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REDUCTION OF SYSTEMIC RISK IN SERBIA THROUGH INTELLIGENT RISK MANAGEMENT IN STATE-OWNED ENTERPRISES

Smanjenje sistemskog rizika u Srbiji pomoću
intelligentnog upravljanja rizikom u javnim preduzećima

Abstract

These days, the effects of the combined crisis in Serbia have been larger than ever. Serbia was already in a transitional recession when it entered global economic crisis of 2008. The global double dip recession and this domestic recession, caused by structural imbalances before and during the transition, exacerbate each other's negative effects. Consequently, companies find themselves exposed to systemic (or external) risk that is beyond their control, and is continually increasing.

The current global economic crisis is a result of human misconceptions about the modeling of economic system and its institutions. The prevailing macroeconomic orthodoxy asserted that there was no incompatibility between keeping inflation low and stable and seeking maximum economic growth (or a minimum output gap). But, inflation does not provide actionable information for sustainable development because it covers up many fractures in the economic system.

The U.S. and the EU have shown that this orthodox policy platform is not sustainable, especially in the case of deregulation and securitization. Also, the episode with Serbia's transition, founded on a neo-liberal ideology and the so-called "Washington Consensus" economic policy platform, has shown that inflation targeting, when output is below the radar, has not been able to help a transitional economy change from being in a recession to prosperity. Even if the financial system is restored to perfect health, there are problems with the real economy, which will trigger, sooner or later, a negative feedback loop with the financial sector. In principle, when the output gap is small and stable and the economy is overheating, inflation targeting has proved to be effective. But, in the case of transitional recessions (as well as other recessions) any monetary policy, including inflation targeting, has been virtually useless in turning things around.

Economic policy makers in Serbia must react to the main transitional contradiction that price stability is not followed by sustainable employment. Employment is not only determined by price stability but also by institutions influencing the internal capacity of companies to react positively to external stimuli, the general societal climate towards enterprise-

neurship, the prevailing strategy of industrial leaders, endogenous incentives to innovate, etc. Consequently, the key dilemma in the recession is: whether economic policy has to maintain the orthodox anti-inflation line or to cross over to a heterodox one. In the heterodox line, the macroeconomic policies (monetary, fiscal, and financial) are important, but so are industrial policies. Output (not inflation) is the center of economic policy. Reindustrialization through industrial policies creates foundations for recovery and could correct main structural imbalances.

In our last two articles, [2] and [3], we sought to identify the seeds of Serbia's economic crisis and to determine a framework for recovery using a microeconomic and macroeconomic perspective, respectively. In this article, we will focus on the expanding role of state-owned enterprises (SOEs) in the energy sector as a first step towards recovery and on intelligent risk management as a key microeconomics policy tool for effective and efficient corporate governance in SOEs. Intelligent risk management is approach that focuses not solely on risk mitigation, but also on risk-taking as a means to achieving higher future returns.

This is what this paper will attempt to discuss in five parts. The first part discusses the necessity of a heterodox approach in conducting economic policy in the recession. The second part analyzes macroeconomic policy measures, especially monetary policy during the crisis. The third part consists of a strategic analysis of Serbia's economy. The fourth part reviews arguments for prioritizing energy policy in Serbia's anti-crisis program. The fifth part analyzes an intelligent approach toward risk management in SOEs as a key tool in the strategic implementation of industrial policies.

Key words: *Serbia, systemic risk, industrial policies, SOEs, anti-crisis program, intelligent risk management*

Sažetak

Danas su efekti kombinovane krize u kojoj se Srbija nalazi jači nego ikad. Srbija je ušla u globalnu ekonomsku krizu 2008. godine sa svojom tranzicionom recesijom uslovljenom strukturnim neravnotežama pre i tokom

tranzicije. Globalna kriza sa duplim dnom i lokalna tranziciona recesija se međusobno pojačavaju. Posledično, sistemski (ili eksterni) rizik, kao rizik kojem su izložene kompanije bez mogućnosti uticaja ili kontrole, se kontinualno povećava.

Sadašnja globalna ekonomska kriza je posledica ljudskih zablu da u modeliranju ekonomskog sistema i njegovih institucija. Ortodoksna ekonomska teorija je tvrdila da ne postoji razmimoilaženje između održavanja inflacije na niskom i stabilnom nivou i očekivanja maksimalnog rasta (ili minimalnog outputa). Međutim, inflacija nije informacija za akciju za održiv razvoj pošto to merilo prikriva puno pukotina u ekonomskom sistemu.

Iskustvo sa SAD i EU je pokazalo da ortodoksna platforma za vođenje ekonomskih politika nije održiva, posebno u slučaju deregulacije i sekuritizacije. Takođe, epizoda sa tranzicijom u Srbiji zasnovanoj, takođe, na neoliberalnoj ideologiji i platformi vođenja ekonomskih politika poznatoj kao „Vašingtonski konsenzus“ je pokazala da sa inflacionim targetiranjem, kada je output ispod radara ekonomskih politika, ne postoji privreda u tranziciji koja može da napravi zaokret iz recesije prema oporavku. Čak i kada je finansijski sistem potpuno zdrav, postoje problemi sa realnim sektorom koji iniciraju, pre ili kasnije, negativni povratni uticaj na finansijski sektor.

Načelno, kada je output gap mali i stabilan, ali je privreda pregrejana, može se pokazati da je inflaciono targetiranje učinkovito. Međutim, u slučaju tranzicione recesije (kao i svake druge recesije) ne postoji monetarna politika, uključujući inflaciono targetiranje, koja stvari može da vrati u normalu.

Danas nosioci ekonomskih politika u Srbiji moraju pronaći odgovor na glavnu kontradikciju tranzicije da stabilnost cena nije praćena održivom zaposlenošću. Na zaposlenost ne utiče samo stabilnost cena, već i institucije koje deluju na interni kapacitet preduzeća za pozitivnim reagovanjem na spoljne stimulanse, opšti odnos društva prema preduzetništvu, preovlađujuća strategija granskih lidera, unutrašnje inicijative za inoviranjem i sl. Posledično, glavna dilema u recesiji je: da li da ekonomske politike nastave da prate ortodoksnu liniju razmišljanja ili da pređu na heterodoksnu liniju. U heterodokskoj liniji razmišljanja makroekonomske politike (monetarna, fiskalna i finansijska) su važne, ali na važnosti dobijaju i industrijske politike.

U heterodoksnom pristupu output (umesto inflacije) je u centru ekonomskih politika. Reindustrializacija pomoću industrijskih politika stvara osnove oporavka i može da koriguje glavne strukturne neravnoteže.

U naša poslednja dva rada [2] i [3], nastojali smo da identifikujemo klice ekonomske krize u Srbiji kao i da skiciramo okvir za oporavak iz mikroekonomske i makroekonomske perspektive, respektivno. U ovom članku, skoncentrisaćemo se na rastuću ulogu javnih preduzeća u energetskom sektoru kao prvi korak u dobrom pravcu prema oporavku kao i na inteligentno upravljanje rizikom kao ključni mikroekonomski alat za efektivno i efikasno korporativno upravljanje u javnim preduzećima. Inteligentno upravljanje rizikom je usmereno ne samo na izbegavanje rizika, već i na prihvatanje rizika kao načina za ostvarivanje većih pri nosa u budućnosti.

O tome govori ovaj članak kroz pet delova. U prvom delu se razmatra neminovnost ortodoksnog pristupa u vođenju ekonomskih politika u recesiji. Drugi deo analizira neka rešenja glavnih ekonomskih poli-

tika, posebno monetarne, u periodu recesije. Treći deo sadrži strategijsku analizu privrede Srbije. Četvrti deo daje pregled glavnih argumenata za davanje energetske politici mesta najviše prioriteta u anti-kriznom programu Srbije. Peti deo analizira inteligentno upravljanje rizikom kao ključni alat strategijske implementacije industrijske politike u javnim preduzećima.

Ključne reči: *Srbija, sistemski rizik, industrijske politike, javna preduzeća, anti-krizni program, inteligentno upravljanje rizikom*

Industrial policies in economic crisis: new old economic policy challenge

The 2008 financial crisis, which arose from the subprime mortgage bubble in the U.S., led to the largest global economic crisis since the Great Depression of 1929. The current financial crisis is compounding and interacting with economic downturn. The bankruptcy of *Lehman Brothers* was only the tipping point. Even the most optimistic had to admit that the “great moderation” was just an illusion.

Any crisis is a litmus test for the current model of economic development, its institutions, and policy tools. Ambiguity is the key characteristic of the current crisis, now known as the Big Recession. There is no consensus or dominant trend in the search for a solution (free trade vs. protectionism, public sector expansion vs. economic fundamentalism, conventional macroeconomic policies vs. industrial policies). Consequently, contradicting developments appear at the same time (low interest rate with slow investment or inflation with a decline in sales).

Economic crises have a particularly unfortunate feature. They are rarely the consequence of a single, underlying force. They are not mutually exclusive and usually come as a mixture. Identifying causes and consequences between them is difficult since their interaction forms rather a vicious circle. As an example, Figure 1 shows the vicious circle of 2008 global economic crisis. As shown in the figure, there are six underlying forces. In the beginning, the economy slid into a crisis due to the credit crunch. The credit crunch was a man-made disaster influenced by the deregulation of financial markets and securitization. The spill over of negative expectations (“fear from fear”) in consumption was an early indicator of the incoming crisis. The next underlying factor is the demand squeeze. Logically, sales decline when credit extensions plummet.

The combination of the demand squeeze and the credit crunch caused a delay in vendor payments. This created fractures in the supply chain. Without inputs from suppliers, the production of goods was interrupted, cutting off the ability to sell goods to paying consumers. Liquidity shortage was the next early warning indicator. The economy in crisis faced another shock, a decrease of the return on equity. As long as profitability is knocked down, it is impossible to keep output at the pre-crisis level because investments are plummeting. An output gap is unavoidable. When trust and confidence in the economy evaporate, government and bank “runs” are inevitable.

There are strong interactions between the aforementioned underlying forces. Some forces exacerbate the effects of others, while policies designed to address one may reduce the impact of policies designed to remedy the others.

Output growth is the center of the anti-crisis programme. There are two different views regarding what policy tools create increases in output. For supply-siders, the best policy is tax-relief. Reducing taxes provides an incentive to work longer (labor increase) and to devote more attention to innovation and organizational change (total factor productivity increase). According to this perspective, the primary role of government is to create the institutions that help the market to operate at full capacity. The problem with this school is that no developing

economy has ever experienced rapid growth from poverty to wealth. As a result, other economists have argued almost the exact opposite, that the government as a corrector of market failures is the way to boost output. As a consequence, government-led industrial policies can be the best way to increase productivity. In this approach, industrial policies lead, macroeconomic policies follow.

There is well-established evidence that the market is not self-correcting. As a result, each national economy has created economic policies that serve as the government’s “visible hand” when correcting the work of the market’s “invisible hand”. The purpose of these economic policies is to avoid market failures that have systemic consequences, increase sustainable national economic growth, to capitalize new technological opportunities, and to transform external and internal handicaps into advantages through organizational change.

The attitudes towards economic policies defer in the developed from developing world. For a long time, developed economies were ignorant towards industrial policies. By contrast, macroeconomic policies in developing economies are not viewed as wheels of prosperity, but rather as the oil, which lubricates of output growth and renders the motion of tradable sectors. Thanks to industrial policies, government and regulatory bodies in these economies intervened extensively to create tradable sectors. This export-led, managed growth strategy, in terms

Figure 1: The vicious circle of the last global economic crisis

of *R. Rajan* [18, pp. 47-8], enabled extraordinary growth in some developing economies and for them to quickly reach the ranks of the developed ones. It is clear that the best practices include intensive government support in the first stage of development of infant industries and steady and continuous focus on tradable sectors (with export and/or anti-import tenets). Since private sectors in these economies were relatively uncompetitive, they were left with few choices. They could opt for the role of an active government by founding and managing SOEs, or the role of an enabler that would build and expand hard and soft infrastructure in order to encourage the development of competitiveness in private companies.

L. Jones and *I. Sakong* [11] summarize that government investments in SOEs are characterized by large size, high forward linkages, high capital intensity, output-market orientation (sometimes called “commercial SOE’s”), and production of non-tradable good for import substitution. These types of investments are hardly ever made by the private sector, however they provide the infrastructure for its growth and their absence leads to market failures. A good example of successful industrial policy in the energy sector is Turkey. In this country, energy prices, timely adjusted and regulated according to full cost pricing and the competitive foreign exchange (FX) rate would encourage efficient usage of energy and domestic production to cut down on imports, while avoiding loss build up in the public sector.

Proponents of industrial policy often use East Asian countries as a business case for how it should be implemented. In the 1960s, South Korea was poorer than many sub-Saharan countries. Today it ranks 25th in the world in terms of GDP PPP pc. According to *D. Rodrik* [19], there is a strong, positive relationship between the level of the real FX rate (adjusted for the *Balassa-Samuelson* effect) and growth. Countries that managed to keep their FX rate competitive grew more rapidly. South Korea and Taiwan in the 1960s and 1970s and China in the 1990s are good examples. In all of these cases, growth was preceded and accompanied with a substantial rise in the undervaluation index of their currencies.

Generally, crises lead to investment suicide because the risk appetite is going down (risk aversion is going

up). Some market players and institutions must change the trend in order to make a turnaround. Is the state a solution? Yes and no. But mostly, yes. In the heterodox model, industrial policies come before macroeconomic policies with sustainable employment as the ultimate tenet, instead of the output gap and inflation (both low and stable), which are the main tenets of the orthodox model. Like the orthodox model, the heterodox model also needs automatic stabilizers (monetary and fiscal).

Countries differ in their economic success due to differences in their institutions, rules influencing how the economy works and incentives that motivate business development. Sometimes, incentives are organized systematically in industrial policies. Unlike macroeconomic policies that affect the whole economy, industrial policies are sector specific. Industrial policies are directed at expanding industries with tradable goods by promoting certain sectors for import substitution and/or supporting certain export-oriented sectors. In the heterodox model, macroeconomic policy tenets should remain the same, trying to maintain a low and stable output gap and inflation.

Key issues in macroeconomic policy during the crisis

Macroeconomic policies are aimed at reducing systemic (or external) risk, or the overall fragility of the economy, primarily influenced by the volatility and loss in capital markets. When national economies fall into a recession, most policy makers are still quick to run budget deficits in hope of getting them back on track. Budget deficits are sometimes based on increased spending, sometimes on tax cuts, but mostly on both. A key tenet of this type of economic policy is to stimulate aggregate demand by signaling that better days are ahead.

In the developed world, there are two ways of approaching this method. *J.M. Keynes* [13] and the fiscalists argue that the only way to put an economy in recession back on track is by stimulating it *via* deficit-financed government stimulus spending, whether it is financed by money pumps (“quantitative easing”) or borrowing. Keynesian fiscal policy is about expectations. In a “bad time”, the government moves expectations in a favorable

direction by implementing expansionary fiscal policy. If the government had financed increased spending by increasing taxes, then consumption and investments might have fallen. If it had borrowed additional funds by issuing bonds, then other expenditure variable would have had to decline.

The problem with the Keynesian approach is that deficit spending may lead to an increase in prices rather than output. If actual demand exceeds potential supply, the economy begins to overheat. But, this is a difficult situation for “normal time”. In normal time, deficit is expected to be inflationary. Another problem is that if economic agents start preparing for an increase in taxes, they will start saving new income derived from deficit spending, reducing the income multiplier to 1, resulting in a phenomenon known as “Ricardian equivalence”.

According to the monetarist view, spending financed by newly created money is cyclically stimulative whether the spending is done by the government or by the private sector. However, spending may drive up interest rates and undercut private investments as well as consumption, resulting in so-called “crowding out”.

It is not easy to separate these two views because fiscal stimulus is accompanied by monetary stimulus in many anti-crisis programs. The relevant evidence is provided by rare occasions, when fiscal and monetary policies go in different directions.

How do you measure the effectiveness of an anti-crisis elixir? First, a positive change in the output gap (as a difference between the actual level and trend level of national output) implies recovery, whereas a negative gap implies a double dip recession. Second, a negative change in the structural balance of the government implies a fiscal stimulus expansion and increased vulnerability of the economy (a double dip recession). A positive change implies recovery. By definition, general government structural balance is the difference between revenues and expenditures in a cyclically normal situation (the business cycle is midway between boom and bust).

Four years after the last crisis began, the global economy is still in confusion and has only come up with a partial solutions. The majority of relevant national economies, with the exception of Germany, China and

Japan, have applied huge doses of fiscal stimuli and have taken contractionary monetary stances. But these efforts have not been placed into effect. In the meantime, economists continue to focus on whether fiscal austerity or more fiscal stimuli is the right way to contain the crisis and to turn the economy back into prosperity. Instead of replicating the Keynesian view, they should change the policy variable to money supply.

According to *M. Friedman*, monetary policy trumps fiscal policy [6]. Namely, when monetary and fiscal policies move in opposite directions (monetary restrictions, fiscal expansion and vice versa), the economy will follow monetary policy.

The last crisis confirms this theory. After the fiscal stimuli episode at the start of the crisis, monetary powers in many national economies have turned on expansionary monetary policy. Meanwhile, regulators contributed their share to the overall confusion. From the beginning, their wrongheaded attempt to ensure the safety of banks has created a global campaign to increase capital adequacy. The equity injection in the middle of recession provoked massive deleverage in banks. Consequently, the privately produced portion of money supply has contracted. Because the private money supply is much larger than that accounted for by the state, this policy has resulted in a restrictive monetary stance. This explains why there is a credit crunch when monetary powers are pouring out liquidity.

Money supply, rather than fiscal stimuli, is crucial for recovery. *S. Hanke* [6], after looking at empirical data from the last decade, confirmed that there is a positive correlation between money supply and growth. In economies such as those of Germany and China, where the gap between the trending rate of money growth and actual money supply is positive, growth is relatively strong. If the gap is negative, the total money supply is deficient and the economy is either in growth recession (the U.S., for example) or in a full-blown recession (such as Greece).

Developing economies and economies in transition, such as Serbia, that entered the economic crisis of 2008 with an output gap, high debt and large unfunded liabilities have had limited ability in using fiscal stimuli in their anti-crisis programs. These economies that in the past had run pro-cyclical fiscal policies driven by consumption

booms are now forced to cut their budget and increase taxes despite the recession by international financial institutions. These countries are also implementing inflation targeting as a key policy tool independently on the stage in the business cycle. Money supply is a key policy issue for these countries, as well.

In order to solve the issue of money supply, major changes need to be made in the monetary model. Serbia's economy needs a stable and competitive FX rate. The currency board is a monetary model which supports this tenet. Currency boards have existed in more than 70 countries and a number of them are still in operation today. Countries with this type of monetary model have experienced hard budget constraints, price stability and higher growth rates compared to countries with alternative monetary models (such as inflation targeting).

A fixed FX rate along with the reserve currency and a requirement made by the currency board that holds foreign reserves equal to 100% of the monetary base, will be able to implement monetary base volatility at its own discretion. Regardless of the metric used, the money supply in this model is still determined entirely by market forces. The demand of money users who bring reserve currency and swap it for local currency determines the amount of notes and coins that the currency board supplies. By contrast, in the inflation targeting model, the central bank is able to decrease or increase the money supply at its discretion. It can lend to commercial banks and create reserves for them even if its foreign reserves are decreasing. More reserves tend to enable commercial banks to make more credits, which they are able to do by creating deposits for borrowers. As a result, money supply increases. Decreasing money supply tends to have the opposite effect. In addition to changing the monetary base, a typical central bank can also influence the supply of credits by changing the obligatory reserves for commercial banks.

In a recession, the key question for monetary policy is how to boost money supply without increasing government debt and inflation. In order to augment money supply, *S. Hanke* [7] suggests financial instruments which employ debt market operations. At the core of these ideas are government transactions with non-banks. The government, not the central bank, conducts debt market

operations. The process begins when the government borrows from commercial banks. In the beginning, the short-term government paper is transferred to banks. In exchange, the deposit balance of the government is credited. This new government deposit is not counted as a part of the money supply. The government then uses these bank deposits (which are not considered money) to purchase long-term government bonds from the non-bank private sector. These transactions are added to the non-bank private sector's bank deposits and directly to the money supply, because bank deposits in the name of private persons and entities are considered money. The quantity of money is directly increased by these debt market operations and an equivalent amount of long-term government debt is considerable reduced, almost eliminated. The government would borrow from private banks and purchase outstanding long-term government debt from the public, then cancel the debt that had been purchased. If the government were to borrow from the central bank, both base money and state money would increase.

When the central bank conducted debt market operations, the long-term bonds it purchased ended up on its balance sheet. The debt would not be canceled out in the same manner it would be if the debt market operations were done by the government. If the central bank were engaged in debt market operations, it would be left holdings of long-term government debt and be exposed to interest risk on those securities. It could incur large accounting losses if interest rates were to rise.

For a country like Serbia that is in an artificially created credit crunch by central bank, the question is: how to boost money supply without increasing government debt? Using monetary reserves for credit expansion is too risky when the systemic risk is substantially high. However, it could be a good strategy for expanding money supply based on an analyzed financial instrument.

A strategic audit of Serbia's economy: key issues

Serbia's crisis, like almost all other economic crises, has political roots. The dissolution of Yugoslavia in the last decade of the twentieth century consisted of many

Table 1: Key macroeconomic indicators, period: 2002 – Q2 2012

Indicators	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Q1, 2012	Q2, 2012
Real GDP growth rate	4,3	2,5	9,3	5,4	3,6	5,4	3,8	-3,5	1,0	1,6	-1,3	-0,6
Consumer prices inflation, in %	14,8	7,8	13,7	17,7	6,6	11,0	8,6	6,6	10,3	7,0	3,2	5,5
Unemployment rate	13,3	14,6	18,5	20,8	20,9	18,1	13,6	16,1	19,2	23	25,5	n.a.
Current account balance in % of GDP	-4,2	-7,8	-13,8	-8,8	-10,1	-17,7	-21,6	-7,2	-7,4	-9,5	-16,8	-10,0
Budget deficit/surplus, in %	-4,3	-2,6	-0,3	0,3	-1,9	-1,7	-1,7	-3,4	-3,7	-4,2	-7,0	-7,2
Public debt, in %	72,9	66,9	55,3	52,2	37,6	30,9	29,2	34,5	44,0	47,7	50,7	54,7
External debt, in %	58,7	55,9	49,8	60,1	60,9	60,2	64,6	77,7	84,9	77,5	77,2	79,0
RSD/EUR FX rate (period average)	60,66	65,13	72,70	83,00	84,10	79,96	81,44	93,95	103,04	101,95	108,11	113,73

Source: Selected data from the National Bank of Serbia database

contingent geopolitical events at critical junctures which led to the creation of political and economic extractive (or non-inclusive) institutions. Outcomes during these critical junctures were partly contingent, not historically determined. Such system is full of pathologies (concentrating economic power in the hands of party members, entry barriers, politically inspired employment, etc.), constantly creating nonlevel playing field. Naturally, the changes that happened became the background, institutional setting upon which the negative chain of events ultimately led to economic decline.

After almost a decade of political and economic isolation, Serbia restarted to transition in 2001. Unfortunately,

it was the political discontinuity with institutional continuity. The mindset at the beginning of the crisis left a politically influenced predisposition toward stimulating consumption (or soft budget constraints) during the whole transitional period. As a consequence, the results are not encouraging. Table 1 shows trends in the last decade for key macroeconomic indicators that can help to put the country in context.

Figures are fully indicative and they portray the effectiveness of institutions and efficiency of policy tools during the analyzed period. Growth is positive (with exception of 2008 and 2012) but it is neither healthy nor sustainable.

Table 2: Vulnerability indicators, Q2 2012

	Indicators	Reference point
Operational performances		
Transitional output gap/*	30%	0%
Okun index (inflation + unemployment)/*	31%	<12%
Twin deficits /*		
▪ Current account	10,0%	<5%
▪ Budget	7,2%	<3%
Financial performances		
Indebtedness /*		
▪ Public debt/GDP	54,7%	<45%
▪ Foreign debt/GDP	79%	<90%
▪ Foreign debt/Export	208,5%	<220%
Credit rating		
▪ S&P	BB-/negative	investment rang > BB
▪ Fitch	BB-/negative	investment rang > BB
Competitiveness		
Export (goods)/GDP /*	29%	>50%
Currency depreciation /*		
▪ Nominal (Q2 2012/Q2 2011)	-12,3%	<-5%
▪ Real (Q2 2012/Q2 2011)	-10,8%	<-3%
Global competitiveness index	95(142)	65 th (SEE average)
Corruption perception index	86(183)	59 th (SEE average)
Ease of doing business	92(183)	60 th (SEE average)
Economic freedom index	98(179)	62 th (SEE average)

/* Authors' own calculations

Table 2 provides vulnerability indicators of Serbia's economy, divided into three segments: operational, financial, and competitive performances. For each indicator, the first column represents its value and the second column indicates its reference point. The whole picture provides a very disturbing wake-up call.

The previous two tables suggest that there are some important stressors in the system, making Serbia's economy impotent and out of tune. The first qualification is self-explanatory, but the second requires additional clarification. There are many structural imbalances in the system that influence controversial macroeconomic conditions (strong currency in a weak economy and an output gap with a tight monetary stance, for example). The main fractures are a noninclusive political system, ineffective privatization, an intact public sector, a bankcentric financial sector, and an unsustainable social safety net. In theory, optimal economic policies always deliver the best output (or a zero output gap). But, when the system is fractured, the economy cannot implement these policies because it is out of tune.

Even though the policy makers have focused exclusively and continuously on inflation control there is still a gap between achievements and expectations. The cumulative inflation rate (CPI base) was 174% for the period Dec. 2001-Nov. 2011. As shown in Table 1, in the period 2002-2011, the economy was burdened five times with a double digit rate of inflation (14.8% in 2002, 13.7% in 2004, 17.7% in 2005, 11.0% in 2007 and 10.3% in 2010).

Meanwhile, a rough consensus had emerged among Serbia's monetarists about the benefits of inflation targeting as a main policy tool. Under this policy, the National Bank of Serbia (or NBS) was expanding money supply whenever inflation threatened to fall below target and was reducing money supply whenever inflation threatened to rise above target. In order to achieve this tenet, monetarists focused more on the short-term interest rate than on money supply. Although reserve requirements have been abandoned as a monetary variable, the NBS has become skilled at controlling another monetary variable, a short-term interest rate through open market operations that involve buying and selling repo papers. Last year, this monetary policy was extended with euro denominated government

bonds. By controlling short-term interest rates, the NBS was able to move money supply by pushing or pulling currency supply through open market operations. From a monetarist perspective, the main benefit that arose from this strategy was FX rate control. In Serbia, because import is greater than export, the FX rate is crucial for keeping inflation under control.

The effects that this policy would have on output were not taken into consideration. According to [3, p. 23], at the end of 2011 Serbia's transitional output gap was around 30%, and output gap benchmarked with average output in transitional countries amounts to around 45%. The implicit effects of this policy are high interest rates and, until recently, an appreciated FX rate. This deadly combination provoked a chain of negative consequences: current account deficit, budget deficit, and debt increase.

Loose macroeconomic policies and a sizable competitiveness gap caused a surge in credit-financed, import intensive domestic demand. When savings are low, growth relies on capital inflows to finance imports. Within the aforementioned period of time, the economy was constantly running current account deficit, except in 2002. The current account deficit substantially exceeded 5% of GDP for almost the entire period. The economy had also been running a budget deficit, except in 2005. Debt increase is significant. In Q2 2012, public debt is more than 50% of GDP and the foreign debt (public + private) is approaching a state of emergency (90% of GDP). Unfortunately, this policy led to the main transitional contradiction: consumer price stability, promoted as macroeconomic stability, was not followed by sustainable employment.

By borrowing capital from abroad and by using privatizations proceeds, as well as remittances, Serbia's economy has bridged the gap created by over-consumption and an under-stimulating domestic economy. However, this situation is not sustainable. When privatization proceeds and debt-fueled growth dominate the economy, recovery will bring increasing unemployment (jobless recovery). Output growth was slowly restored, but the jobs were not. In the period analyzed, the economy lost 14% of its jobs. In Q2 2012 unemployment reached 25.5%. According to [21], the employment rate in April 2012 was still very low, at 52.6%.

Sources of money supply are another hidden fracture in Serbia's economy. Usage of proceeds from privatization and associated money expansion were misconceptions. Privatization is a form of divestment, not an export. If proceeds from privatization are qualified as cash inflows, instead of fund outflows, they will trigger an increase in the monetary base. As a result, the money multiplier was too high during the whole analyzed period. In order to avoid artificial inflationary pressure, the NBS has been constantly increasing the attractiveness of short-term carry-trade capital inflows. The aforementioned policy provoked real currency appreciation, especially during periods of massive privatization. It could also be considered as a form of outrageous behavior against the real economy especially tradable sectors. This policy exemplifies policy failure that distorts competitiveness.

Another example of the same behavior is shown in the double-digit cost of capital which was totally out of trend during the economic crisis. Deficit spending drives up interest rates and undercuts investments due to the crowd out effect. When the government runs deficit, it obtains the difference by borrowing from the open market, competing with borrowers from the real economy and as result, drives up the cost of capital. The combination of tight monetary policy and deficit spending leads to cuts in investment. With slow savings, growth relies on capital inflows and privatization proceeds to finance imports.

Due to external funding shortfall, the economy contracted in the fall of 2008. Results did not drop behind. Decline in the economy was followed by adverse population movements. Figure 2 portrays the vicious circle of major system fractures that generate negative feedback loops in Serbia's economy during the transition.

In the previous vicious circle, population risk had the largest impact on the country's vulnerability. Risk exposure in Serbia's economy is strongly influenced by population, in many aspects reflecting depopulation and population aging on one hand, brain-drain and human resources mismatch on the other hand. Unlike other major systemic risk components, population risk cannot be eliminated or mitigated upon policy maneuvering. Furthermore, once the decisions for improvement are made and their implementation has commenced, significant time is needed to start disclosing.

The prolonged sub-replacement fertility and negative population growth rates in Serbia, which have been occurring for decades, have caused a sharp decline in population volume. Life expectancy, however, is continuously increasing. Consequently, the age structure is changing from youthful to older. Figure 3 illustrates this point. The middle graph depicts the situation in 2011. The transitional age "pyramid" structure is making an apparent shift towards a "rocket" age structure.

Figure 2: The vicious circle of Serbia's transitional crisis

Another one of Serbia's structural problems is a deteriorating human resource base. Serbia has a two-dimensional job crisis: a persistent deficit in the number of jobs being created and insufficient percentage of high-quality jobs. Segments 15-24 and 25-34 year olds continue to have the highest level of unemployment. The ongoing brain drain is unavoidable due to the non-inclusive political system, which inspires politically dependent employment. Depopulation, along with the brain drain will continue to deteriorate human resources as a base for productive knowledge, a key lever of industrial policies effectuation.

This creates a very heavy financial burden. It is clear that the current "pay as you go" system will not last much longer into the future. In 2010, contributions to the pension fund accounted for 22% of the base. The pension fund's outlays amounted to 38.4% of the contribution base. Hence, the contributions from the employed people covered less than 60% of the fund's needs. The deficit is financed by the budget. These disturbing statistics are only getting worse with time. Currently, pension benefits are not correlated with the level of development and account for more than 14% of GDP, making Serbia comparable to some OECD countries, such as Italy and Austria.

The high level of the pension outlay rate (pension outlay relative to the contribution base) is a consequence of two factors. The first one is the systemic rate of demographic dependency (the number of pensioners relative to the number of employees), which is extremely high (76%) and will not get better in the future. There are 1.3 employees per 1 pensioner. The second refers to the ratio of average

pension to average gross salary (contribution base) which accounts to 48%.

Meanwhile, Serbia's policy makers (mostly monetarists) were applauded by politicians when they boosted economic expectation by assuring anxious voters with an illusion of easy credits and RSD as strong currency (in contradiction with the weak economy). The boosting of credits and consumption encourage populism and mask the core problem of high systemic risk due to an impotent and out of tune economy.

During the whole period of transition, the usefulness of fiscal policy was sharply limited by political constraints. Serbia's fiscalists did not implement a counter-cyclical fiscal stance. Even if implemented in "good time" (mainly during the period of intensive privatization), it could be extremely useful to economies with a limited number of fiscal stabilizers. As a result, the mission of fiscal policy did not achieve much more than imposing fiscal rules to achieve debt sustainability.

With structural imbalances and output gap, the resilience of the economy, in terms of shock absorption, does not exist. Consequently, economy's vulnerability is increasing. Moreover, due to the combination of the global economic crisis and the local transitional crisis, the negative effects of each crisis have been exacerbated. The negative feedback loops of the underlying forces in the vicious circles on Figure 1 and Figure 2 form a downward spiral, or "free fall", in terms of *J. Stiglitz* [22]. Some interactions of these two forces have created the new key stressors in the economy. For example, the

Figure 3: Population structure change in Serbia

Source: Statistical Office of Republic of Serbia

interactions of the credit crunch from the global crisis and high indebtedness from the transitional crisis have led to a capital flow reversal. Newly created stressors have specific channels of transmission, affected sectors, their vulnerabilities, and possible impacts. Figure 4 provides an instant portrait of Serbia's economy exposure to systemic risk during combined crisis. Thus, the real challenge for economists and policy makers is to interrupt the above-mentioned vicious circles and the contagious spread of their stressors through new economic policy.

Does the anti-crisis program in Serbia make sense? The answer depends on another question: does Serbia's economy have development potential? Serbia does not have significant deposits of natural resources, a massive work force, nor an abundance of savings. Do all of these things mean that Serbia does not have development potential? *D. Acemoglu* and *J. Robinson* [1] confirmed that there is not a simple connection between geography (position, climate and natural resources) as well as culture and economic success. Also, they confirmed that poor countries are not poor because they have market failures or because economists and policy makers do not use "great moderation" correctly (so-called "ignorance hypothesis"), but because they have relatively low economic complexity. There are

countries that are rich because they hold large deposits of natural resources. This, however, is not sustainable. High levels of national income do not guarantee sustainable development when there is a relatively low level of economic complexity. The gap between economic complexity and its level of income *per capita* is the key determinant for future growth. National economies tend to move towards an income level that is compatible with their overall level of embedded knowledge.

To answer the previous question, we can consult the Atlas of Economic Complexity [22], which measures the amount of productive knowledge (not natural resources, labor and capital) that each country holds as a prerequisite for economic development. The Atlas uses performance measures such as the Economic Complexity Index, which directly captures information regarding development potentials. This index has the ability to predict the growth rate much more than standard development indicators. The central contribution of this Atlas is the "Map", which provides a network using accumulated productive knowledge. The accumulation of productive knowledge depends on the diversity of economic activity of each country. Knowledge is the combination of explicit and tacit knowledge. Because it is difficult to transfer and imitate,

Figure 4: Exposure of Serbia's economy to systemic risk

tacit knowledge is what primarily constrains growth and development. Economic complexity is expressed as the composition of productive knowledge which reflects the structures that combine explicit and tacit knowledge.

According to the Economic Complexity Index at the start of the global economic crisis of 2008, Serbia placed 37th out of 128 countries. The compound average growth rate in GDP pc of 3.38% up to 2020 put Serbia at 17th place. Clearly, Serbia has a critical mass of productive knowledge and potential for reindustrialization and output growth. The question is how to use this potential.

The rationale for industrial policy in Serbia's energy sector

There is well-established evidence that shows that Serbia's transition has created the output gap and has caused the structure of the economy to change in a negative way. The country does not only have a problem with employment posed by privatization, but also with uncompetitiveness. Serbia no longer has a comparative advantage in many areas of manufacturing. The most important competitive disadvantages are present in the network technologies and infrastructure, which, due to investment shortages, limit the sectors' ability to quickly install more investments.

The fact that macroeconomic policies (almost exclusively monetary) did not manage to fix structural imbalances and other stressors forces policy makers to switch from orthodox framework to a heterodox one. With structural imbalances and without automatic stabilizers in economy in which radical reforms such as privatization and financial deregulation constantly enlarges the output gap, the orthodox macroeconomic policies were unable to fulfill their purpose.

In the modern economy, what matters is output expansion based on competitive advantage. The conventional comparative advantage can change to a competitive advantage, or a dynamic comparative advantage. Industrial policy provides a short cut to achieving this. Fifty years ago, Korea's comparative advantage was in rise, not electronics, automobiles or ships. In order to transform the comparative advantage into a competitive one, Korea's government decided to invest in human capital and

technology by implementing specific industrial policies for some priority sectors. This experience opens two questions for us. What should be our competitive advantage? And, how do we get there?

Caught up in the panic of responding to the crisis, Serbia's strategists made mistakes. Before they devoted money to industrial policies, they should have asked themselves whether there was a sector that had the capacity to transform comparative advantage into competitive one. They also should have considered that priority sectors always needed restructuring (energy and transport, primarily). However, Serbia does not have many choices. The global market is shifting toward "commoditization" and toward high-end products. Massive production is not sustainable, but after deindustrializing during the transition, Serbia lost the core competencies needed to produce high value-added products.

The energy sector is a top priority. Energy is not only an economic, but a strategic and geopolitical issue, as well. Energy means stability. Electricity is not only a prerequisite for reindustrialization, but also a tradable good. Energy is an investment intensive sector. Expansion in this industry would energize many others (construction, electrical engineering, ICT, etc.), causing the investment multiplier to rise. This is a rare industry in Serbia, in which there is a good balance between demand (global and local) and natural resources and productive knowledge.

The global energy market is extremely volatile and domestic production is important for stability supply. Oil prices rose from \$82 per barrel in November 2010 to more than \$107 per barrel in July 2012. This was mainly due to social and political unrest that unfolded in Middle Eastern and African countries. In addition to this renewed volatility on the demand side, the global appetite for energy grows progressively. According to *D. Yergin* [24, p. 4], the question is whether the available resources will be sufficient to fuel the global economy, which in the next couple of decades is expected to rise from \$65 trillion to \$130 trillion. Most of these challenges are faced by the developing world due to long-term economic growth prospects. According to the Energy Information Administration (EIA) projections for the period 2008-2035 [10, p. 1], the global demand for energy grows by 53%, with fossil fuels accounting for over

one-half of the increase in total primary energy demand while the liquids share of global energy consumption will fall from 34% (2008) to 29% (2035).

Oil remains the dominant fuel in the primary energy mix, even though its share declines slightly due to the gradual switch towards other energy sources, in both industrial and power-generation sectors, as well as in transportation. The largest share of liquids consumption refers to transportation because due to the absence of significant advances in technology, liquids continue to provide much of the energy.

Growth in demand for natural gas far surpasses that for other fossil fuels because it has far more favorable environmental and practical attributes. In the power sector, low capital costs and fuel efficiency also favor natural gas. World natural gas consumption will increase by 52% over this projected period [10, p. 3]. Growing capacity and lower production costs contribute to lower prices of natural gas and as a result, increase demand. The consumption of nuclear energy is not expected to change substantially in the coming future. The share of nuclear power will increase slightly from 6% in 2008 to 8% in 2035.

Renewable energy is the faster growing form of energy in the world. The use of modern renewable energy—including hydro, wind, solar, geothermal, biomass and marine energy—will almost triple over the course of the projected period. Its share in total primary energy demand will increase from 7% to 14% [10, p. 4].

The energy sector in Serbia plays an important role in the country's economy not only because energy as a "product" has become of vital importance to reindustrialization and the external liquidity position, but because it also represents the largest and most prospective industry in the public sector portfolio.

Primary energy supply in Serbia consists of imported high quality fuels and locally produced low quality lignite, with inherent extraction inefficiency, relatively large hydro facilities and wooden fuel.

Electricity represents 28% of the final energy consumption and is produced in large hydro facilities and thermal power plants. Electricity produced from hydro energy represents approximately 30% of total electricity production. Thermal plants account for almost 70% of the

overall electricity production in Serbia. The net efficiency of thermal power plants is low and the installed capacities were depreciated long time ago. The net efficiency is around 30% lower than those of new generation power plants, while the average age of plants is more than 30 years.

Extremely low price levels of electricity impede the full cost recovery. Due to the direct or indirect regulation of energy prices, investments in existing energy sources in Serbia remain relatively unattractive. Energy prices in Serbia are far below cost-reflective level. This entry barrier impedes investments in alternative renewable energy sources, as well as the implementation of newer and more efficient technologies (adoption of stimulating feed-in tariffs is offset by determined threshold capacities). Energy consumption on the other hand, just like production and transportation, is all but efficient. Serbia is ranked among the top 20 countries in the world in terms of energy use per unit GDP. Also, besides being inefficient, the production of energy is highly pernicious from an environmental standpoint. According to [10, p. 103], in 2009 Serbia ranked among the 10th most carbon intensive economies in the world with 1,40kg CO₂ emitted per 1 USD (2000) of GDP.

Pricing based on full cost recovery is the prerequisite for expanding energy production as well as investments aimed at improving efficiency and decreasing carbon intensity. SOEs from the sector are supposed to be able to recover all costs and remove other less visible barriers so that new market players, especially those investing in renewable energy, can enter the market.

The potential for energy production from renewable sources in Serbia is substantial. Biomass is by far the largest renewable resource that Serbia possesses. The overall annual biomass potential in Serbia is approximately 28,000GWh. The main source of biomass in Serbia is agriculture (70%), whereas the rest comes from woody biomass. A study completed by the Serbian Ministry of Energy and Mining estimated that Serbia could replace 25% of its total energy produced with biomass facilities [5].

Wind potential is estimated to amount to 2,700 GWh. So far 11 wind turbines are installed with a total capacity of 25 MW. Another 330 MW are expected to be implemented and are awaiting installation.

Serbia is one of the richest European countries in terms of solar energy potential. Its annual solar radiation average is around 40% higher than the European average. The annual solar irradiation is around 1400 kWh/m². The lowest measured values of solar radiation in Serbia are comparable to the highest values in leading countries of solar utilization such as Germany or Austria.

Finally, although Serbia is producing 30% of its electricity in hydro-plants, it is effectively utilizing slightly more than 1/2 of its economically usable hydro-power potential. The total hydro-power potential is estimated at 25,000 GWh a year, out of which 17,000 GWh are classified as technically and economically usable potential. Only 10,300 GWh are utilized. The total hydroelectric capacity is 2,770 MW, coming from mostly large hydro plants (only 30MW of installed capacity refers to small, less than 10MW plants). According to EBRD [5], this capacity is expected to double (another 2,800 MW) and small plants are expected to take on a much more serious role.

In our previous article [3, pp. 28-31], we discussed key elements of industrial policy in the Serbian energy sector, such as full cost pricing, key investment projects, the financing model, feed-in tariffs and stimuli for new energy and efficiencies technologies (NE²T). The previous analysis of global trends and local specifics in the energy sector confirms our recommendations.

Other priority sectors with comparative advantage that is transformable into competitive advantages are: telecommunications, agriculture, transport, and logistics. Each sector needs strategic analysis before policy definition.

The current crisis has shown that market failures can be complex and are not easily corrected by following simple rules of macroeconomic policy such as money supply and inflation targeting. Policy makers can develop a better understanding of how industrial policies perform well under the right incentives, when private rewards are aligned with social returns and how the government can help the two come together. Among the problems contributing to this view, risk management in SOEs is at the top of the list.

Intelligent risk management in state-owned enterprises

For a long time, the public sector was not held in high favor by economic theory. However, it is a relevant part of the national economy in terms of share in the national income, employment, and market capitalization. For example, in the majority of EU countries, the public sector accounts for or more than one half of the national income. Typical fields in this sector are natural monopolies and network technologies. In the developing world, the prevailing policy is that SOEs need to be anchored to economic development. In order to eliminate market failures in the last period, it has been determined consensually that the legal and regulatory framework for SOEs should ensure a level playing field in markets where private and public companies compete.

During the last global economic crisis, the role of SOEs has consisted of opposing forces. On one hand, some countries continued privatization programmes, not least when it came to infrastructure, energy, and communications sectors. On the other hand, the crisis forced the state to nationalize some financial institutions (primarily banks and insurers) and companies from the real economy, as well. This has had a number of implications. For example, privatization of natural monopolies in network technologies (energy and communications) sectors has induced the separation of operational and regulatory functions. The nationalization of some companies from the real economy has induced at least two such tendencies. The first tendency was to list new SOEs on the stock exchange in order to energize capital markets which are in retardation. Second, the tendency of government to rethink ownership practices due to the fiscal squeeze. In an anti-crisis program with effective leadership, no longer taken for granted, boards of SOEs are being forced into new investments, efficiency improvement, and expansion of tradable goods.

The best way for achieving the previous tenets in SOEs is the implementation of basic principles of corporate governance and their improvements [15], [16], and [17]. The mandates, the duties, and responsibilities of the SOE board do not differ much from national practices regarding private company boards. Namely, in SOEs, the board is

subject to similar fiduciary duties as in the private sector. The board has a clear mandate and ultimate responsibility for SOE performances (the business plan, investment plan, value created, etc.). However, board members may have reduced liability, particularly the ones nominated by the state. Sometimes ministers or other high-level government officials may serve on SOE boards (elected chairs). This practice is common in Israel. However, it is essential that SOEs have strong boards that can act in the interest of the company and effectively monitor executives without undue political interference. Board must be relatively small (in the EU average number of

members in major companies is 11) but board members must have integrity and credibility.

The magnitude, the level of diversification and new role of SOEs in industrial policy suggest the two-tier model as the best board structure. This model consists of a supervisory board and executive board that each meet separately. Alternative models (such as the unitary board and mixed system) are applicable, but with some disadvantages. What is the optimal composition and working style of the SOE's board? These questions can be answered by examining Figure 5 and the following six principles of corporate governance.

Figure 5: Composition and functioning of the SOE's board

Key responsibilities of the supervisory board of the SOE are: strategic management and risk management. It is important for the board to first set strategic goals and associate risk appetite. Goals and risk appetite stem from industrial policy main vision. After that the board is in position to establish a compensation structure that meets the metrics based on its goals and tenets. Incentives must be aligned with risk management in order to avoid excessive risk taking, not compatible with the company's risk appetite.

Risk management is integral to strategy. Yet, managing risk is very different from managing strategy. Risk management is concentrated rather on the downside (threats and failures) than on the upside (opportunities and success). Mitigating risk involves dispersing resources and diversifying investments, just the opposite of the "to do" culture most strategists try to foster when defining and implementing strategy. Consequently, the board's responsibility for defining strategy (and risk appetite) needs to be extended to establishing and overseeing the enterprise-wide risk management system. This system must be compatible with strategy and risk appetite. One important lesson from the recent crisis has been that risk management failed because it focused on internal controls based on financial reporting, thus separating risk management from strategy and its implementation. Today it is considered good practice that risk management and financial control function are independent from business units. Also, it is considered good practice that "the chief risk officer", or equivalent, to be able to report directly to the board along the lines with internal control functions reporting to the audit committee or its equivalent. This is part of risk management.

A common denominator for key board responsibilities is risk. Doing business is all about taking calculated risks in order to match risk appetite with strategy. It should be fully understood that intelligent risk management is not an issue of eliminating risk taking, especially not during recession. The aim is to ensure that risks are understood, properly managed, monitored, and communicated.

Recently, there has been a surge in interest in what is now called "intelligent risk management". It is an approach by which company assess, control, avoid, exploit, and

finance risks from all sources. This approach includes upside risk exploitation rather than just downside risk mitigation, helping board to bring risk exposure more in lines with risk appetite. It should be considered a good practice of corporate governance to involve board in this process. Some credit rating agencies, notably *Moody's* and *Standard & Poors*, have added risk management capabilities in their evaluation criteria.

The first step in building up intelligent risk management system within the SOE is to understand the distinctions among the types of risk that it faces. There are many categorizations of risks. According to *R. Kaplan* and *A. Mikes* [12], risks fall in one of three categories: preventable risks, strategy risk, and external risk.

Preventable risks are internal risk that are controllable and ought to be eliminated or avoided. Companies should seek to eliminate these risks since they get no strategic benefits from taking them on. This type of risks is best managed through prevention (or a rules-based compliance approach). But, risk mitigation is painful for business people to perform. Rather than mitigating risks, companies incubate risk through normalization of deviation, as they learn to tolerate apparently minor failures and threat early warning signals as false indicators. Board of the SOE must set key parameters for rules-based management system (e.g., risk appetite and figures like economic capital, value at risk, etc.). According to the Basel III/ Solvency II regulation, similar rules are required for the real economy as for financial sector. For example, SOEs should report all off-balance sheet assets and liabilities. Such reporting could cover risk management strategies and systems put in place to implement them. The SOEs in extracting or related industries (energy, for example), should disclose its reserves according to best practice. Public private partnership typical for energy sector (green energy, for example) should be adequately disclosed. Such ventures are often characterized by risk transfers that may consequently induce specific material risk.

Strategy risks are risks that the company voluntarily accepted in order to generate superior value from its strategy. In contrast to preventable risks, strategy risks are not inherently undesirable. Taking a significant risk many times (such as a research and development risk) is a key driver

in capturing potential value. Strong links exist between resource allocation and capital budgeting, and identified risks. Because many of the strategy risks are predictable, companies usually tend to label and departmentalize them along business function lines (financial risk, operational risk, human resource risk, IT risk, reputation risk, etc.). Such organizational silos dispersed responsibility for risk management. Also, this approach inhibits the analysis of interactions among different risks.

External (or systemic) risks are risks that arise from events outside the company and are beyond its influence or control. Major sources of these risks are macroeconomic instability, geopolitical, and environmental changes with long-term impact, and disasters (natural and political). Because companies cannot prevent such stressors from occurring, their management must focus on identification and, accordingly, mitigation of their impact. Some external stressors are apparent and imminent that managers can manage them as they do their strategy risks. For example, during the last global economic crisis, SOEs developed specific reactions to growing protectionism and capital flow reversal. There are some analytical tools that can do that. Stress-tests help companies to assess major changes in one or two risk drivers whose effects would be major and immediate. For example, how dramatically the price of commodities increases, large swings in interest rate or FX rate, or default of a major institution or even sovereign country would affect financial position of such company. Scenario planning is a tool designed for long-range analysis. Participants examine major political, economic, technological, social, regulatory and environmental underlying forces and select a number of drivers, typically four. For each of the selected drivers, participants forecast maximum and minimum anticipated values in the long run. Combining the extreme values each of the four risk drivers leads to 16 scenarios. Because about ½ of scenarios is implausible, the participant can then forecast the strategy for the remaining scenarios.

In the combined economic crisis key responsibilities of the board of SOEs as a key lever of industrial policy are: to explain all of the risks the company is exposed to, prioritizing resources to deal with these risks, and overseeing the system of implementation. SOEs need to encourage

intelligent risk management as a part of the new role of the SOEs in industrial policy and restructuring challenge. Fortunately, this is another area in which intelligent risk management offers an advantage. Output expansion of tradable goods combined with the increase of efficiency is a way to reduce external (or systemic) risk. Otherwise, neglecting risk management will lead the SOEs in crisis and leave the national economy in crisis.

Nota bene

As the summer of 2012 rolls into autumn, we are conscious that Serbia does not have an anti-crisis program and that current economic policy cannot reach the recovery tenets. The country's rating is downgraded (BB-/negative). Despite the daily FX sale auction (a cumulative more than 1.4 billion euro since the beginning of 2012), RSD has depreciated somewhat faster than other comparable currencies (Q2 2012 / Q2 2011 = -10.8% in real term). Growth is negative (Q2 2012=-0.6% and Q1 2012=-1.3%), meaning that the economy is in technical recession. The productive capacity is being underutilized in a country in which there are huge unmet needs. The most serious underutilization is that of human resources.

Realizing that in the economic cycle every downturn comes to an end provides no comfort for policy makers. This theory does not work. We cannot wait until the global economic crisis ends because Serbia's economy is in freefall, a decline without the end in sight. Making no decision is the worst decision.

There are some major risks inherent to staying on the current course: risk to the country's fiscal position, risk to the country's external liquidity position, and sovereignty risk. All these risks are systemic by nature. Instead of static macromanagement concentrated on inflation control through monetary measures, Serbia desperately needs dynamic micromanagement concentrated on investments, both in public and private sectors and well-coordinated with macromanagement. Output expansion of tradable goods through industrial policies is a way to reduce systemic risk.

Intelligent policy makers match their approach to the nature of the threats they face. Serbia needs a new vision

for economic development not just because our old model has failed but also because we have learned with great pain that some theoretical fundamentals from the old model were wrong. The economic changes happening now are structural, not cyclical and, therefore, truly transformative. This new order must be understood fully and accepted widely. In economic theory and policy, the prevailing doctrine is changing. Today every successful economy involves both government and markets on balanced way. Also, industrial policies do matter.

The new approach to fixing the economy must be not only sensible towards new economic developments, but also pragmatic and a realistic compromise with existing political forces. An absolute must is to stop bleeding, no matter what type. No more cash should go wasted, no more flight of young educated people to other countries, and so forth. In each crisis, the liquidity is what becomes the primary “make-it-or-break-it” factor. One of the solutions is creation of new financial instruments previously discussed.

The main limits for possible actions are long-term liabilities. But solutions come from the assets side. Significant assets are in public hands. Government can take a large role, from setting the rules and enforcing them to providing infrastructure, and conducting business activity in priority sectors (energy, telecommunication, infrastructure, agriculture, transport, and logistics).

The anti-crisis programme for Serbia has three components: stimulating output expansion through industrial policies, stable currency and competitive exchange rate as monetary automatic stabilizer, and hard budget constraints (both macro and micro) as fiscal automatic stabilizers. In this context risk management in SOEs is a critical microeconomic tool for efficiency improvement.

The nation's economic fate is not determined by geography or culture, but rather by the type of institutions and politics. Countries rise when they put in place the right pro-growth institutions and they fail, sometimes spectacularly like Yugoslavia did, when those institutions ossify or fail to adopt.

Traditionally economics has ignored politics, but understanding politics is crucial for explaining why Serbia's economy is impotent and out of tune. Economists have

neglected politics by choosing solved political problems as its domain of interest. Good political systems launch and maintain a virtuous spiral while bad political systems remain in a vicious circle. Exit from the combined crisis still requires politics. But it also requires economics in terms of right advice from the right advisors. Integration of macroeconomics and business management on that path makes sense.

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