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QUEST FOR NEW DEVELOPMENT MODEL AND ECONOMIC POLICY PLATFORM FOR SERBIA: THE ROLE OF INDUSTRIAL POLICY*

U potrazi za novim modelom razvoja i platformom za vođenje ekonomskih politika u Srbiji - uloga industrijske politike

Abstract

The devastating truth that after twenty-five years of transition Serbia's economy is still impotent and out of tune opens the question: Why do people continuously act against their own interest? The answer is: the wrong system.

Serbia's economy is packed with structural imbalances. Among them, the most important one is disharmony between the real economy and financial sector due to wrong transition strategy and ineffective macro management, both blindly following neo-liberal doctrine. Deindustrialization along with financialization is the main contradiction of the system. As a consequence, Serbia has experienced output gap, competitiveness freefall, and high unemployment.

By financialization we mean the increase in the influence of financial markets, institutions, and elites over both the economy and the government. Now the key challenge for Serbia is to compare neo-liberal policy platform with new conceptually complex one, which is capable of restoring the dynamic balance between the real economy and financial sector and embarking the economy on the road to sustainable employment. Doing so will take courage on the part of policy makers defining both economic policies (monetary and fiscal) and industrial policies. "Smart" industrial policies are at the center of the rejuvenated wisdom known as the new structural economics. The economic system following the new doctrine is known as managed capitalism. It is conceptually different from free-market capitalism following neo-liberal doctrine and state capitalism following conventional structural economics.

Most theories of growth and related economic policy platforms were developed at the macroeconomic level. Such perspective is good for spotting relation between stability and growth. That got us thinking:

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What institutional choices are supporting that relationship? Prior to the Great Recession, the answer was coming from monetary policy generally and inflation targeting policy tool specifically. But, universal efficiency of the market is not common in cases of major macroeconomic distortions like output gap, deflation, and demand-pull inflation. In such situations market forces unleashed recession, instead of booming prospects. Anti-crisis measures based on the same doctrine led to jobless recovery scenario, at best. Frequent crises confirm that some fundamental assumptions of conventional economic doctrine and related economic policy platform must be revisited.

This article is a continuation of our last two contributions in the field of transition and related issues in Serbia [5] and [6]. It is an attempt to create the model of growth and policy platform in an impotent and out of tune economy from the ground up. Namely, by looking at the context primarily from microeconomic (or business) perspective and following revisited conceptual economic policy platform based on active role of government. It is reasonable because in post-crisis period the relevance of industrial policy as a common sense institutional choice and the government's lever is acknowledged by mainstream economists and politicians from all sides of ideological spectrum.

There are some questions triggered by this turnaround. What is the rationale for revising market efficiency as fundamental assumption of economic orthodoxy and acknowledgement of active role of government in an economy? What are the key factors that have raised so much controversies about industrial policy *per se* and how to fix them up in renewed (let's say "smart") industrial policy framework? How can "smart" industrial policies be designed to avoid past failures as well as to emulate the past benefits? How to balance core economic policies (monetary and fiscal) with "smart" industrial policies in the new (let's say "heterodox") economic policy approach in the case of Serbia. What is the remaining policy agenda? This article intends to address these questions. The aim

is to confirm that in defining anti-crisis measures for late developer in delayed transition industrial policy is a common sense institutional choice with deep theoretical roots and unquestionable practical results.

Key words: *Serbia, industrial policy, orthodox economic policy platform, heterodox economic policy platform, neo-liberal economics, structural economics, technological change, competitiveness*

Sažetak

Poražavajuća činjenica da je posle dvadeset pet godina tranzicije privreda Srbije još uvek nemoćna i raštimovana navodi na pitanje: zašto ljudi neprekidno rade protiv svojih interesa? Odgovor je: pogrešan sistem.

Privreda Srbije je puna strukturnih neravnoteža. Najvažnija neravnoteža je nesklad između realne ekonomije i finansijskog sektora usled pogrešne strategije tranzicije i neuspešnog makromenadžmenta, inspirisanih neoliberalnom ekonomskom doktrinom. Deindustrijalizacija praćena finansijalizacijom predstavlja glavnu kontradikciju sistema. Posledično, javljaju se autput gep, slobodan pad konkurentnosti i visoka nezaposlenost.

Pod finansijalizacijom podrazumevamo rast uticaja finansijskih tržišta, institucija i odgovarajuće elite u odnosu na privredu i državu. Glavni izazov sada predstavlja sučeljavanje neoliberalne platforme za vođenje ekonomske politike sa novom, koncepcijski složenijom platformom koja je u stanju da povrati dinamičku ravnotežu između realne ekonomije i finansijskog sektora i da prebaci ekonomiju na putanju održive zaposlenosti. Da bi se prethodno postiglo, potrebna je odvažnost donosioca odluka pri definisanju makroekonomskih i industrijskih politika. „Pametne“ industrijske politike su u centru unapređenog starog koncepta poznatog kao nova strukturna ekonomska teorija. Ekonomski sistem koji sledi novu doktrinu poznat je kao upravljani kapitalizam. U pitanju je konceptualno drugačiji sistem u odnosu na liberalni kapitalizam koji sledi neoliberalnu ekonomsku doktrinu i državni kapitalizam koji sledi doktrinu konvencionalne strukturne ekonomske teorije.

Većina teorija rasta i povezanih platformi vođenja ekonomskih politika stvari posmatraju iz makroekonomske perspektive. Ova perspektiva je dobra za uočavanje odnosa između stabilnosti i rasta. To nas navodi na razmišljanje: koji institucionalni izbor podržava taj odnos? Pre Velike recesije, odgovor je dolazio sa strane monetarne politike, u načelu, i ciljanja inflacije, konkretno. Međutim, univerzalna efikasnost tržišta ne važi u situacijama većih poremećaja kao što su autput gep, deflacija i troškovima gurana inflacija. U takvim situacijama tržišne sile dovode do recesije umesto rasta očekivanja. Antikrizni program koji bazira na toj doktrini u najboljem slučaju dovodi do oporavka praćenog gubitkom radnih mesta. Učestale krize su pokazale da se određene fundamentalne pretpostavke konvencionalne ekonomske doktrine i odgovarajuće platforme za vođenje ekonomske politike moraju promeniti.

Ovaj članak predstavlja kontinuitet u odnosu na naša prethodna dva doprinosa na polju tranzicije i povezanih pitanja u Srbiji [5] i [6]. Članak predstavlja nastojanje da se kreira model rasta i ekonomske politike u nemoćnoj i raštimovanoj privredi posmatrano iz perspektive privrednih subjekata. Naime, posmatrajući kontekst primarno iz mikroekonomske (ili poslovne) perspektive i konsultujući unapređenu platformu za vođenje

ekonomskih politika, zasnovanu na aktivnoj ulozi vlade. Za to postoji opravdanje zato što je u postkriznom periodu relevantnost industrijske politike kao legitimnog institucionalnog izbora i poluge vlade prihvaćena od strane najuglednijih ekonomista i političara sa obe strane ideološkog spektra.

Postoje određena pitanja koje je otvorio pomenuti zaokret. Šta je opravdanje za korekciju hipoteze o univerzalnoj efikasnosti tržišta kao fundamentalne pretpostavke ekonomske ortodoksije i priznanje mogućnosti da država može imati aktivnu ulogu u ekonomiji? Šta su ključni razlozi koji su doveli do tolikih kontroverzi u vezi sa industrijskom politikom, *per se* i kako ih eliminisati u izmenjenom (recimo „pametnom“) konceptu industrijske politike? Kako formulirati „pametne“ industrijske politike na način da se izbegnu pomenute slabosti, kao i da se iskoriste dokazane prednosti? Kako uskladiti ključne makroekonomske politike (monetarna i fiskalna) sa „pametnim“ industrijskim politikama u okviru novog (recimo „heterodoksnog“) pristupa, i sve to u slučaju Srbije. Koja su ostala važna pitanja vođenja ekonomske politike? Ovaj članak nastoji da odgovori na prethodna pitanja. Namera je da se dokaže da se u definisanju antikriznih mera kod zemalja koje imaju kašnjenje u razvoju i koje su još u tranziciji, industrijska politika predstavlja racionalan institucionalni izbor duboko utemeljen u teoriji i sa nedvosmislenim praktičnim rezultatima.

Ključne reči: *Srbija, industrijska politika, ortodokсна platforma ekonomske politike, heterodokсна platforma ekonomske politike, neoliberalna ekonomska teorija, strukturna ekonomska teorija, tehnološka promena, konkurentnost*

Strategic audit of Serbia's economy

Transition in Serbia started in the early 1990s, at the same time as in other socialist countries from Central and East Europe. It was the period of strong influence of the so-called “universal transformative global discontinuity” (UTGD) as a consequence of complex interaction of global, interdependent, radical, and even contradictory trends. Unfortunately, due to misunderstanding of leading trends in global politics and economy Serbia is currently stuck in transition which prevents convergence effect and catching up with developed economies. In the stage of regression Serbia's exposure to UTGD is constantly growing, which is exacerbating existing fault lines in development model and economic policy platform.

Political leadership remaining perplexed by the implosion of Yugoslavia and increasing impact of UTGD pushed Serbia on the road to freefall. In the modern world it is even more important to whom you are connected than who you are. Being stuck in transition (both geopolitical and economical) in the last 25 years Serbia lost almost

1/3 of output, roughly 1/10 of population, and 1/6 of its territory rich with significant natural resources endowment.

At the beginning of transition, as theory predicted, the economy quickly experienced transition shock but in the case of Serbia it was untypically strong. In 1993 Serbia entered depression. Drop in GDP of 60% was of such magnitude that Serbia has never escaped from transitional recession. Today transitional output gap is nearly 1/3 of GDP from 1989.

There were two transitional waves: the first refers to the period 1990-2001, and the second started in 2001 and is still going on. Transition in vacuum was the main characteristic of the first wave due to economic sanctions. The second wave started with the overthrow of socialist regime, stuck in the middle between an expanding EU and defensive Russia, by democratic regime with the vision of geopolitical repositioning to the EU. Unfortunately, this wave did not contribute to the transition completion primarily due to erroneous transitional tenets, strategy, and macro management.

During the second transition wave the most important transition tenet was development of capital market. This strategy had two levers: lifting barriers to entry for foreign banks and other financial intermediaries, and privatization of the real economy as a vehicle for development of capital market. The most obvious consequence of such an orientation was financialization and overproportional growth of the financial sector. In 2013 the finance and insurance industries accounted for 89% of GDP, up from 37% in 2002. On the other hand, gross value added of this sector was not so significant. In 2002 the gross value added of the finance and insurance industry was equal to 1.6% of GDP compared to the gross value added of all other sectors which accounted for 98.4%. In 2013 that figure grew to only 3%. In 2002 total value of financial assets was EUR 5.8 billion (36% of GDP). In 2013 it amounted EUR 28.9 billion (90% of GDP). It means that during the second transition wave the financial sector accumulated great power. But, imbalance in power distorts structure of investments in ways that additionally destabilize the economy and expose it to much greater volatility.

The actual return investors of the capital receive is, on average, approaching zero. Today, every attractive

opportunity is being eyed by many more investors – and also being pursued by many more companies – than was the case in the past. Competition drives prices of deals so high that the returns to investors are dramatically compromised. For nearly a decade, actual returns on all financial intermediaries backed investments, which were promised to be at least 25%, have totaled up to zero every year. This paradox could be named capital market myopia.

It is peculiar that in the economy with more than EUR 8 billion in savings the market capitalization on the stock exchange is less than EUR 7 billion. The foregoing is a consequence of the fact that the financial system is dominated by what we might call a “migratory capital”. In banking industry 12 month deposits dominate not only external funding, but also internal funding. When invested, migratory capital wants to exit as quickly as possible and to take out as much additional capital as possible before it does. Another important type of capital is risk-averse capital (or “timid capital”). Much of timid capital resides in cash and cash equivalents in privatized companies, where making no investment is better than making investment that might fail. Paradoxically, in a country hungry for growth the least important type of capital is enterprise capital (owners’ equity).

From the perspective of policy measures, there are three main legacies of economic transition in Serbia. Firstly, the policy of soft budget constraints, both on macro and micro level. Secondly, high vulnerability of the system as a result of double macro deficits (current account and budget) financed predominantly through debt release. Temporary sources of financing were privatization proceeds and grants. Thirdly, the expansion of main structural imbalances such as output gap, price disparities, appreciated domestic currency, and double-digit cost of capital.

In such a setting, a risk of downside scenario is high and ever growing. To prevent country from defaulting on its debt, almost every government, at least at the start of its tenure, was faced with near-death experience.

Does Serbia matter? Serbia is a microscopic economy with 0.06% share in global GDP in 2013. It is landlocked country without significant natural resource endowment and with negative demographic trends. In sum, a small,

impotent and out of tune economy has no meaningful comparative advantage, nothing that is strong enough to counter the gravitational pull of UTGD.

A belief that Serbia was back on the track appeared in 2013. Some macroeconomic fundamentals were looked pretty good. Surprisingly, the growth of 2.5% happened in the conditions of macroeconomic stability (inflation of 2.2%). But, in the following 2014 statistics show the dual nature of economic reality, the shining upside and dangerous downside. Economy slips into recession as GDP contracted by 1.6% along 3Q 2014. Industrial activity falls by 5.7% yoy in 3Q 2014. Export growth slows down (+2% yoy in 3Q 2014 vs. +26% in 2013), imports quasi stagnating (+1.2% yoy in 3Q 2014), so trade gap falls by 1.6% yoy. Inflation is still low predominantly due to weak domestic demand. Domestic currency depreciated really and nominally, first time after 11 years, mostly as a result of deteriorating trade, strong banks' deleveraging and resurged risk aversion.

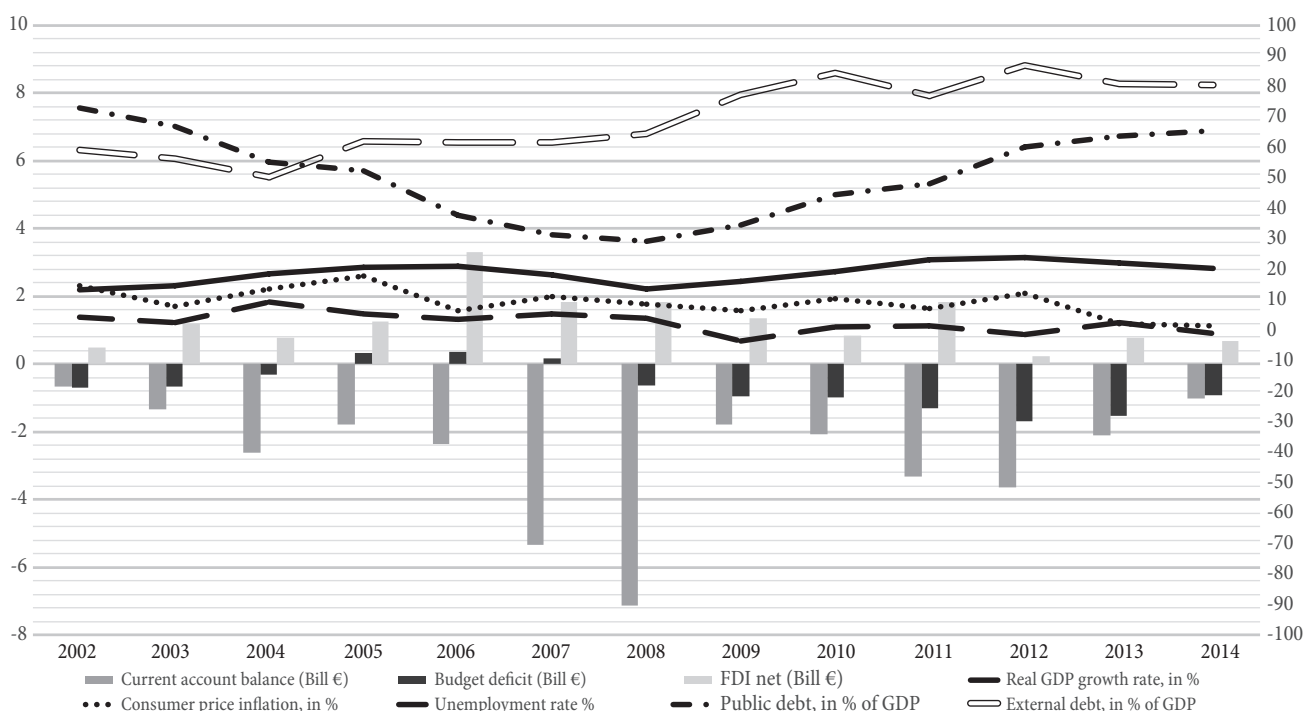
Figure 1 reveals main structural imbalances of Serbia's economy. The profundity of structural imbalances initiated by old fault lines deepened as the global economic crisis intensified. The vulnerability of Serbia's economy is additionally damaged due to interconnectedness among existing imbalances.

The first negative effect refers to high unemployment rate. Dangerously high unemployment has persisted for almost five years now, and it is predominantly a consequence of two unfavorable facts. As can be seen in Figure 1, the level of FDI has tremendously declined since 2011. Aside from the low level of new investments, the vitality of corporate sector is continually being eroded which is obvious from still sizeable current account deficit, and high and rising indebtedness of the corporate sector.

The second negative effect refers to inefficient and unsustainable public sector. Instead of being driving force of growth in terms of providing infrastructure and demand to the corporate sector, the public sector in Serbia is oversized and true burden to the economy. The inefficiency of the public sector is easily observable in its cost structure. The unsustainability of this situation is confirmed by alarmingly high public debt and budget deficit.

The third negative effect stems from the corporate sector's negative profitability and growing indebtedness. There are many factors influencing such conditions. First, unreasonably high cost of capital. Namely, given the level of average interest rate in Serbia (11% in 2013), it is easy to conclude that the majority of companies in the corporate sector cannot cover their costs of financing. Secondly, a long-standing legacy of really appreciated FX.

Figure 1: Macroeconomic indicators for period 2002-2Q 2014



It does not take much more than a cursory glance at Table 1 to realize that Serbia's economy is clearly impotent and out of tune. The main reason for such a situation is the unfortunate fact that economic policy measures have not hit the tenets, while structural policies do not even exist. On the other hand, it is quite demanding to decide where the weakest points lie: in operational performance, financial sustainability of the system, or competitiveness.

Transitional output gap is still wide (28%) since anti-crisis policy measures so far could not move the economy beyond the *status quo*. Inflation was under control in 2Q 2014, but the level of *Okun* index is still worrying (21.6%) due to high unemployment. Twin deficits show a twofold tendency: current account deficit (4.3%) remains within reference limits, while budget deficit (5.1%) continues to be considerably higher than tolerable level. Things would look even more alarming if it did encompass all debts of public enterprises. From a strategic point of view, maybe the most worrisome indicator lies in the youth unemployment which stands at 50%.

Financial perspective is not less gloomy. As of 2Q 2014 public debt is even higher (65.6%). What is upsetting is the fact that this figure will be considerably higher when the costs of floods that struck the country at the end of the second quarter affect the end-year figures. The state

sector is not viable. Financial sector has serious problems since the NPL ratio crosses twice its tolerance level (22.8%). Credit rating is still on the speculative brink.

When it comes to competitiveness indicators, things are far from being bright and promising. The exchange rate depreciated slightly, but real appreciation still appears (though low) making no impulse to export growth. Consequently, the export share in GDP (35.3%) stays on the level too low to provide external liquidity.

New government, inspired by convergence effect, announced in the middle of 2014 measures to speed up the accession process to the EU and sweeping reform efforts in order to eliminate macroeconomic imbalances and put the economy on the road to recovery. Accession to the EU was a positive shock for each economy in transition. In the case of Serbia it may turn out to be a negative shock due to output gap and income gap. The departure of all assets prices from fundamentals is visible sign of structural (not cyclical) character of the crisis.

Paradoxically, while Serbia is becoming politically closer to the EU, due to growing vulnerability of the economy it is moving further away from it. Moreover, the EU indulges heavily in the Great Recession. If downward trend in performance persists, the EU is going to be "museum of the world". Convergence effect (export and

Table 1: Vulnerability indicators as of 2Q 2014

Indicators	Value	Reference point	Type of vulnerability
Transitional output gap	28%	0%	OPERATIONAL
Okun index	21.6%	<12%	
Macro deficits			
• Current account	4.3%	<5%	
• Budget	5.1%	<3%	
Dependency index	1.1	>2	
Youth unemployment	50%	<20%	
Indebtedness			FINANCIAL
• Public debt/GDP	65.6%	<45%	
• Foreign debt/GDP	80%	<90%	
• Foreign debt/Export	173%	<220%	
NPL ratio	22.8%	<10%	
Credit rating			
• S&P	BB-/negative	investment ranking > BB	COMPETITIVE
• Fitch	B+	investment ranking > BB	
Export (goods)/GDP	35.3%	>50%	
Currency change (1H 2014/1H 2013)			
• Nominal depreciation	3.2%	<5%	
• Real depreciation	1.6%	<0%	
Global competitiveness index	94th of 144	65-SEE average	
Corruption perception index	72nd of 177	59-SEE average	
Ease of doing business	91st of 189	60-SEE average	
Economic freedom index	95th of 178	62-SEE average	

FDI) is limited when economy with sluggish performance and high vulnerability integrates with the economic system with weakening economic activity.

As a result, the major challenges for Serbia are coming not only from economic but also from geopolitical perspective. To survive, Serbia must return to itself. The key question is: How to bring the economy from import and debt dependent to balanced one? A quest for solution must start with rethinking conventional development model and related economic policy platform.

Rethinking conventional wisdom in theory and policy

Before the Great Recession there was strong dissonance between economists from developed and developing countries regarding the dilemma which institutional arrangement primarily influenced development model and economic policy platform. Early developers (industrialized or developed economies) preferred free market, while late developers or developing economies opted for government intervention based on industrial policy [35].

The Great Recession was a signal that the model of liberal capitalism was broken. Anti-crisis measures confirmed that the government' intervention providing lifelines to some industries and companies was a way of escaping collapse, even in developed economies with high income and well-functioning capital market. Crisis resolution requires proactive government instead of passive one choosing wait-and-see behavior against what the market forces dictate [21]. It means the rejuvenation of industrial policy as a common sense institutional choice.

The key presumption of liberal capitalism is that market is efficient. As a consequence, there is no need for government to intervene in allocation of resources (including the preferred methods of allocation) and distributional issues. According to that doctrine, government is not welcome to improve situation despite imperfections, asymmetric information, and risks. Moreover, the government is not welcome even when market prices do not reflect most general policy tenets like equal opportunities, technology-driven competitiveness improvement, and pollution control. So, inefficient market equilibrium presents quite a strong

argument why profit maximizing behavior on micro level does not lead to sustainable employment on macro level.

Influence of free-market doctrine on policy makers was strongly exacerbated in the 1980s by activism of leading politicians like the U.S. president *R. Regan* and the U.K. prime minister *M. Thatcher*. The new gospel in the renewed wisdom became the faith in rationality (rational expectations theory) in free-market environment. International financial institution IMF/WB in accordance with the U.S. ministry of finance summarized neoliberal doctrine in the so-called *Washington Consensus* policy platform. It was a lever enabling spillover of doctrine from developed economies to the rest of the world. As a consequence, the neo-liberal doctrine became the "official" blueprint for structural reforms among late developers (developing economies as well as economies in transition).

Washington Consensus followed three basic principles: deregulation, liberalization, and privatization. In this policy platform inflation targeting plays a role of key policy tool focusing on consumer price inflation (low and stable) as prerequisite for macroeconomic stability and sustainable employment. In such setting an economy grows through creative destruction, with newcomers bringing innovations that destroyed old incumbents. The role of the government is to leave the private sector to take a risk.

There are some problems with the previous view, notably regarding its applicability in economies with a delay in economic development and low level of income [1]. Late developers have not grown rapidly from poverty to riches, in part, because they do not have institutional setting capable of creating competitive companies quickly and, in turn, do not have enough competitive companies with competencies to take advantages of such setting. As a consequence, economists from late developers in transition with greater sensibility for real economic problems overplay the role of government in growth. In sum, the extent of the government intervention in the economy is demarcation line between early developers and late developers. Also, in transition process, institutional change implemented by the government, does not inhibit but rather accompanies the growth. As a result, the main challenge for late developers in transition is to create enough competitive companies. Minimum density of relevant economic agents is a

prerequisite for multiplicative effect of new investments and sustainable growth.

In the early stage of development the government intervention in an economy has two options: creation of state-owned companies to undertake business activities and creation of space for favored privately-owned companies to grow relatively unimpeded by competition. In both options domestic savings are directed through a largely captive financial system towards favorable companies. Government usually protects domestic market from imports by using measures like tariffs, import restrictions, local currency depreciation, etc. Need to create strong globally competitive companies usually leads the government to favor the connected producer and its financiers at the expense of citizens (low wages, low interest rate on deposits, taxing households more, etc.). Under these circumstances, consumption is strongly constrained. It is the price for expansion of tradable sectors, investment growth, job creation, and sustainable employment. Surplus in current account is a prerequisite for strategically relevant investment in competitiveness improvement.

In the later stage of development a government with continuity in implementation of industrial policy has tried to remedy privately-owned companies' competitiveness gaps and build champions, even when relying on market signals in resource allocation. Emerging system in which government gives some level of support along with conventional privileges to favored national champions effectuated many times in superior performance and competitive advantage on global level. *R. Rajan* [28, p. 56] labeled this emerging system "managed capitalism".

According to *J. Stiglitz* [32, p. 344], *Washington Consensus* was strongly opposed to any government intervention to block entry including the sectors with comparative advantage. There are some problems with government intervention, notably institutional overhang, indebtedness, rent-seeking mindset, and corruption. Emphatic *laissez-faire* attitude in neoliberal doctrine goes too far again. It was regularly marked as a *panacea* for the serious shortcomings connected with government inward-looking industrial policies.

There are some positive examples of implementation of that doctrine in economies in transition. Slovakia is, probably, the best one. But, some economies in transition, like Serbia, following neo-liberal doctrine mechanically saw not only competitiveness demise but also widened old structural imbalances [5].

Industrial policy is not a new concept. It has been on the stage with alterable fame for more than sixty years as a proxy for development and policy based on government active role in the economy through exploitation of comparative advantage, and creation and exploitation of competitive advantage. In general, related development model can be seen as a result of synergies between enhanced human capital and new knowledge, involving complementary investments in physical and human capital [15, p. 174].

The government activism in the economy has raised so much controversies and open issues among mainstream economists. It was celebrated by economists from developing countries and advocated from cautious economists from developed world. Economists from developing countries were concentrated on explanation of the necessity for industrial policy as a lever for convergence and catch up [29]. Implementation of neo-liberal doctrine for late developers is connected with some limitations due to shortage of private entrepreneurs, lack of financial capital, undeveloped capital market, high risk aversion of local investors, and fear from foreigners. In contrast, economists from the early developers blamed industrial policies for stagnation or even deterioration of income gap, ignoring the fact that most problems for late developers came from inadequate policy platform and macro management. On the other hand, some late developers (South Korea, China, and Malaysia, for example) did not subscribe to neo-liberal doctrine, yet they realized unprecedented growth thanks to proactive government industrial policy measures. The previous facts open the door to the reevaluation of neo-liberal doctrine, both by economists and politicians.

Key consequence of neo-liberal doctrine is financialization or dominance of financial services over the real economy. According to *G. Mukunda* [23, p. 74], financialization is an increase in the influence of financial markets, institutions, and corresponding elites over the economy and other institutions of society, including the government.

In highly financialized economy, “the financial tail is wagging the economic dog”. This structural change has influenced not only relative position of sectors but also core economic policies. For example, monetary policy of strong domestic currency benefited financial services, instead of choosing depreciated FX rate which might have spurred manufacturing.

Financialization is a global phenomenon. Thanks to the securitization before the crisis and quantitative easing in post-crisis period, global economy has entered the new environment of “capital superabundance”. Namely, the global economy is awash in capital. Total financial assets are almost 10 times the value of the global output of all goods and services, and the development of financial sectors in emerging economies will cause global capital to grow another 50% by 2020 [4, p. 64].

Developed financial system is crucial to the sustainable growth in early and intermediate stages of economic development. When credits to private sector reach 80-100% of GDP, finance sector becomes too large. Further expansion is counterproductive because it increases macroeconomic volatility and hinders the growth.

There are many ways in which financialization undermines the economy. Firstly, over proportional development of financial sector increases the economy’s exposure to the downside scenario. It is a point made by many influential economists like *H. Minsky* [20], *R. Rajan* [28], *Ch. Kindleberger* [11], and *P. Krugman* [14] during the period of rapid securitization before the Great Recession. Secondly, overdeveloped financial sector easily misallocates resources. A shift from investment in the real assets to equity investment generates high private rewards disproportionate to their social productivity. Pay in the financial sector is a sign of the industry’s extraordinary clout. Executives in the finance sector made substantially more than those in other sectors, even when adjusted for their higher level of education. Thirdly, as *O. Orhangazy* [25] brilliantly pointed out, investment in financial assets tends to crowd out investment in real assets because the capital market prefers short-term and liquid investments. As consequence, companies from the real economy face increased pressure to expand returns (dividends and stock buybacks) instead of investing in real assets by

using retained earnings. Fourthly, in an economy with supremacy of the financial sector distributive mindset dominates creative one. Rent seeking is dangerous form of distributive mindset, which involves a value creation by manipulating government’s policy.

Because financial markets, as a brain of free-market capitalism, are not efficient, today among relevant economists exists consensus that industrial policy is good common sense institutional arrangement [1], [18], [19], [29], [32]. In that context the relevance of so-called “heterodox approach”, instead orthodox one, based on the integration of core economic policies (monetary and fiscal) with industrial policies is acknowledged by mainstream economists from different sides of ideological spectrum as well as leading politicians. The rejuvenation of industrial policy in theory and practice could also be observed by the fact that *McKinsey*, trendsetter in the consulting industry, in last couple of years constantly advises governments all over the world about how industrial policies can help to crisis resolution, competitiveness improvement, balanced growth, and sustainable employment.

In the EU the new approach is bringing together all types of industrial policies. Priority sectors are identified by following criteria of comparative and competitive advantage in agri-food, energy, chemicals, motor vehicles, transport equipment, etc. In the new context 36 technology platforms provide institutional hub for technology-driven competitiveness improvement in existing sectors and emerging ones.

In post-crisis global world there is major rethinking of conventional economic wisdom. Economic success of countries that did not follow neo-liberal doctrine and policy platform and their growing importance in the global economy (primarily, BRICS and “next 11”) inspired rethinking that core macroeconomic policies (monetary and fiscal) and industrial policies are unavoidable parts of the comprehensive economic policy platform. In search for solution pendulum could not be shifted from one extreme institutional arrangement to another one, from the proposition that market is the best regulator to the proposition that the government is the only master. Definitely, development model and economic policy platform based on integration of core economic policies

(monetary and fiscal, primarily) and industrial policies, is a field in which there have been major breakthroughs [2].

Validation of the previous facts raises some hope that not only privately-owned companies, but also state-owned companies from priority sectors under “smart” industrial policy could be profitable, could reinvest their proceeds effectively, close the competitiveness gap (both resource gap and technological gap) with global leaders and, by doing so, enable sustainable employment.

“Smart” industrial policies have been used to correct market failures as well as previous government failures. They are not just about manufacturing. Support to technological change and support of infant industries (export expansion and substitution of import) are critical tenets also in agri-food and service industries (ICT, finance and health). Competitive exchange rate policy, education policy and infrastructure development are typical examples of sector neutral (or horizontal) policy. But, these policies are mistakenly presented as “neutral” even though related decisions always involve some value judgment. As *J. Stiglitz*, most cited thinker from the field, pointed out “the question is not whether any government should engage in industrial policies, but how to do it right” [33, p. 9].

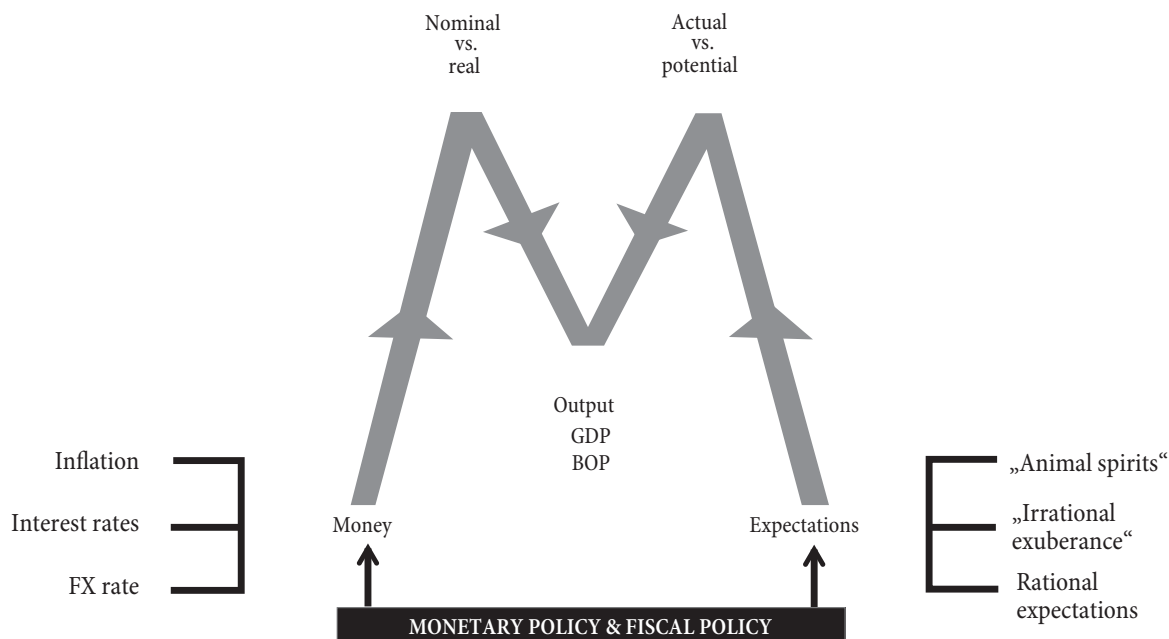
Before we thoroughly elaborate “smart” industrial policy, let’s focus on the key factors that have sparked so much controversy about conventional industrial policy. Usually, critics of industrial policy argued subsidies to some industries, sectors and even companies as a main distortion in shaping the structure of the economy. Indirect subsidies as sector neutral measures regularly involve overvaluation of domestic currency or suppressing interest rate for priority sectors. To reduce the burden of indirect subsidies, government sometimes resorts to administrative measures, granting companies in some industries (high priority infant industries from strategic perspective or important for national security) a monopolistic position and/or introduced price control for basic inputs. By doing this, government is actually introducing further distortions in price structure causing shortages in commodities and foreign exchange or crowding out other companies from debt financing.

Despite increasing convergence in wisdom about industrial policy, there are still some open issues especially regarding the scope, tools, and implementation skills. International agreements have important implications for possible choices. For example, the WTO circumscribes subsidies and trade practices that are qualified as “unfair”. Also, institutional setting and competencies of government affect the level of ambition and the choice of tools. Industrial policy often failed due to inadequate strategic audit of economic and political environment, because tenets were inconsistent with the level of development, comparative advantage, environment structure, and core competences. For example, in politically fragile state where rent-seeking mindset exists, the public-private partnership is not easy to be introduced.

Strong division between mainstream economists has expanded during the post-crisis period. For neoliberals free-market solutions continually shape the recovery path. Again, in financialized economy output is below the radar of economic policy. Money and expectations are in focus. But, the output, which is comprised of the goods and services produced in an economy should lie at the center of macro “M” (see Figure 1). The amount of output an economy produces, not large quantity of money and good expectations, primarily determines the level of its viability. Components of output are household consumption, investments, government spending, export, and import. Output constitutes an economy’s ultimate budget constraint. A country can use more output than it produces only if it borrows the difference from foreign sources. It means that country is leaving beyond its means. In some cases, it means that country has intention to increase future output, borrowing from abroad in order to raise the level of domestic investment.

Proponents of the new structural economics advise a return to industrial policy as a common sense institutional choice. Implicitly, this orientation creates the space for microeconomic (or business) approach to economic policy formulation. Micro “M” consists of three main components: value, technological change, and organizational culture (see Figure 2). For sustainable employment technological change on microeconomic level plays the same role as output in macroeconomics. This interconnectedness

Figure 3: Macro “M”



Source: [22, p. 135]

is important in late stage of development but also in transition when economy is on the road to restructuring, recovery, and catch-up. Harmonization of measures which stimulate output and technological change is the core tenet of economic policies.

Heterodox or conceptually complex development model along with complementary economic policy platform releases new set of macroeconomic tenets: output gap (low and stable) instead of inflation (low and stable), sustainable employment (instead of flexible labor market), balanced GDP structure with growing role of the real economy (instead of financialized economy), price parity between all types of assets (including FX rate), and dynamic equilibrium between the real economy and financial services (instead of stability of financial system).

Industrial policy is one of the two components in heterodox model. In the new model the role of the government in tenet setting for priority sectors and in policy coordination is unavoidable.

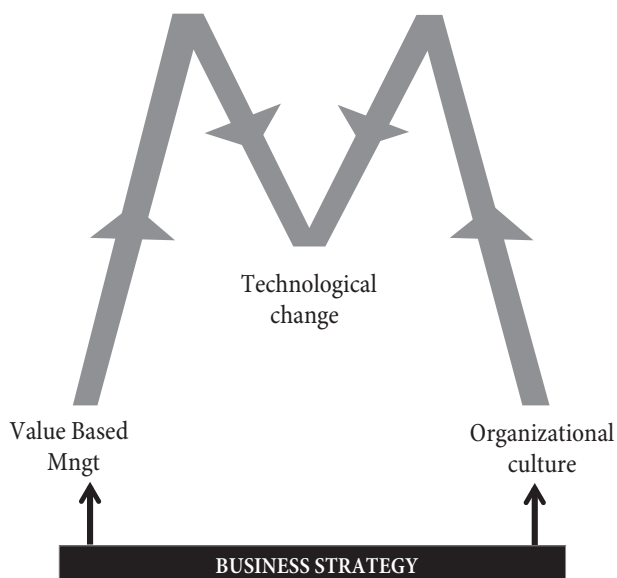
The effectiveness of industrial policy in achieving selected tenets depends on three essential conditions: (1) favorable macroeconomic environment, (2) consistent usage of policy instruments, and (3) use of state-owned companies as policy anchor [32, p. 327]. Industrial policy instruments depend on whether it focuses on industrial

upgrading, propping up declining industries that used to be successful or maintaining social cohesion [32, p. 352]. Regardless of the focus, majority of industrial policies are aimed at strengthening the institutional framework. This is achieved through creating agencies and introducing legislation that makes industrial policy instruments more effective. Institutional coordination is necessary on all three levels: among policy agencies, among private entities, and between public and private sectors [35].

Industrial policy inspired by comparative and competitive advantage

Industrial policy is defined as the government’s effort to influence the development of some sectors and industries and, hence, the structure of economy, for the purpose of embarking on the path of sustainable growth, and employment. Industrial policy paragons demonstrate that this institutional choice fortifies sustainable macroeconomic stability and strong growth while simultaneously markedly reducing great distortions of the system like income inequality and gaps in the level of development between different regions [32, p. 340]. Numerous examples testify to the broadness and depth of the government role in the economy (South Korea, Japan, Brazil, China, South Africa, etc.).

Figure 4: Micro “M”



The most important purpose of industrial policy is facilitation of the structural transformation of an economy with delay in development (late developer) and its channeling toward priority sectors. Priority sectors are predominantly those able to transform comparative advantage of nation into tradable goods and services. As a consequence, primary role of industrial policies for late developers and economies in transition is amelioration of the current account sustainability through import substitution and/or export expansion.

For that purpose, some governments have provided support to non-viable companies with high priority for economic development and removed entry barriers only when those companies became sufficiently viable. This is the essence of the conventional structural economics [19]. But, “picking winners” is a risky process. Experience shows that in many instances targeted sectors and industries were not in line with true comparative advantage [3]. When the government fails to achieve global competitiveness in priority sectors, capacity underutilization and high public debt tend to burden whole economy.

According to the new structural economics, two main choices lie ahead of developing countries trying to perform industrial policy as a part of the quest for higher and sustainable growth [19, pp. 162-163]. First, a focus on sectors with tradable goods and services that have been nurturing economic growth (for about 20 years) in countries with similar endowment and of at least twice

as high per capita income. The logic that stands behind this reasoning is that late developer has the opportunity to produce these goods and services with lower costs. But, breakthroughs in economic development are not possible by making improvements in already familiar fields but “by traversing empirically infrequent distances” [10, p. 7]. In knowledge-intensive technologically advanced and fast moving industries there is no chance to make a breakthrough from periphery to the core by producing goods and services that are close to those currently produced. It leads to second option for late developer to take considerable strategic risk to jump into non-mature, emerging industries to be able to compete with early developers this time with competitive advantage. The operationalization of the previous idea can be deterred because although internal analysis of the sources of comparative advantage and international benchmarking can result in identification of promising industries, they usually do not produce decisive verdict and experts involved in formulating industrial policy disagree on targeted sectors’ prospects.

Plagiarism of the first option hides the danger for the country of falling into “middle income trap”. Industrial policy is not only the way to energize the growth, industrialization of the economy and modernization of society, but also an antidote to drugginess in catching up the leaders in competitiveness after late developer reaches middle-income status. Technology and capability failures, rather than market failures, are the main cause of middle-income trap. As a consequence, industrial policy is a way to move from trade-based specialization to technology-based specialization. The strategy to build technological capability in the middle-income countries includes following stages. First, assimilation of state-of-the-art technology through licensing, technology transfer, foreign direct investments, etc. Second, co-development of leading-edge technology through public-private partnership. Third, leap frogging to emerging technologies which involve public-private partnership in research and development [27].

When opting for the second solution, the government has to evaluate the impact of industrial policy on potentially promising industries that have no revealed comparative advantage. According to the product spacing theory, promising sectors are often identifiable through international

benchmarking and experimentation. The main challenge of this strategy is how to assign the best fit for government interference and tune industrial policy instrument set in order to maintain sustainable growth rate.

History reveals that late developers usually start their industrialization in the assembly or production segment of the value chain in labor intensive industries.¹ As Figure 5 portrays, the majority of those economies did not manage to move to higher value-added segments of value chain or to shift to higher value-added sectors [26, p. 14].

The main reason for this is the fact that policy makers usually neglected the possibility (and necessity) of wide government support in education, R&D, and infrastructure development. Furthermore, some of the countries rushed to promote leading edge sectors in order to approach technology frontier quickly without having required scale economies and skill accumulation first.

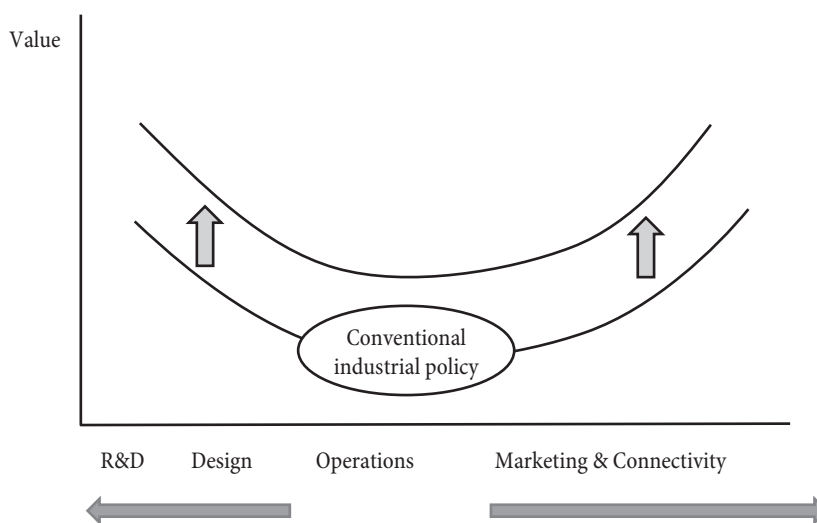
Industrial policy based on import of technology for tradable sectors does not lead to sustainable balance of payments. Import of technology and financing of that import influence deficits in both current account and capital account. Development of own technology in sectors reaching technological frontiers leads to surpluses and balance of payment sustainability.

No doubt, for late developers industrial policy can play critical role in creation of competitive advantage

through development of strategically important sectors and industries based on complex technologies and IT-driven transformation. The new structural economics tends to emphasize “winners picking themselves” principle through experimentation and positive reinforcement [30]. In the new setting, the government plays the role of responsive and responsible facilitator that channels the economic activity in the way that ensures sustainable employment. A step forward in identifying priority sectors with potential for sustainable growth of the economy is performing international benchmarking based on late comers advantage [10] and [18, pp. 12-16]. As a result, “technological platforms” are the essence of the new approach.

Nowadays there is almost a consensus that industrial policy plays crucial role in shift from current to superior technological trajectory through technological change (technology development, spillover of innovation and product diversification). In free-market economy high-tech industries tend to be imperfectly competitive. For the new technological frontier market forces exist in vacuum. Another problem is character of knowledge, more or less as a public good. It means that marginal cost of next economic agent acquiring the knowledge is zero, excluding transfer costs. Last but not least, market forces are not efficient in public goods spillover. Industrial policy in technology-driven industries help in the creation of

Figure 5: Industrial policy across value chain



Source: [26, p. 14]

1 For example, South Korea started in the 1960s with industrial policy that was aimed at export-oriented industrialization of labor intensive manufacturing sectors such as electronics.

more competitive economy with efficient technological development, higher spillover and lower gap between best practice and average competitors. Previous facts are preconditions for productivity improvement and sustainable growth.

According to *J. Stiglitz* [33, pp. 7-8], industrial policies can have three focuses: (1) on particular sectors (sector specific or vertical industrial policies), (2) on the economy as a whole (non-discriminatory, neutral or horizontal industrial policies), and (3) on future opportunities (e.g. creation of new strategically important industries).

Besides its evident potential, the effectuation of industrial policy depends largely on tenets and measures that must be in harmony with current level of development. Vertical industrial policies are most suitable for late developers. Horizontal industrial policies that provide better conditions for all sectors in the economy come with higher income level. Namely, as the capacity of the private sector improves, the government gains the opportunity to shift to sector-neutral approach which supports overall competitiveness improvement. The last type of industrial policy usually appears as the last stage of government interventionism.

The first wave of industrial policies appeared after WWI, in East and Southeast Asia predominantly. The phenomenon that shifted direction of reasoning was intensification of UTGD in the 1980s, including growing geopolitical spillovers across economy. During the 1990s, industrial policy was firstly relaxed and afterwards practically abandoned due to influence of neo-liberal doctrine and liquidity problem as a result of high public debt. Countries that took into consideration the introduction of industrial policies (both developed and developing) in the aftermath of the Great Recession have to make decisions in completely different fashion. Moreover, due to globalization and hyper competition there is little comfort for late developers from planning in phases. It appears that the economies that wish to go through structural adjustment have to implement industrial policies in coordination with compatible macro management measures and follow lead-edge technologies for priority sectors.

According to *J. Stiglitz* [32, p. 348], structural adjustments depend on three main externalities. First, the coordination

externalities in combined institutional choices of market and government interventionism (invisible hand of the market and visible hand of the state). Second, innovation externalities in the creation of technological breakthrough and utilization of its results (spillover of innovation and product diversification). Finally, institutional externalities influenced by the quality of institutional setting.

As far as coordination is concerned, in early stages of development the benefits of visible hand of the government exceed the costs of its actions but it is expected to decline in influence as the rhythm of development starts to accelerate.

Things are different when it comes to innovation externalities. Namely, as the economy grows at higher rates and approaches technological frontier, the role of government as a risk taker in technological development remains critical. Practically, the government stays important player in providing support to technological change until the capacity of private sector improves. Providing institutional support in this area is of paramount importance. This especially refers to regulation, and capacity building of relevant organizations and bodies. Yet, providing institutional substitutes for missing market hides the peril of creating “institutional overhang” [32, p. 349].

Majority of developing countries started with export support at the first stage in industrial policy implementation. Tax subsidies and tariff exemption are uniformly present in virtually all cases of industrial policy implementation. Effectuation of export promotion measures required change in national mindset and preparedness for leveling against global benchmarks. Furthermore, export promotion measures served as a key engine of growth and the principle under which industry portfolio is upgrading, infrastructure is developing, and human resource development pursuing. For example, South Korea adopted an integrated approach to export promotion with comprehensive and interrelated measures, policies and institutions [32, p. 357].

Besides creation of globally competitive companies, full institutional support assumes commensurate regulatory framework. Majority of countries committed to industrial policy quickly enacted laws supporting innovation and regulating intellectual property protection. South Korea has also introduced the Industry Development Law at the very beginning of industrialization in the 1960s. In the

1970s it continued with Industrial Complex Development Promotion Law to provide infrastructure and backward and forward linkages for clusters. National universities located near clusters were called upon and supported to specialize in related fields.

Fostering industrial policy assumes numerous institutional advances. Their main purpose is providing technical support and filling institutional gaps that hinder policy implementation. These include creation of bodies responsible for reindustrialization. For example, in Brazil, National Industrial Development Agency and Council took this role.

Also, providing easier access to finance (lower cost of debt, concessional financing etc.) is of vital importance. Usually, development banks facilitated implementation of industrial policy and coordinated distribution of available funds to priority sectors (the case of Brazil, Japan, South Africa, etc.). In South Korea, National Investment Fund was established to finance long term investment in priority sectors. In cases when the state funds were not providing financing directly, the government used guarantees given to financial institutions that provided credit financing for priority sectors.

Provision of guarantees requires more cautious approach including direct monitoring and meritocratic support. To address previous issue Korean government created short-term export credit system in the 1960s for export insurance.

Many of the measures employed in the first wave of industrial policy are now obsolete due to new regulatory framework that followed accelerated globalization pace. Yet, even today, under non-discriminatory WTO rules, some measures such as public-private consultations, performance-based rewards and integrated policy approach remain valid and effective instruments [32, p. 357].

One response to new limitations refers to private-public partnership. It is the new initiative to secure non-government funding for tradable sectors. For example, in the 1960s Japan and South Korea introduced public-private consultation. They gathered government officials and business representatives trying to identify emerging bottlenecks and constraints that impeded export performance and devise solutions to the problems

Countries that have undertaken industrial policy have devoted considerable time and resources to education and human resource development. For example, Japan declared development of technical manpower and the requisite skills one of its primary tenets. South Korea during the 1970s performed the so-called “scientification of people” through expanded technical and vocational trainings, strengthened science and engineering education, R&D labs and research institutes. The purpose of addressing issues of creation and dissemination of knowledge is solving skill shortage and, by doing this, reaching innovation externalities [32, p. 360].

In sum, to achieve coordination and innovation externalities, three relevant subjects are required: government, business groups, and financial institutions [15, p. 179]. Decisive and resilient government is needed because the promotion of certain sectors and dissemination of knowledge requires the “big push” from the state side. Business groups refer to firms operating in multiple industries, bound together by formal and informal ties. Clusters are the case when constituent firms come from the related industries. Clusters can internalize the returns from innovation to a greater extent compared to isolated companies [32, p. 349]. Financial institutions, including venture capital funds and business angels, play intermediary role in providing capital for industrial policy implementation. On the other hand, excessive financialization of the economy strengthens the position of financial intermediaries, hinders the government’s influence on the cost of capital and narrows the available space for investment financing.

Mutual activism of the state and business groups has led to the “big push partnership” [15, p. 182]. The very essence of this partnership is sharing of the business sector investment risks by the government and providing support based on performance measures, while filling the missing links in domestic value chain and moving up the quality ladder at the same time. The scale of government support follows meritocratic rules. Sharing risks assumes deeper involvement of the government in the private sector’s decision making. For example, in South Korea, the government was placing caps on investments in the private sector [32, p. 363].

Nowadays, in the wake of accelerated pace of change and rising global interconnectedness, performing international benchmarking as a base for industrial policy development becomes critical. For example, even if the country manages to overcome technology barriers and approach technology frontier, when number of countries build optimal scale capacities for the global market, the world becomes awash in capacity. Hence, the “fallacy of composition” remains one of the key risks of industrial policy [32, p. 352].

Overall, implementation of industrial policy has so far resulted in hits and misses. Experience teaches us that success depends on balance between the structure of global economy and technology development, on the one hand, and country’s endowment and capacity of the government to deal with main challenges, on the other.

The capacity of the government depends not only on financial space to perform industrial policy but also on existence of a clear vision about the future and strategy to achieve it. Strategy means flexibility, so the institutional framework created to support economic growth based on industrial policy needs to provide capacity for the economy to improve and adapt in the light of change. Also, industrial policies are given life only when there is doubtless convergence with macroeconomic policy. For example, despite visible results and the fact that thanks to industrial policy in the 1970s macroeconomic fundamentals for majority of today’s leading industries were set up, South Korean government had to call off introduced measures during the 1980s due to serious macroeconomic imbalances.

Industrial policy inspired by sustainable competitive advantage

In economic theory, from the very beginning, innovation was treated as exogenous variable, the factor that influences allocation of resources, but which is independent of them. Today prevailing wisdom is that innovation has endogenous character, something which is growing from within the company and, consequently, something which is dependent upon allocated resources.

To survive and to prosper national economy always needs some guiding principles and methods of transferring resources (especially human) from low to high

productivity usage, from mature but profitable industries to infant industries with sustainable growth perspectives. Technological change is enabler, it is both opportunity and threat. Market forces by themselves are not capable of providing sustainable growth that enhances technological change (investment in technological development, spillover of innovation, and product diversification). Invisible hand of market could not manage that transformation. Conventional economic wisdom is impotent in addressing phenomena like externalities, coordination, and risk aversion. The question of externalities in innovation development is much more subtle than conventional reasoning about necessity of government support for infant industries in early stages of technological change. As a consequence, in modern economic theory there is emerging consensus about the role of industrial policy in technological change. In short, sustainable growth is a process of continuous technological change evolving throughout technology development, spillover of innovation, and product diversification through industrialization.

In the past fifty years information technology (IT) was playing a leading role in technological change. Namely, IT radically reshaped competition, business model, prevailing strategy of industry leaders, industry structure, portfolio of sectors, and even itself. Before the advent of IT, products were composed of mechanical and electrical parts and activities in the value chain were performed using manual processes and verbal communication. According to [27, pp. 66-67], The first stage of IT (1960-1980), automated standard repetitive activities in the value chain. The emergence of internet unleashed the second stage of IT-driven transformation (1980-2000). This breakthrough enabled coordination and integration across individual activities. This wave allowed global integration of supply chain [27, p. 76].

Unfortunately, the impact of first two waves of IT driven transformation on productivity and growth was pretty disappointing. Supply side explosion thanks to digitalization had deflation effect and did not contribute strongly to GDP growth. Shift toward unproductive but profitable areas (games are emphatic example), also, produced some challenging macroeconomic impacts. Paradoxically, in the meantime growth of output and

productivity were higher in IT neutral industries. On the other hand, IT industry was the main driver of income inequality (“winner takes it all” effects). Last but not least, although the value chain in real economy was transformed, products themselves were diversified marginally in terms of functionality and performance (or consumer’s perceived value) which inhibits industrialization.

After the experience with previous two stages of IT-driven transformation, there is general recognition that without close integration of IT solutions and industrialization (implementation of breakthrough innovations through investment and their spillover across different industries), no economy in the world has been able to close the development gap between themselves and those at the frontier.

Now we stand on the brink of the third wave of IT transformation. In this stage IT becomes an integral part of the product itself in so-called “smart connected products” and, by doing this, IT has the capacity to unleash a new era of industrialization. The phrase “internet of things” has arisen to reflect the growing power of smart connected products in business ecosystem.

Smart connected products have three core components: physical, “smart”, and connectivity. Physical components comprise mechanical and electrical parts of product. “Smart” components comprise sensors, microprocessors, data storage, and software. Typically, they embed operating system and enhanced user interface. Connectivity components comprise ports, antennae, and communication protocols enabling wired or wireless connections with the product. Connectivity takes three forms, which can be presented together: one-to-one, one-to-many, and many-to-many. Also, connectivity serves a dual purpose. First, it allows information to be exchanged between the product and its operating environment, its suppliers, its users, and other products and systems as well. Second, connectivity enables some functions of the product to exist outside of the physical device in what is known as the product cloud (software running on the manufacturer’s or third party’s server).

From operational perspective this is revolutionary technology. Smart components amplify the capabilities and value of physical components, while connectivity

components amplify the capabilities and value of the smart components and enable some of them to exist outside the physical product itself. Mentioned changes will substantially affect many industries. The greatest effects are expected in manufacturing.

From business perspective, connectivity embedded in products in combination with product cloud is going to be the main driving force not only for cost reduction but also for product diversification in terms of higher customer perceived value. According to [27, p. 88], the final result is a self-generating cycle of value-chain based productivity improvement. Productivity gains, output growth and jobs creation have potential to be bigger than in previous two stages of IT transformation.

New technology enables strategic planning by superior data mining through collection, analysis, and sharing huge amounts of longitudinal data generated inside and outside the company that has never been available before. Building and supporting smart connected products require substantial investments and human capital. The changing nature of products is also disrupting existing value chains, forcing companies to rethink their strategy (configuration of value chain and concentration on activities with core competencies), reshaping industry structure and prevailing strategy of industry leaders by exposing companies to new competitive opportunities and threats.

Growing capabilities of smart connected products not only reshape the competition within industry (strategic focus in the value chain) but also expand industry boundaries (strategic scope). This occurs as the basis of competition shifts from discrete products, to “product systems” consisting of closely related products, to “systems of systems” that link an array of product systems together. The core of competition thus shifts from the functionality of discrete products to the overall performance of product systems, in which the company is just one player.

The foundation of competitive advantage is operational effectiveness. It requires embracing best practices across the value chain throughout implementation of leading-edge technologies. Smart, connected products are shaping new standards for operational effectiveness, dramatically raising the bar in terms of best practices and also creating new best practice across value chain.

Smart connected products will have a broader impact on economic growth than post-crisis innovations (mainly cost-reduction innovation and muted innovation across large part of the economy). They have the capability to deal with output gap and jobless recovery, and by doing so, to substantially affect the trajectory of the overall economy toward sustainable employment.

The impact of innovations on growth shifts the categorization of innovations to performance-improving, efficiency and market-creating innovations [4, pp. 62-63]. Performance-improving innovations replace old products with new and better models. They generally create few jobs because they are substitutive. Efficiency innovations help company make and sale mature, established products or services to the same customer at lower prices. So-called low-end disruptions involve the creation of new business model. Efficiency innovations play two important roles: they increase productivity, which is essential for maintaining competitiveness, and they free up capital for more productive use. Market-creating innovations transform complicated or costly products so radically that they create a new class of customers or new markets.

Government with specific industrial policies must encourage IT-driven technological transformation by supporting information and communication technologies (ICT). Government should equip individuals through education with the skills and core competencies to participate and comply with the rules and regulations needed to support technological change in the right direction.

Also, government must engage itself in combating the forces that are blocking technological change. One of them is financialization. Namely, financialization makes market-creating innovation appear less attractive as investment. Typically they bear fruit only after 5-10 years. In contrast, performance-improving and efficiency innovations typically pay off within 1-2 years. What is worse, growing market-creating innovations lead to off-balance financing. Efficiency innovations take capital off the balance sheet, however. To top it off, efficiency innovations almost always seem to entail less risk than market-creating ones because the market for them already exists. Development Bank is an important step in the right direction.

Rationale for industrial policy on Serbia's road to recovery

For more than a decade transition strategists, architects of the system, and policy makers in Serbia have been explicitly guided by neo-liberal doctrine. Privatization, liberalization, and deregulation, along with inflation targeting, were the main pillars of that wisdom. Unfortunately, development model and policy platform were inconsistent with macroeconomic reality (output gap and cost-push inflation) and microeconomic performance (low and constantly diminishing competitiveness). An exclusive focus on inflation control by using monetary measures makes sense when economy does not suffer from inherent structural imbalances which uphold recession or deflation pressures. The same is valid when there is demand-pull inflation. However, under significant output gap (transitional and current) and cost-push inflation, massive liberalization combined with ineffective privatization leads to deindustrialization and deepening of previous fractures of the system. When cost-push inflation dominates the system, keeping inflation (actually, consumer price inflation) under control is not a guarantee of macroeconomic stability because, among all, inherent volatility in global commodity markets strongly influences core inflation.

A quarter of a century after the start of transition structural imbalances in Serbia's economy are deepened. Output gap (transitional and current) is wide and persistent, unemployment is high, and investments are limited. In transition process output is critical even though the rebound in employment has typically lagged behind the rebound in output. Since 2001, the lag has increased dramatically. Employment has not yet caught up to where it was before the recession began, and it is expected to lag in the following years. The main reason is a continuation of deindustrialization. The eclipse of the real economy (manufacturing especially) is followed by high level of financialization.

In the 2H of 2014 Serbia has entered technical recession. High unemployment combined with the effects of austerity measures reducing the level consumption

and reinforcing recessionary trends, threatens to push the economy further into recession, maybe depression.

Due to the threat of default, policy makers in Serbia must prioritize the time as a scarce resource. So, from that perspective, let's return to our central question phrased in a new way: What are the key tenets that guarantee the escape from downside scenario? And, what is the first step in good direction? The key tenets of structural reforms should be output expansion and productivity growth in tradable sectors and cost reduction in non-tradable ones. The latter affects the competitiveness of the former and creation of a new level playing field attractive for investment. Final result will be a turnaround manifested by increasing density of relevant (or globally competitive) players.

As regards the first step, needless to say, the emergence from the crisis is not possible without change of development model and economic policy platform. Also, the quest for a solution must take account of microeconomic (or business) perspective, while not ignoring macroeconomic one. Industrial policy as a core institutional arrangement must encourage the expansion of tradable sectors including technology development, spillover of innovation, and product diversification. This is the only way to substitute import and expand export in order to eliminate double macro deficits (current account and budget).

The new approach envisages radical changes. Specifically, in order to ensure sustainability of the system, it is necessary to do two things at once. First, to match income and expenditures by implementing austerity measures on the expenditure side. Second, to increase output through larger investment spending in priority sectors. These two processes are interrelated because increasing investment fuels revenue growth. Decrease in public expenditure influences public income decline, as well. Without investment, the public debt is wagging its own tail.

No doubt, orthodoxies governing the economy are so entrenched that we need a revised approach to articulate the urgency for change. To survive and prosper, Serbia needs a more balanced economy, less dependent on import and debt. Here are the assumptions about what a revised approach might address.

Assumption No 1. Output gap (low and stable), instead of inflation (low and stable), may (and should)

be the principal tenet of economic policy. Other tenets complementary to principal one are as follows:

- a. Expand and diversify public investment in tradable sector in order to reach balance of payments and budget robustness
- b. Supply capacity expansion through private investment in missing gaps in value chains in tradable sectors
- c. Innovation capacity increase through public-private partnership in technological platforms, especially in ICT and digital infrastructure

Assumption No 2. The anti-crisis program must have at least two major tracks: the systemic actions in transformation from import and debt dependent to export oriented and balanced economy, and sectoral activities to bolster priority sectors. The systemic track is aimed at removing deeply embedded structural imbalances within the economy. Also, it seeks to grasp previously mentioned positive externalities for the whole productive structure.

The first precondition for systemic actions is macroeconomic stability. Following the experience of the countries that have already come a considerable way toward catching up with developing countries, it is doubtless that macroeconomic stability is the key prerequisite for industrial policy effectiveness. Latest signals about macroeconomic fundamentals are encouraging (e.g. inflation), but some still need to be tackled in a more serious fashion (e.g. appreciated FX rate and double-digit interest rates). The systemic track can lead to various objectives. To this end, the actions should encompass a broad range of measures, from establishing a legal framework that stimulates export or enhances the preference for national products, to incentives for innovation, energy conservation etc.

The sectoral track has several layers. The most conventional one refers to programs created to boost competitiveness in sectors with already revealed comparative or achieved competitive advantage [8], [17]. One of the tenets is to transform the country's static comparative advantage into dynamic competitive advantage based on broad and concerted efforts under selected industrial policy (organic food agriculture, for example). The next layer refers to consolidation and efficiency improvement in mature industries with natural monopolies (energy,

for example). This is a prerequisite for greater stability of the economy and stronger independence of import. Finally, the most important layer is mobilization of critical skills and knowledge necessary for a breakthrough in strategic areas that move the economy towards and beyond technological frontier (ICT, for example). The purpose of this program is likewise to break down scientific and technological barriers to innovations. Following [5, p.305] sectoral program within industrial policy for Serbia could be conceptualized as presented in Figure 6.

Assumption No 3. Boosting investments is an absolute must. Economy that intends to reach sustainable employment must respect “3+ and 40+” principle, in the sense that compound average growth rate is no less than 3%, and share of investment in GDP formation is no less than 40% in the middle run.

The reality is that prevailing logic of the central bank in maintaining financial stability and low inflation will overwhelm strategic imperatives of the government for new investment. As long as we continue this siloed approach, political leaders run the risk of falling further and further behind with the needs.

Assumption No 4. Heterodox development model and related policy platform is the field where there will be major conceptual breakthrough. New doctrine is based on integration of core economic policies with industrial policies. Industrial policies are defined for priority sectors (sectors with comparative and competitive advantage). Core

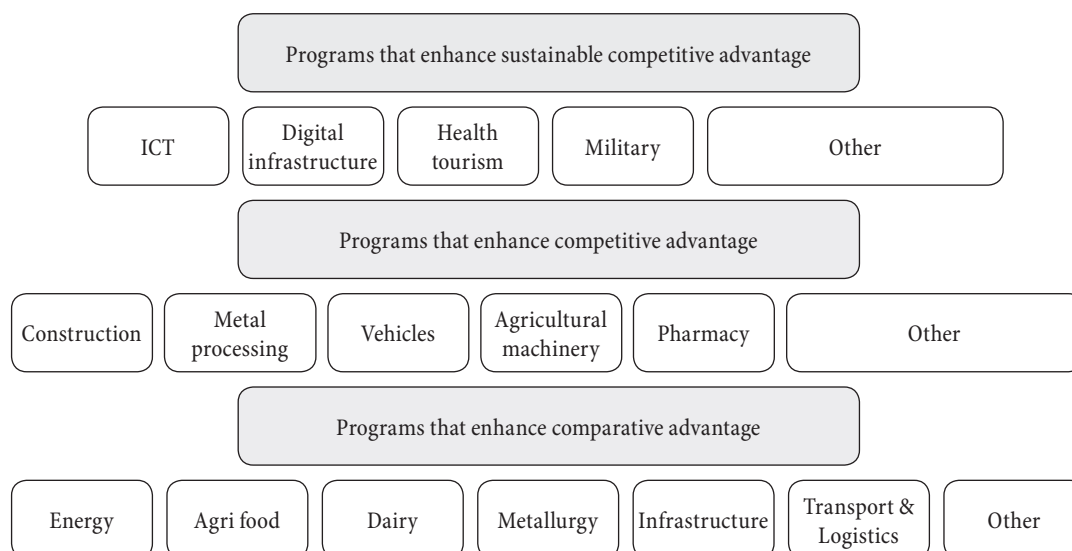
policies function with automatic stabilizers. In monetary policy, stable and real (slowly depreciated eventually) FX rate is automatic stabilizer. Within tax policy, treatment of investment income like ordinary income could be automatic stabilizer, too. Another effective automatic stabilizer could be lower tax rate on capital gains.

The core institutional arrangement for implementing the previous should be industrial policy in priority sectors of the economy. Core economic policies lubricate industrial policies. In the new approach government could not escape responsibility in choosing priority sectors and defining adequate industrial policy measures. Neo-liberal doctrine could not be an alibi for inert government any more.

However, the most important decision is still related to the selection of priority sectors that will be at the center of industrial policy. Considering priority sectors, each developing country needs to address the following doubts. Is it possible to make a breakthrough and achieve advantage in sectors whose comparative advantage has not yet been revealed? Moreover, is it possible to take courage, cross domestic boundaries and direct industrial policy towards achieving competitive advantage on the global market?

It is always possible to play safe and support development of industries in well-known priority sectors with comparative advantage for domestic market (e.g. for the purpose of import substitution). This orientation assumes taking risk of increased inefficiency due to suboptimal scales and protectionism. Alternatively, the government

Figure 6: Sectoral program for industrial policy in Serbia



could promote these sectors for the global market, but then it is risking capacity underutilization if numerous countries have similar industry priorities, and financial distress due to high public debt and released guarantees.

Assumption No 5. Repurposing the capital from domestic sources for investment financing. The central bank should no longer husband financial capital deposited in the banking industry. Financial capital in banking industry should be abundant and cheap enough. The role of banks is not only agglomeration of savings and buying government securities, but also, and primarily, financing of capital investments. It implies changes in monetary model and interest rate policy. Priority sectors for reindustrialization can (and should) use the capital, not hoard it. Hurdle rates are not handed down by a deity. They should be changed as the cost of capital changes. Also, the government could help repurposing migratory capital from households and timid capital (from profit making companies) to become enterprise capital (owners' equity). One way to do this is through tax policy. For example, imposing gradually Tobin's tax on financial transactions helps reducing high frequency trading. Last but not least, on the company level there exist some solutions like full voting power for loyalty, extra share or extra dividends mechanisms (L-share). These measures require some adjustments in the Company Law.

The financial system is the economy's circulatory system. Without it, capital cannot flow to where it is needed. The foreign banks that have driven financial sector's incredible growth are the heart of Serbia's financial system. A heart, however, can grow so big that it threatens the economic body. Metaphorically speaking, Serbia's economy is suffering from an enlarged heart. Such a heart might even become unable to perform its basic functions.

Assumption No 6. Public sector emancipation through restructuring and full implementation of corporate governance in order to energize investments. It is new neo-liberal illusion that only the corporate sector rationalization inspired by tax policy adjustments can solve nonrationalities in the public sector, and put the budget into balance [36]. Intensification of investment in the public sector without restructuring (rightsizing of assets, capital and employees) is policy of "saddling the death horse".

Corporate governance can establish equality between the corporate and public sector. The job of managers in the public sector should not be reduced to sourcing, assembling, and shipping the numbers that deliver short-term gains. The only viable approach to managing a state-owned company is to maximize its value in the long run. The problem, of course, is not with tools but with us.

Assumption No 7. Extent and scope of industrial policy must be consistent with comparative advantage determined by existing structure of national economy. Correct identification of attractive policy tenets is another precondition for superior results.

Also, the fit between strategic audit, capabilities and prescribed policies is critical. For example, clustering is an efficient tool for achieving principal tenets. New clusters do not occur spontaneously. They are results of deliberate government industrial policies. Namely, the government provides necessary infrastructure and coordinate collective actions. But, this policy is efficient only in economies reaching middle income level.

Assumption No 8. Technological platforms play a crucial role in competitiveness improvement. For catching up global leaders, Serbia desperately needs a new ways to energize technological change. Investing in technological platforms must be preferable to doing nothing. To provide competitive position on a global scale industrial policy assumes developing and promoting sectors that lead the national economy toward technological frontier. Dynamic and efficient growth is possible to achieve before financial burden becomes encroaching.

The first guiding principle of comprehensive industrial policy is to strengthen critical competences and operations in sectors in which technological innovations play vital role. This does not refer to large and complex companies only, but and predominantly, to microscopic and SMEs penetrating market niches. It is a road toward the creation of competitive advantage.

Conclusion

The very first questions in strategizing about Serbia are: What is and what will be in the future? Serbia is a microscopic economy, the late developer with a delay

in transition toward the road to higher development. The strategic audit of Serbia's position indicates the dominance of threats over opportunities. Structural imbalances are the most serious threat. In an unbalanced economy financialization undermines the system in many ways.

Fundamental controversy is that the people act against their own individual and mutual interests. It looks like a paradox when default is better option than being continually near to default. However, if you calculate debt increase to escape default, the previous point seems to be reasonable. It is not economically sound and politically sustainable to sacrifice the future of coming generations and constantly monetize erroneous doing of the current generation. Over and over again, people make decisions that are contrary to their best interests. So, let us return to the question raised at the beginning of this article: Why do people act against their own interest? The answer is in two words: wrong system. We do not want to fix it up. We prefer to finish with it and change it.

When balance between players in global competitiveness game is rapidly shifting, core competence for each country is going to be strategic flexibility. Key question is not what is right, but what would have to be right? In the new context, the role of government is not only to achieve greater geopolitical positioning and maintain political stability, but also to encourage development of the new model of growth and related policy platform. To be responsive, the government should be responsible.

The orthodoxies governing development and policy in Serbia are so entrenched that we need the new approach to articulate the paradigm change. Here is what new approach might address.

The purpose of new wisdom is elimination of hidden fractures of the system and intensification of investments in tradable sectors. The point is to make the invisible visible and offer long-term solutions for deeply rooted problems. In doing this, austerity is inescapable. It is not easy to get the people to understand something when their salary and pension depend on not understanding it. For a strategist, the *status quo* is not an option because it leads to a continuation of regression whose result may be an entire society twisted

to serve the interests of its politicians, further increasing their power in a vicious cycle.

In a quest for a solution, pendulum should not be shifted from one extreme institutional choice to the other, from the proposition that the market is the best regulator to the proposition that the government is the only master. We opt for a heterodox approach which realigns development model and economic policy platform. Industrial policy is crucial element of the new wisdom. To paraphrase *J. Stiglitz* again, the question is not whether any government should engage in industrial policies, but how to do it right. The quest for "smart" industrial policies is in the center of our answer.

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