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Macroeconomic Crisis and Reforms in Serbia in the Period 1980-2023: An Econometric Analysis

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Pavle Petrović's Macroeconomic Crises and Reforms in Serbia chronicles the nation's turbulent economic journey from 1980 to 2023, a period so fraught with crises that it serves as a unique laboratory for extreme macroeconomic experiments. The book tells a compelling story of fundamental structural change, as the Serbian economy evolved from a hybrid, self-managed market system to a market economy with dominant private ownership. This transformation is split into two distinct eras. The first two decades are a dramatic depiction of endemic instability, marked by long and persistent high inflation that culminated in one of the most severe hyperinflations in recorded history, all driven by relentless money creation. In stark contrast, the subsequent two decades begin with a radical "policy regime change" in early 2000s, leading to macroeconomic stabilization but also ushering in new, modern structural challenges, including a public debt crisis and a persistent struggle with below-potential growth and convergence.

It is this dramatic economic history that the author leverages as a series of "natural experiments" to test competing economic theories. For example, the Serbian case provides a rare opportunity to empirically confront alternative explanations for high inflation (the balance-of-payment vs. fiscal views) and to assess differing views on the effectiveness of fiscal policy (the neo-Keynesian vs. neoclassical stances). Furthermore, the author's analysis of hyperinflation dynamics at a daily frequency represents a major breakthrough, offering a granular view that has fundamentally enhanced the economic understanding of this extreme phenomenon. Throughout this compelling narrative, Petrović anchors every conclusion in rigorous econometric analysis, transforming Serbia's economic saga into a powerful empirical study.

The findings presented in this book are primarily built upon a remarkable body of research that Petrović and his co-authors published in international journals over a period spanning three decades. While those individual papers often treated Serbia's unique circumstances as an "experiment" to test general economic theories, this volume skilfully synthesizes them into a single, coherent narrative. The focus is no longer

on individual phenomena but on telling the comprehensive economic story of Serbia. Therefore, the aim of this review is to offer a concise overview of this complex economic history, guiding the reader through the story by connecting the dots between the individual papers. By weaving these disparate research threads together, this review seeks to present the international reader with a coherent tapestry of Serbia's modern economic evolution.

1. The Age of Monetary Chaos: An Anatomy of High Inflation and Hyperinflation (1980-2000)

The book's first part delves into the prolonged high inflation that Serbia experienced within the former Yugoslavia during the 1980s – an episode that escalated into a short-lived hyperinflation before being temporarily halted by a stabilization program in January 1990. The author posits that this crisis is best understood from a balance-of-payments perspective. Like many developing Latin American countries at the time, Serbia (as a part of former Yugoslavia) was hit by a foreign debt crisis in the early 1980s, which triggered a balance-of-payments crisis and a full-scale currency crash. This exogenous shock was severe: the dinar depreciated nominally by 50-70% annually, while the real exchange rate fell by 70% over four years from 1980 onwards.

This massive depreciation, Petrović argues, was the primary spark for the accelerating inflation throughout the decade. The average exponential monthly rate of inflation, currency depreciation, and nominal wage growth reached as high as 7 percent, with money growth exceeding 6 percent throughout the episode, although these figures varied considerably.

The distinctive institutional framework of the Yugoslav economy – characterized by labor management where firms effectively maximized wages, and ill-defined property rights leading to low financial accountability (a "soft budget constraint") – was critical in propagating this initial shock. Within this context, the author substantiates one of the key findings for this period: the money supply played an accommodative role in a peculiar way. Instead of responding to price increases, it accommodated wage inflation, a result of significant relevance for understanding transition economies. This entire analysis is meticulously built upon a series of the author's papers (Pavle Petrović 1995; Petrović and Zorica Vujošević 1996a, b, 2000; Zorica Mladenović and Petrović 2014), as well as new research conducted for this book.

To empirically validate this balance-of-payments view, Petrović specifies and estimates a structural cointegrated system comprising four variables: (ln of) the price level, exchange rate, wage rate, and money supply (Petrović and Vujošević 2000). The model consists of two fundamental equations: a price equation, where the price level is determined by the exchange rate and wages, and a money supply equation, where the money supply is driven by wages. The econometric evidence provides a clear causal narrative. Exogeneity tests reveal that the exchange rate is the weakly exogenous driver in the price equation, while the wage rate is weakly exogenous in the money supply equation. This confirms that the large currency depreciation, triggered by the sudden stop of capital inflows, acted as the initial exogenous shock that pushed up the price level. Due to soft budget constraint, this was followed by a rise in wages,

setting off a wage-price spiral. Crucially, these wage increases then forced an endogenous expansion of the money supply. This result substantiates the author's key conjecture: in the specific environment of Yugoslavia's transition economy, monetary policy passively accommodated wage inflation rather than price inflation, a mechanism distinct from that in developed market economies.

The "reform" aspect of this period is highlighted through a compelling account of the author's direct involvement in shaping the January 1990 stabilization program. The central policy question at the time was the magnitude of inflationary inertia, i.e. whether fixing exchange rate would quickly, in few months, halt a decade long high inflation that ended with hyperinflation. A high degree of inertia would have necessitated additional anchors, such as wage and price controls, to accompany the planned exchange rate fix. Tasked with an ex-ante assessment in real time, Petrović employed various specifications of his price-equation model and concluded that fixing the exchange rate alone would curb inflation within three to four months. Consequently, he recommended against the use of additional anchors. This analysis was vindicated by the events that followed: the exchange-rate anchor proved sufficient, reducing monthly inflation from 50% to virtually zero within four months of the program's introduction.

The book then shifts to the monetary dynamics of the period, focusing on the prominent characteristic of high inflation: the flight from domestic currency (demonetization) and its reversal upon stabilization (re-monetization). Petrović explores this phenomenon by estimating the demand for real money balances (nominal money corrected for inflation) to assess both the high-inflation episode of the 1980s and the brief stabilization in 1990.

Here, his econometric work delivers a pivotal result. The analysis reveals that the core variables – the price level, nominal exchange rate, and money supply – are integrated of order one (I (1)). Furthermore, it shows no cointegrating relationship between the price level and either the money supply or the nominal exchange rate. This statistical finding has an important theoretical implication: it leads to the rejection of the widely-used Cagan money demand model for the Yugoslav inflation episode of the 1980s (cf. Petrović and Vujošević 1996a, b).

Having rejected the standard Cagan model, the author proposes an alternative specification. In this model, the demand for real money balances is determined not only by the price level – as the public seeks to avoid the inflation tax – but also, and more critically for this episode, by the real exchange rate (cf. Petrović 1995). The sharp real depreciation of the dinar is shown to have a dual impact. First, it directly amplified the flight from the domestic currency as the public switched to foreign currency holdings. Second, it created another channel for passive monetary expansion: large depreciation generated huge exchange rate losses in financially unaccountable, labor-managed firms, which were subsequently transferred to the Central Bank, leading to an increase in the money supply.

This model of money demand, combined with the two distinct channels of monetary accommodation – one responding to wage increases and the other to currency depreciation – fully describes the monetary dynamics of the 1980s. Petrović demonstrates that this framework also captures the brief, reversed dynamic post-stabilization, where price stability and a strong real exchange appreciation led to a sharp increase in

money holdings (re-monetization), as predicted by the model (cf. Petrović 1995). This stability, however, was unsustainable – it lasted only nine months before re-monetization halted and inflation re-emerged.

The failure of the 1990 stabilization program offered a crucial policy lesson: macroeconomic stability was bound to fail without deep, complementary structural reforms, which were ultimately precluded by the political disintegration of Yugoslavia. This political turmoil dramatically escalated in the early 1990s, leading to the violent breakup of the country, the loss of a single market, and the imposition of international sanctions. As Petrović explains, this fundamentally shifted the nature of the economic crisis. The challenge was no longer rooted in a balance-of-payments problem, but in a massive and growing internal fiscal deficit fueled by state collapse and regional conflicts. The government's response to this fiscal crisis – uncontrolled monetization – set the stage for a far more extreme monetary catastrophe.

The book presents the subsequent Serbian hyperinflation as a textbook case of the fiscal view of hyperinflation. This episode was one of the longest (24 months) and most severe in recorded history, with monthly inflation peaking at an astounding 313 million percent (Petrović, Željko Bogetić, and Vujošević 1999; Bogetić, Diana Dragutinović, and Petrović 2022). The author demonstrates that the root cause was the massive and escalating fiscal deficit that emerged from the political crisis of Yugoslavia's hostile disintegration and the breakup of its single market. This deficit swelled from an already large 11% of GDP in 1991 to an unsustainable 23% in 1993. Instead of confronting this structural problem, the government resorted to financing the deficit – both open and disguised – through rampant "money printing". This enormous expansion of the money supply, Petrović argues, was the direct trigger for the subsequent devastating inflation and currency depreciation.

To empirically test this fiscal view, the author analyzes the logarithmic monthly series of the money supply, price level, and exchange rate. The analysis demonstrates that the money supply is the weakly exogenous variable in the system, acting as the primary driver of the other two. This result provides strong empirical support for the fiscal explanation of the Serbian hyperinflation. Crucially, the research also uncovers a peculiar transmission mechanism that deviates from standard theory. It was found that the expansion of the money supply did not directly cause inflation; instead, it directly affected the exchange rate, which in turn determined the price level (see Petrović, Bogetić, and Vujošević 1999).

The econometric foundation for this conclusion is built on cointegration analysis. Petrović first establishes that the variables in question are integrated of order two, I (2), meaning their growth rates are I (1) processes. The analysis of these growth rates – of the money supply, price level (inflation), and exchange rate (depreciation) – reveals two distinct cointegrating relationships: one between money growth and depreciation, and another between depreciation and inflation. The identification of two such relations among three variables statistically implies the existence of a single weakly exogenous variable driving the system, which the estimated model confirms to be money growth (see Petrović, Bogetić, and Vujošević 1999). This provides robust validation for the fiscal view that hyperinflation was triggered and sustained by the excessive monetary expansion used to finance the fiscal deficit.

Furthermore, these two cointegrating relationships precisely map out the peculiar transmission mechanism. The first relationship shows that money growth exogenously drives exchange rate depreciation, while the second shows that depreciation, in turn, exogenously drives inflation. The economic rationale for this specific channel (Money Supply → Exchange Rate → Inflation) is the extreme dollarization of the Serbian economy at the time. With virtually all prices quoted and transactions conducted in foreign currency, the market-determined exchange rate became the primary signal, which then subsequently determined the price level in the domestic currency.

Significantly, the cointegrating relationship between depreciation and inflation yields a crucial insight into the exchange rate pass-through. The analysis shows that during the Serbian hyperinflation, the pass-through was both complete and remarkably swift. This is evidenced by an estimated coefficient of nearly one, which confirms the completeness, while the monthly frequency of the analysis indicates that the full effect materialized almost instantly, within a single month.

Building on the findings of a fiscally-driven crisis and a peculiar transmission mechanism, the author proceeds to a full exposition of the monetary dynamics of hyperinflation. The book first outlines the standard theoretical approach, which posits that the price level during high and hyperinflation is determined in the money market by the interaction of two opposing forces. The first is the nominal money supply, driven by the government's need to finance its fiscal deficit – the essence of the fiscal view. The second is the public's demand for real money balances (nominal money corrected for the price level), which continuously falls as people seek to avoid the inflation tax. This creates a dynamic where the government "prints money" at an ever-increasing pace, while the public reacts by shedding its holdings of the rapidly depreciating currency. In this standard framework, once this interaction determines the price level, the exchange rate is subsequently established through Purchasing Power Parity (PPP), forming the basis of the Monetary Model of the Exchange Rate (MMER).

However, Petrović posits that this standard approach does not hold exactly in an extreme hyperinflation episode like Serbia's. His earlier finding – that the money supply directly affects the exchange rate – leads him to propose a critical modification: during extreme hyperinflation, the exchange rate displaces the price level as the key nominal anchor for the public's decision-making. The rationale is practical: the exchange rate is a market-determined, publicly well understood variable observable daily, whereas price indices are calculated figures available only with a significant lag at a monthly frequency. This leads to a fundamental shift in the monetary framework. The public begins to use the exchange rate as the primary unit of account, denominating their real money holdings in a foreign currency and basing their decisions on expected currency depreciation rather than inflation (cf. Petrović and Mladenović 2000).

Consequently, contrary to the standard model, the interaction between the money supply and this foreign-currency-denominated real money demand now directly determines the exchange rate, not the price level. The price level is then subsequently set by economic agents who, due to extreme dollarization, simply convert foreign currency prices into the domestic currency using the prevailing exchange rate – a process empirically captured by the cointegration analysis mentioned earlier, which showed that inflation was driven by (weakly) exogenous currency depreciation.

The book provides strong econometric evidence to substantiate these conjectures for the Serbian case. The author demonstrates that a modified Cagan money demand model – where real money holdings are denominated in a foreign currency and depend on expected currency depreciation – holds empirically at both monthly and daily frequencies. Moreover, this specification is validated even under the rigorous assumption of rational expectations (cf. Petrović and Mladenović 2000; Mladenović and Petrović 2010). In contrast, the standard Cagan model, which uses domestically denominated real money balances and expected inflation, is shown to have inferior performance in explaining the Serbian hyperinflation (see Petrović and Vujošević 1996a, b).

Petrović explains that these findings are obtained through cointegration analysis, which is used to validate the alternative versions of the Cagan money demand schedule. The analysis starts from the finding that the logarithms of nominal money, the price level, and the exchange rate are I (2) processes. It is then shown that real money balances – both those denominated in domestic currency and those in foreign currency – are I (1) processes. Within this framework, the validity of a Cagan-type model depends on a specific cointegrating relationship: the standard model holds if real money balances cointegrate with the inflation rate (where cointegration coefficient represents semi-elasticity of money demand), while the author's modified model holds if foreign-currency-denominated real money balances cointegrate with the currency depreciation rate.

This framework allows for an even deeper analysis of economic behavior. Since the Cagan model is forward-looking, depending on expected inflation or currency depreciation, it can be solved to form a Present Value Model (PVM) of the exchange rate (cf. Petrović and Mladenović 2000). In this model, the current exchange rate is determined by the expected path of all future money supply values, which becomes the sole fundamental driver due to its overwhelming growth during hyperinflation. This PVM structure provides a powerful tool to test whether economic agents formed their expectations rationally. The author reports that this was indeed the case, validating the Rational Expectations (RE) hypothesis for the Serbian hyperinflation at both monthly (Petrović and Mladenović 2000) and daily frequencies (Petrović, Mladenović, and Aleksandra Nojković 2011).

A key implication of the Cagan money demand model is the Laffer curve property. This property describes a bell-shaped relationship between the rate of inflation (or currency depreciation) and the seigniorage (inflation tax) revenue the government generates from "money printing". It posits that as the government accelerates monetary expansion its inflation tax revenue will increase only up to a certain point – the peak of the curve. Beyond this maximum, any further acceleration of money creation becomes counterproductive, pushing the economy onto the "wrong side" of the Laffer curve and causing government revenues to decline. Crucially, the Cagan model provides a way to quantify this relationship: the revenue-maximizing rate of inflation or depreciation can be calculated from the inverse of the semi-elasticity of money demand, a parameter estimated directly from the model (cf. Mladenović and Petrović 2010).

This leads to the famous Cagan paradox (cf. Mladenović and Petrović 2010): empirical estimates across various hyperinflations consistently suggest that governments continue to accelerate money creation long after passing the revenue-maximizing peak of the Laffer curve. The puzzle, therefore, is why a rational government would persist with a policy that actively lowers its own seigniorage revenue? Petrović's resolution of this paradox, one of major contributions of the book, was made possible by an extraordinary daily dataset he collected for the Serbian hyperinflation. Analyzing the dynamics at this high frequency, the author found that the hyperinflation process was not uniform but instead exhibited a critical structural break in its final, most severe six months. This break manifested as a "jump" in the statistical properties of the money supply and exchange rate, which shifted from being I (1) to I (2) processes. Crucially, the analysis reveals that the Cagan money demand model and the Rational Expectations PVM of the exchange rate hold at a daily frequency only for this final, severe period, and not for the preceding one (cf. Mladenović and Petrović 2010; Petrović, Mladenović, and Nojković 2011).

The estimated semi-elasticity of money demand for this severe final period reveals that the government enacted its stabilization program just seven weeks after reaching the maximum revenue point on the Laffer curve (cf. Mladenović and Petrović 2010). This finding demonstrates that the government acted rationally, halting hyperinflation as soon as it became clear that further money creation was counterproductive. The hyperinflation, driven by the state's demand for seigniorage, lasted only as long as non-decreasing revenues from money printing could be extracted. This resolves the Cagan paradox for the Serbian case and suggests a general explanation: the paradox was likely a statistical artifact resulting from previous studies using scarce, low-frequency monthly data. Such data aggregated different phases of the hyperinflation, masking the crucial structural break that Petrović's high-frequency daily analysis was able to uncover (cf. Mladenović and Petrović 2010; Petrović, Mladenović, and Nojković 2011).

Petrović's construction of a daily dataset of the money supply and exchange rate was, at the time, a unique contribution that enabled a major breakthrough in understanding the dynamics of extreme hyperinflation. The author's research remains distinctive, to the best of my knowledge, as only one other such daily dataset (for the Zimbabwean hyperinflation) has emerged since. This rich dataset provided a rare opportunity to explore the final seven weeks of the crisis when the economy was on the "wrong side" of the Laffer curve. The analysis for this period reveals that the money supply process first became explosive (Petrović and Mladenović 2022), which then caused the exchange rate to become explosive as well. Petrović explains this dynamic as a desperate last-ditch effort by the government: facing declining revenues, it sharply accelerated money creation in a futile attempt to maintain its income, triggering the final implosion of the currency. While earlier monthly studies hinted at such behavior, the daily data was necessary to empirically substantiate these explosive dynamics.

Finally, the daily dataset allowed the author to address a long-standing issue in international finance: whether a Monetary Model of the Exchange Rate (MMER) can outperform a simple random walk in forecasting. The analysis of the severe period of

the Serbian hyperinflation shows that the MMER did indeed provide a superior forecast (Petrović and Mladenović 2025), a significant finding for the empirical literature.

The hyperinflation was halted in January 1994, just two weeks after the introduction of another exchange-rate-based stabilization program. Unlike the 1989 attempt, this stabilization was immediately successful because the extreme and prolonged crisis had eliminated all nominal rigidities and inflationary inertia. This outcome is perfectly consistent with the book's earlier econometric findings: that the exchange rate determined the price level almost instantly and that the public formed its expectations rationally, looking forward rather than backward.

However, the 1994 stabilization program was fundamentally flawed. It was, in essence, a predominantly monetary reform centered on fixing the exchange rate, while crucial fiscal and structural reforms – such as privatization of labour-managed firms, bank restructuring, and labor market reform – were notably absent. This rendered the program neither credible nor sustainable, and within a year, it collapsed, leading to a new episode of high inflation (see Bogetić, Dragutinović, and Petrović 2022).

While Serbia avoided another hyperinflation, this new inflationary period in the second half of the 1990s shared the same underlying cause: an unaddressed fiscal deficit financed through monetization. Moreover, it followed the same transmission mechanism as the preceding hyperinflation, just in a less extreme form (cf. Petrović and Mladenović 2015). The expansion of the money supply directly drove currency depreciation which, due to persistent high dollarization, resulted in a complete pass-through into inflation.

The econometric analysis confirms that this same pattern persisted through the new high inflation episode (cf. Petrović and Mladenović 2015). Although the variables were now found to be I (1) processes, in contrast to the I (2) processes of the hyperinflation, they formed the same two cointegrating relationships. This again identified the money supply as the (weakly) exogenous driver, which first determined the exchange rate, with the price level following. This shift from I (2) to I (1) processes, and the fact that the complete pass-through from currency depreciation to prices now took over a year instead of being instantaneous, simply reflected that this inflationary episode was far less extreme. Nevertheless, the book concludes, the fundamental pattern that haunted the Serbian economy for two decades remained unchanged: an excessive money supply that passively accommodated either external shocks or large internal fiscal deficits.

2. Taming the Beast: Reforms, New Crises and Search for Convergence (2001-2023)

The second major part of the book analyzes the period after 2000, which the author identifies as a fundamental structural break with the preceding two decades. Following the political changes in October 2000, Serbia embarked on a transition to a market economy, launching a comprehensive program of macroeconomic stabilization and structural reforms, including privatization, bank restructuring, and fiscal and labor market reforms. Petrović frames this as a "policy regime change" in the sense of Sargent (1982), where the twenty-year practice of monetizing deficits was abandoned and

high inflation was finally tamed. The econometric evidence, derived from cointegration analysis, confirms this structural break by identifying a new set of inflation drivers more akin to those in standard market economies. The moderate inflation of the 2000s, the author shows, was no longer driven by money creation but by a combination of supply-side shocks – such as increases in wages, the oil price, and exchange rate depreciation – and demand-side pressures, captured by the output gap (Mladenović and Petrović 2014; Petrović and Mladenović 2015).

Another crucial indicator of this structural break was the change in the exchange rate pass-through (ERPT), which shifted from being complete during the high-inflation episodes to only partial after 2000. Specifically, a one percent currency depreciation no longer translated into a one percent increase in inflation (Mladenović and Petrović 2014; Petrović and Mladenović 2015), signaling that a credible policy regime change had occurred. Petrović points out that Serbia's sequence of hyper, high, and moderate inflation regimes serves almost as a "natural experiment", providing a rare opportunity to study the link between the inflationary environment and the ERPT. The main finding is that the size and speed of the pass-through decrease as the level, variability, and persistence of inflation decline (Petrović and Mladenović 2015). The author argues that this shift from a complete to an incomplete ERPT was driven by a deeper, fundamental factor: the structural break in the money supply process. After 2000, the critical decision to halt the monetization of fiscal deficits led to a sustainable and credible curb on inflation, which in turn fundamentally lowered the exchange rate pass-through.

This point is vividly illustrated by the author's comparative analysis of two currency crashes in Serbia, both triggered by a sudden stop in foreign capital inflows but with starkly different outcomes (Mladenović and Petrović 2014). The first crash, in the 1980s, occurred in an environment of accommodative monetary policy; the sharp currency depreciation was passively validated by an increase in the money supply, leading to high inflation. In contrast, the second crash, triggered by the 2008 global financial crisis, was met with a non-accommodative monetary stance that prevented the depreciation from spilling over into inflation (Mladenović and Petrović 2014).

Petrović traces these opposite outcomes back to the fundamentally different institutional environments. The response in the 1980s was conditioned by a "soft budget constraint", whereas the response in the 2000s was shaped by a "hard budget constraint" established through deep structural reforms: fiscal consolidation, privatization, bank restructuring, and liberalization. The author concludes that these reforms were the true determinants of the structural break that finally ended Serbia's two decades of endemic macroeconomic instability.

The monetary reform was underpinned by Serbia's adoption of inflation targeting as its official monetary policy regime in the mid-2000s. This framework, Petrović points out, was crucial in navigating the 2008-2009 "sudden stop" crisis, allowing the adjustment to occur through currency depreciation and a temporary output decline while keeping inflation under control. An estimated monetary policy rule for Serbia and five other transition economies that targets inflation (Nojković and Petrović 2015) shows that corresponding central banks in the region set their interest rates based on the inflation rate, output gap, real exchange rate, and the previous period's interest rate.

However, the analysis reveals a key difference in how Serbia applies this framework. Unlike more advanced transition economies like Poland, Czechia, and Hungary, which treat the exchange rate primarily as an instrument for achieving inflation targets, Serbia – along with Albania and Romania – treats exchange rate stability as a separate goal in itself. The author attributes this to the high level of "euroization" of savings and loans. Because the public repays its foreign-currency-denominated loans with income earned in the domestic currency, a large depreciation could trigger a financial crisis. Consequently, the central bank intervenes to prevent sharp currency movements, pursuing financial stability as an additional objective beyond its proclaimed one of inflation control (Nojković and Petrović 2015).

The author identifies another characteristic that aligns Serbia more with emerging economies than advanced transition ones: the presence of political budget cycles. A significant increase in government expenditure prior to elections is shown to be a prime trigger of inflation (Petrović and Nojković 2008; Petrović, Mladenović, and Nojković 2011), not only in the 2000s but also during the 2022-23 episode. Petrović notes this is a common feature of young democracies, where ruling parties may resort to populist spending to improve their electoral prospects. Thus, the author suggests, after more than two decades on its transition path, Serbia still resembles a young democracy and faces significant institutional and political reforms ahead.

This institutional weakness also contributed to Serbia being ill-prepared for the 2008 global financial crisis. The country faced the crisis with a large current account deficit, which the author's econometric estimates of import and export functions show was driven to a large extent by a significant real appreciation of the currency (Petrović and Mirjana Gligorić 2010). This empirical finding directly contradicted the prevailing view among policymakers at the time, who had dismissed the relevance of the exchange rate for the external balance, allowing for an appreciation that prioritized short-term gains over long-term stability.

The book's final section addresses the key structural challenges of the post-2010 period: the public debt crisis, the need for fiscal reform, and Serbia's struggle with below-potential economic growth. This analysis is set against the backdrop of the Great Recession, a period when the limitations of monetary policy brought fiscal policy back to the forefront of the debate on combating economic downturns. The author reports findings that strongly support the use of fiscal policy (Petrović, Milojko Arsić, and Nojković 2021), but with a crucial distinction: its impact is highly dependent on its composition. The analysis shows that public investment has a powerful positive effect on economic activity, particularly during a downturn, whereas current government expenditure is found to be largely ineffective. Moreover, public investment is shown to have a dual role: beyond its short-term, demand-side impact, it also generates a robust, long-term, supply-side effect by boosting private sector activity and thus catalyzing economic growth.

Beyond their policy implications, the book's findings contribute to the long-standing theoretical debate between the neo-Keynesian and neoclassical views on fiscal policy. The strong, positive impact of public investment on private sector labor demand, wages, consumption, and private investment substantiates the neo-Keynesian

perspective. Conversely, the finding that current government expenditure has a negligible impact on economic activity lends support to the neoclassical stand.

Petrović applies this framework to Serbia's recent experience, noting that the significant increase in public investment since 2019 rightly catalyzed its previously sluggish economic growth. However, the author also points to a critical issue observed in some emerging markets: the positive effects of this investment soon became muted. This was due to politically motivated channeling of funds into less productive sectors and a deterioration in execution quality, plagued by non-transparent procedures and corruption.

The book assesses Serbia's economic growth within the convergence framework, demonstrating that the country is growing below its potential. Using Central and Eastern European (CEE) countries as a benchmark, Petrović shows that while CEE economies have been rapidly catching up to advanced EU economies, Serbia has been lagging (Petrović, Danko Brčerević, and Gligorić 2019). The application of a conditional beta convergence model identifies weak institutions, inadequate education, and insufficient investment as the primary causes for this growth underperformance. While public investment has increased since 2019, the author argues that inefficient and deteriorating institutions – particularly regarding the rule of law and corruption – remain the principal obstacle holding back Serbia's economic growth.

Exploring the drivers of the CEE success story, Petrović finds that their rapid income convergence is overwhelmingly explained by strong productivity growth, especially in technologically advanced manufacturing sectors. A (conditional beta) convergence model estimated for EU manufacturing productivity again reveals a robust catch-up process for CEE countries (Petrović and Gligorić Matić 2023a). As manufacturing is the principal source of economy-wide productivity growth, which in turn drives income per capita, the author establishes a clear link: the convergence in manufacturing productivity is the key to explaining the broader income convergence of the CEE region (Petrović and Gligorić Matić 2023b).

The model reveals that the CEE countries' productivity convergence was driven by two key factors: large investments in manufacturing, particularly in technologically advanced sectors, and good and improving institutions (Petrović and Gligorić Matić 2023a). In stark contrast, Petrović reports that Serbia is heading in the opposite direction. Its investments in manufacturing are low and concentrated in traditional activities, while its institutions, as previously noted, are weak and deteriorating. This divergence in productivity, the author argues, largely explains Serbia's poor performance in income per capita convergence.

The econometric analysis of the CEE experience suggests a broader lesson: strong and improving institutions are essential for fostering the high-value-added sectors that drive rapid productivity growth and ultimately economic development of a country. This is the path that enabled CEE countries to transition to high-income status. Serbia, by contrast, with its reliance on state-led growth and inefficient institutions, remains caught in the middle-income trap.

Finally, the author addresses in detail another structural threat to Serbia's growth: adverse demographic trends and the large-scale emigration of its young and qualified labor force. This has already led to some labor shortages and a situation

where wage growth has outpaced productivity growth, with rising unit labor costs and eroded competitiveness of the traditional, low-value-added sectors that dominate the economy. Moreover, aging population will increase fiscal costs thus undercutting investment and hence growth in the future. The book's major contribution here is an econometric analysis of the factors driving emigration from CEE and the Western Balkans (Petrović, Brčerević, and Stefan Šaranović 2020). The crucial finding is that weak institutions and the low quality of public services (such as healthcare and education) are the predominant drivers of emigration. Consequently, the author's model simulations suggest that only a substantial improvement in these areas offers the viable path to mitigating this damaging trend.

In conclusion, Pavle Petrović's Macroeconomic Crises and Reforms in Serbia is more than just a chronicle of a turbulent economic history; it is a testament to the power of rigorous econometric analysis in dissecting complex real-world phenomena. Its detailed analysis of Serbia's ongoing structural challenges provides a clear diagnostic for the reforms still needed to unlock the country's full economic potential. By transforming four decades of crisis into a series of empirical lessons, Petrović not only tells the definitive economic story of modern Serbia but also offers an invaluable guide for other emerging economies. This book is an essential read for academics, policymakers, and anyone interested in the intricate relationship between institutions, policy choices, and economic outcomes.

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