially amounts to securitising a part of net capital inflow through (government-controlled) investment fund shares denominated in domestic currency, purchasing euros from central bank out of investment proceeds and subsequently investing them abroad. This strategy would eliminate the fiscal costs of sterilisation, while simultaneously enabling private financial outlet for asset bubbles and headline inflation, or to put it differently, it would stimulate both international portfolio diversification and development of domestic financial market. Most importantly, Prasad and Rajan (2005) insist upon the fact that this investment device would allow central bank to actively manage the quantity as well as timing of capital outflows, a courtesy not to be extended in the event of sudden stop crisis.

Finally, it is important to point out that favourable BoP adjustment would require not only an inevitable real depreciation of dinar to disentangle massive misallocation of resources that went on for years now, but would also demand determination and speed in fostering competition and dismantling (in)visible obstacles for domestic start-ups (diaspora included) as well as provision of finance/subsidies for expanding production of exportables. In other words, current account improvement would have to be brought about by dramatic change along Serbian savings-investment axis, which cannot be accomplished solely via real depreciation of the national currency. Many supporting policies must preconceive and consolidate a fine-tuned restructuring front in order for BoP deficit to melt smoothly: otherwise, upward trends in nominal exchange rate may, instead of a helping tool, become part of the problem: both in terms of protracted J-curve effects and possible reflation spiral. As Devereux and Engel (2006) forcefully showed, in the short run, without thorough macroeconomic reform and institutional strengthening well under way, expenditure-switching role of exchange rate movement is likely to be diminished because of low elasticity of substitution between home and foreign tradables.[36] One way or the other, relative size and excessive price level of nontradable sector would have to be compressed, since any increase in the size and terms of trade of the nontradable sector requires formidably greater subsequent fall of dinar to rectify the trade imbalance [Corsseti, 2007], [Sbordone, 2007]. Consequently, if Serbian society wishes to stall and minimise the necessary real depreciation of national currency along the BoP adjustment path, then it should do all in its power and beyond, to push down outrageously high prices of Serbian nontradables and push up their quality. Trade-off between the size of nominal depreciation and the relative price of nontradables means that instead of nominal depreciation induced cost push, nontradable deflation and quality consolidation does similar magic on supply

[36] On long run effects of net capital inflows in the external debt-led growth regime, and a corresponding possibility of multiple equlibria depending on speed of adjustment in the production structure, i.e. relative size of the tradable-nontradable sector, see Kalantzis (2004).

side, aiming to redirect domestic demand from tradables to locally produced goods, expand the overall competitiveness of the economy, and with God's speed, the size of its tradable sector.

Intricate, robust and far-reaching as they appear, these are rather unorthodox pieces of medicine, it is fair to say. Crucially relevant point reiterated in the paper is that even if Serbia avoids the hard-landing due through inevitable BoP adjustment, crisis management cannot rule out –quite on the contrary- it is bound to prescribe a significant real depreciation of dinar. By how much, and stretched along which period, alas, remain highly debatable issues. Fitting the current macroeconomic and financial constellation of Serbia into more formal, perhaps New Keynesian real business cycle model with micro-founded rules of motion, and its proper calibration, may prove to be fruitful ally of future applied research in this area.

Appendix

BoP deficits in Serbia 2004-2007 with the structure of financial account (in millions of €)

				2005			2006			2007		
	2004	2005	2006	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
						In million of euros						
CURRENT ACCOUNT	-2,197	-1,805	-2,892	-324	-291	-519	-680	-475	-625	-1,169	-803	-1,311
Balance of goods	-5,311	-4,279	-4,950	-683	-1,089	-1,215	-1,101	-1,256	-1,167	-1,439	-1,504	-1,479
Exports of goods	2,991	4,006	5,146	813	1,011	1,019	1,039	1,243	1,380	1,391	1,589	1,746
Growth rate (12-m, in %)	*14.7*	*33.9*	*28.5*	*54.4*	*52.6*	*23.4*	*27.8*	*22.9*	*35.5*	*33.9*	*27.9*	*26.5*
Imports of goods	-8,302	-8,285	-10,096	-1,496	-2,100	-2,234	-2,140	-2,498	-2,548	-2,830	-3,093	-3,225
Growth rate (12-m, in %)	*29.4*	*-0.2*	*21.9*	*-13.4*	*6.6*	*15.2*	*43.0*	*19.0*	*14.1*	*32.2*	*23.8*	*26.6*
Balance of services	155	-5	-49	-25	42	0	-31	4	16	6	-6	17
Income, net	-172	-260	-314	-59	-83	-56	-58	-97	-81	-98	-107	-137
Current transfers	2,728	2,471	2,240	410	790	686	474	828	566	320	776	237
F/X purchases, net	1,592	1,631	1,447	320	563	445	289	593	284	196	412	203
Non-resident's accounts	568	460	561	37	70	151	183	94	218	111	163	28
Grants	403	268	181	33	49	66	36	45	42	42	38	51
ERRORS AND OMISSIONS	168	-384	-221	-184	109	-130	-31	-32	-83	-158	-44	75
CAPITAL AND FINANCIAL ACCOUNT	2,377	3,863	7,353	710	463	1,103	1,100	1,587	2,247	1,135	1,253	1,693
Foreign direct investment (FDI)	773	1,248	4,077	262	240	495	164	574	1,671	617	-5	542
Other investments	1,604	2,615	3,276	448	223	608	936	1,013	577	518	1,258	1,151
Medium- and long-term loans, net	1,221	1,820	3,140	157	444	387	443	1,242	771	511	973	642
Extraordinary debt and interest repayment[2]	...	...	-1,060	0	0	0	0	-189	-188	-145	45	0
Other[3]	383	795	1,196	291	-221	220	493	-40	-6	153	240	510
NBS Reserves, net[4], (increase +)	-349	-1,675	-4,240	-202	-281	-454	-390	-1,079	-1,539	193	-407	-458
MEMORANDUM ITEMS												
NBS reserves excl. com. banks deposits	-299	-679	-1,666	-51	-219	-185	-92	-340	-181	278	-373	-340
						in % of GDP						
Exports of goods	15.2	19.0	20.7	17.8	19.7	18.5	20.1	21.0	21.0	21.5	22.2	22.5
Imports of goods	-42.1	-39.3	-40.6	-32.7	-41.0	-40.5	-41.3	-42.2	-38.8	-43.7	-43.1	-41.6
Balance of goods	-26.9	-20.3	-19.9	-14.9	-21.2	-22.0	-21.3	-21.2	-17.8	-22.2	-21.0	-19.1
Current account	-11.1	-8.6	-11.6	-7.1	-5.7	-9.4	-13.1	-8.0	-9.5	-18.1	-11.2	-16.9
GDP in euros[5]	19,723	21,108	24,886	4,578	5,125	5,517	5,181	5,914	6,569	6,469	7,170	7,759

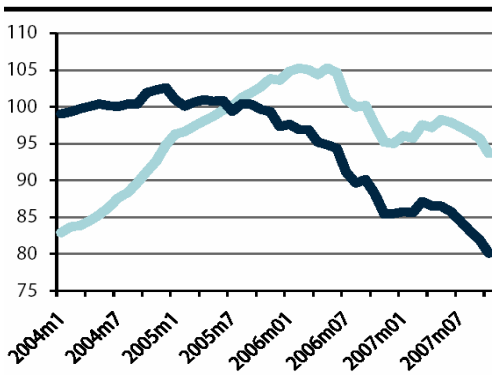
Source: Table P-8 In Analytical Appendix.
1) Original US dollars monthly data are converted to euros using monthly averages of official daily NBS mid rates.
2) Includes extraordinary repayment of principal and interests on WB and IMF loans
3) Includes short term trade credits, unpaid imports of oil and gas, short-term loans, other assets and liabilities and gross reserves of commercial banks.
4) Excluding IMF tranches.
5) For the stated period. GDP 2006, Q2 and Q3 2007: FREN's estimate.

Serbian foreign debt dynamics 2004-2007 (in millions of €)

	2004	2005	2006	2007		
				Mar	Jun	Sep
	stocks, in EUR millions, at the end of the period					
Total foreign debt	10,354	13,064	14,884	14,858	15,689	16,361
(in % of GDP)	*52.5*	*61.9*	*59.8*	*56.7*	*57.1*	*57.2*
Public foreign debt	7,112	7,714	6,420	6,241	6,253	6,210
(in % of GDP)	*36.1*	*36.5*	*25.8*	*23.8*	*22.8*	*21.7*
Long term	7,039	7,630	6,363	6,185	6,197	6,157
o/w: to IMF	706	732	185	0	0	0
Short term	73	84	57	56	56	53
Private foreign debt	3,242	5,350	8,464	8,617	9,436	10,151
(in % of GDP)	*16.4*	*25.3*	*34.0*	*32.9*	*34.4*	*35.5*
Long term	2,582	4,156	7,263	7,669	8,532	9,152
Banks	687	1,260	2,929	2,906	2,704	2,628
Enterprises debt	1,895	2,895	4,334	4,763	5,828	6,524
Short term	660	1,194	1,201	948	904	999
Banks debt	444	924	942	701	808	875
Enterprises debt	216	271	259	247	96	123
Net foreign debt[1)] (in % of GDP)	36.7	38.4	23.4	23.1	23.5	23.9

Source: NBS.
1) Total foreign debt minus NBS Fx reserves.

Nominal and Real CSD/EUR exchange rate (avrg.2005=100)



* Real exchange rate here is given in direct quotation, so that decrease of real exchange rate indicates real appreciation of dinar.

Source: NBS, SBS and Eurostat

CSD/EUR exchange rate 2003-2007

	Nominal					Real			
	Exchange rate (FX)[1]	Base Index (avg. 2005=100)	y-o-y Index	cumulative Index[2]	USD/EUR	real FX[3] (avg. 2005=100)	y-o-y Index	cumulative Index[2]	CPI in Euro area[4] (avg. 2005 = 100)
					annual exchange rate[5]				
2003	64.9743	78.4	107.1	110.5	1.1241	96.8	97.6	104.5	95.9
2004	72.6215	87.6	111.8	115.6	1.2392	100.5	103.8	103.9	97.9
2005	82.9188	100.0	114.2	109.3	1.2433	100.0	99.5	94.9	100.0
2006	84.1879	101.5	101.5	91.7	1.2537	92.1	92.1	87.9	102.2
					quarterly exchange rate[5]				
2005									
Q1	80.2421	96.8	115.9	102.7	1.3145	100.6	101.2	98.1	98.8
Q2	81.8942	98.8	115.7	105.0	1.2606	100.9	100.7	98.3	99.9
Q3	83.8302	101.1	114.2	107.5	1.2199	100.0	99.8	97.8	100.3
Q4	85.7085	103.4	111.3	109.3	1.1898	98.8	96.6	94.9	100.9
2006									
Q1	87.0875	105.0	108.5	101.4	1.2031	97.1	96.6	99.6	101.0
Q2	86.8674	104.8	106.1	101.0	1.2552	94.8	94.0	97.0	102.3
Q3	83.2482	100.4	99.3	96.7	1.2745	90.3	90.3	92.6	102.6
Q4	79.5486	95.9	92.8	91.7	1.2893	86.4	87.5	87.9	102.9
2007									
Q1	79.9849	96.5	91.8	102.7	1.3105	86.2	88.7	101.9	103.2
Q2	81.0734	97.8	93.3	103.0	1.3482	86.3	91.0	100.3	104.5
Q3	80.0302	96.5	96.1	100.8	1.3741	83.2	92.1	95.9	104.7
					monthly exchange rate				
2005									
March	80.7498	131.2	116.1	102.7	1.3074	100.6	100.9	98.1	99.3
June	82.5172	134.1	115.3	105.0	1.2180	100.8	100.7	98.3	100.1
September	84.4958	137.3	113.6	107.5	1.2265	100.3	99.9	97.8	100.7
December	85.9073	139.6	109.3	109.3	1.1861	97.3	94.9	94.9	101.0
2006									
January	86.9033	141.2	108.8	101.2	1.2122	97.6	96.7	100.3	100.6
February	87.2558	141.8	108.9	101.6	1.1960	96.9	96.8	99.6	100.9
March	87.1033	141.5	107.9	101.4	1.2013	96.9	96.3	99.6	101.4
April	86.5391	140.6	106.4	100.7	1.2239	95.2	94.3	97.9	102.1
May	87.3023	141.8	106.7	101.6	1.2750	94.8	94.1	97.5	102.4
June	86.7609	140.9	105.1	101.0	1.2677	94.4	93.6	97.0	102.5
July	83.7931	136.1	101.0	97.5	1.2684	91.1	91.7	93.7	102.4
August	82.8893	134.7	98.7	96.5	1.2803	89.7	89.3	92.2	102.6
September	83.0621	134.9	98.3	96.7	1.2748	90.1	89.8	92.6	102.7
October	80.9242	131.5	95.0	94.2	1.2615	88.2	88.5	90.6	102.7
November	78.9404	128.2	91.7	91.9	1.2876	85.4	86.0	87.8	102.8
December	78.7812	128.0	91.7	91.7	1.3210	85.5	87.9	87.9	103.2
2007									
January	79.6587	96.1	91.7	101.1	1.2993	85.8	87.9	100.3	102.8
February	79.3993	95.8	91.0	100.8	1.3075	85.6	88.4	100.2	103.1
March	80.8968	97.6	92.9	102.7	1.3246	87.1	89.9	101.9	103.7
April	80.5768	97.2	93.1	102.3	1.3516	86.5	90.9	101.2	104.3
May	81.4770	98.3	93.3	103.4	1.3512	86.5	91.2	101.2	104.6
June	81.1665	97.9	93.6	103.0	1.3420	85.8	90.9	100.3	104.7
July	80.6204	97.2	96.2	102.3	1.3716	84.5	92.7	98.8	104.4
August	80.0703	96.6	96.6	101.6	1.3622	83.0	92.6	97.1	104.6
September	79.3999	95.8	95.6	100.8	1.3884	82.0	91.0	95.9	105.0
October	77.6627	93.7	96.0	98.6	1.4227	80.1	90.9	93.7	105.5

Source: NBS, SBS, Eurostat (www.epp.eurostat.cec.eu.int)
1) Monthly average, official daily NBS mid rate.
2) Cumulative index: ratio of given period and December of previous year.
3) Real fx calculation includes Euro area inflation. See footnote 5) in Table T3-14.
4) Harmonized indices of consumer prices.
5) Twelve-month averages for annual data, three-month averages for quarterly data.

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