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# GREEN TRANSITION ACTION PLAN FOR SERBIA: A CALL FOR URGENT, SYSTEMIC, COMPREHENSIVE, AND THOUGHTFUL ACTION

Akcionni plan zelene tranzicije za Srbiju –  
zahtev za hitnom, sistemskom,  
sveobuhvatnom i promišljenom akcijom

## Abstract

The dominance habit, at the core of human nature, continually pushes people into conflict with each other as well as against nature. This tendency has been exacerbated to the extreme during the period of economic neoliberalism. Since economic neoliberalism has lasted for more than four decades, a great many structural imbalances and anomalies of the economic system have emerged. Consequently, the economy, society, and the entire planet have remained in an unsustainable mode. In contrast to the exponential progress made since the start of economic liberalism, during the period of economic neoliberalism the economy and society entered regression, incapable of capitalizing on the growth potential from the last two industrial revolutions (3IR and 4IR). The economy entered a structural crisis because economic rules and policy platform brutally ignored planetary boundaries and the laws of nature as well. Precisely, without inbuilt corrective mechanisms aimed at mitigating the main fractures of the system, the economy has been floating between simultaneous destructions on the supply and demand side, and finally entered a structural, multi, and permanent crisis, simply, a “permacrisis”. Furthermore, external asymmetric shocks, such as climate change, pandemics, and geopolitical disputes, have continuously deepened the fractures of the system and created new ones. In this paper, we intend to argue that when the pieces relevant for the functioning of the planet, envisioned as the “system dynamics” of three layers, cannot fit together, it is necessary to start with the reshuffling of the socio-economic layer, as the root cause of today’s major planetary problems not only in the economy and society but also in the physical system and biosphere. The imperative of a new era is that economic rules should respect planetary boundaries and be compatible with the laws of nature, primarily reversibility and evolution. The aforementioned implies the necessity to initiate the transition from a “new normal”, actually, abnormal, to a “better normal”. Negative rebounds can only be reversed through the creation of a new

context capable of internalizing negative externalities resulting from prior development. The ultimate outcome of such a radical change could be the birth of a sustainable (and inclusive) economy, both towards people and nature. The transition from an old to a new system is inevitable to steer the economy and society away from the permacrisis and put it on a sustainable trajectory. If the new economy intends to be in harmony with nature, the related transition could be named the “green transition” or the path back to a green planet as the context in which the seeds of human life were originally nurtured. Following the aforementioned logic, the paper is organized into six parts, excluding the Introduction and Conclusion. In Part 1 and Part 2, our focus will be on the root causes of structural imbalances (and anomalies) within the socio-economic system and the physical system, respectively, in the Anthropocene era. Part 3 presents a literature review of the attempts to mitigate inbuilt structural imbalances of economic neoliberalism. The intention is to address the green transition as a prerequisite for a sustainable economy and society. In Part 4, we delve into the strategic audit of Serbia’s economy fact sheet at the outset of the green transition. The starting point in advocating for Serbia’s return to a sustainable economy path is to provide an accurate diagnosis of the situation, addressing both macro and micro aspects, including everything in between. Part 5 offers an empirical test of attitudes towards SDGs/ESG sustainability metrics in Serbia’s business community. Empirical data suggests a subtle inclination toward the environmentalization of the economy and sustainability-related disclosure. Consequently, in Part 6 we discuss the government’s role in preparing the green transition action plan.

**Keywords:** *Serbia, economic neoliberalism, sustainable economy, green transition, SDGs, ESG, circular model of growth, heterodox policy platform, green finance, IFRS sustainability-related disclosure*

## Sažetak

Potreba za dominacijom, kao osnova ljudske prirode, kontinualno gura ljude u konflikt sa drugim ljudima, kao i u odnosu na prirodu. Prethodna tendencija je pojačana do ekstremne vrednosti tokom perioda ekonomskog neoliberalizma. Od samog početka ekonomskog neoliberalizma pre više od četiri decenije, pojavljivao se veliki broj strukturnih neravnoteža i anomalija sistema. Posledično, ekonomija, društvo i planeta našli su se u nestabilnoj situaciji. Suprotno eksponencijalnom progresu koji je ostvaren tokom perioda ekonomskog liberalizma, tokom perioda ekonomskog neoliberalizma ekonomija i društvo su se našli u regresiji, lišeni mogućnosti da koriste rezultate poslednje dve industrijske revolucije (3IR i 4IR). Ekonomska pravila i ekonomske politike stvorili su strukturne neravnoteže i anomalije pošto su brutalno negirali planetarna ograničenja i zakone prirode. Bez ugrađenih korektivnih mehanizama sa ciljem da se uklone glavne pukotine sistema, ekonomija lavira između simultanih destrukcija na strani ponude i na strani tražnje, da bi konačno ušla u strukturnu, višestruku i permanentnu krizu, jednostavno u „permakrizu“. Štaviše, eksterni asimetrični šokovi, kao što su klimatske promene, pandemije i geopolitički konflikti, kontinuirano produbljuju i stvaraju nove pukotine u ekonomskom sistemu. U ovom radu želimo da ukažemo na to da kada delovi neophodni za funkcionisanje planete zamišljene kao troslojni „sistem dinamika“ nisu međusobno sinhronizovani, neophodno je otpočeti sa demontiranjem društveno-ekonomskog sloja kao uzroka današnjih planetarnih problema, ne samo u ekonomiji i društvu, već i u fizičkom sistemu i biosferi. Imperativ novog vremena je da ekonomska pravila i politike moraju biti kompatibilni sa planetarnim ograničenjima i zakonima prirode, primarno zakonima reverzibilnosti i evolucije. Prethodno ukazuje na neophodnost otpočinjanja tranzicije od „nove normalnosti“ ka „boljoj normalnosti“. Zaokret negativnog trenda jedino je moguć stvaranjem novog konteksta sposobnog da internalizuje eksterne negativne efekte prethodnog razvoja. Krajnji rezultat ovakve radikalne promene mogao bi da bude rađanje održive (i inkluzivne) ekonomije, prema ljudima i prirodi. Tranzicija od starog ka novom sistemu neophodna je kako bi se ekonomija sačuvala od permakrize, kao i da bi se trasirala putanja održivog razvoja. Da bi ekonomija bila u harmoniji sa prirodom, tranzicija koja bi trebalo to da obezbedi mogla bi se nazvati „zeleno tranzicija“ ili putanja prema zelenoj planeti kao okruženju u kome su se razvile klice ljudskog života. Sledeći prethodnu logiku, članak je organizovan u šest delova, pored uvoda i zaključka. U prvom i drugom delu fokus će biti na uzrocima strukturnih neravnoteža (i anomalija) u društveno-ekonomskom sistemu i planeti kao celini, respektivno, u periodu antropocen. U trećem delu dat je pregled literature koja je nastala u nastojanju da se razreše ugrađene strukturne neravnoteže ekonomskog neoliberalizma. Intencija je da se zelena tranzicija odredi kao pretpostavka održive ekonomije. U četvrtom delu nalazi se strategijska revizija ekonomskih podataka vezanih za Srbiju pre otpočinjanja zelene tranzicije. Početna tačka u zastupanju stava o neophodnosti povratka Srbije na održivu putanju razvoja je adekvatna dijagnoza stanja, makro i mikro, kao i svega između toga. Peti deo ponudiće empirijski test stavova prema SDG/ESG merilima održivosti u poslovnoj zajednici Srbije. Podaci ukazuju da postoji suptilan interes prema uvažavanju značaja zaštite životne sredine u ekonomiji i obelodanjivanju merila održivosti. Posledično, u

šestom delu ćemo prodiskutovati ulogu države u pripremi akcionog plana zelene tranzicije.

**Ključne reči:** *Srbija, ekonomski neoliberalizam, održiva ekonomija, zelena tranzicija, merila održivosti SDG, ESG, cirkularni model rasta, heterodokсна platforma ekonomskih politika, zeleno finansiranje, IFRS standardi održivosti*

## Introduction

In the period of more than four decades since the start of economic neoliberalism, the global economy (and society) has failed to achieve a state of which any economics luminary can be proud. Since the onset of the Great Recession of 2008, the global economy has navigated through tricky waters filled with conceptual headwinds. As a result, the economy and society have constantly floated from crisis to crisis, ultimately entering a state of “permacrisis”. In line with previous evolution, two fundamental questions emerge. First, how did we find ourselves in this perilous intersection? Second, how can we break free from it?

According to Collins Dictionary [18], “permacrisis” was declared the word of the year in 2022. It denotes a structural, multi-faced, and permanent crisis, manifesting over an extended period of instability and insecurity, causing extremely negative trends in the economy, society, and nature. In the related economic system, there are no built-in corrective mechanisms for abating structural imbalances and anomalies of the system. The reality is only deepening and accelerating them.

The root cause of conflicts, both between people and nature and within society, lies in human nature. The deeply ingrained domination habit is evident in human behavior. In the Anthropocene epoch, humanity has waged a war on nature, which intensifies. This suicidal behavior results in a “lose-lose” game because the planet is a closed system rather than an open one. In a closed system, a zero-sum game is also unsustainable. Due to profound climate, economic, financial, biotic, and geopolitical shifts, both games are leading to a conundrum. Moreover, when the domination habit is amplified by technological breakthroughs from the last two industrial revolutions (3IR and 4IR), the planet, along with the economy and society, is dying slowly but surely.

When the economy and society are in regression, new generations cannot replicate the progress achieved by their predecessors. Not only to prosper but also to survive, humanity urgently needs the escape from the permacrisis, namely the transition to a new order [11]. These days, the world stands at the outset of a new, transformative era – the era of “green transition”, a plan to fix a fractured global economy (and society), providing a means to escape the freefall of economic, financial and social discourse.

In the quest for solutions, we can begin by examining the root causes of the problem. Many esteemed economic scholars and business practitioners posit that they lie within economic neoliberalism, precisely in the key rules of market fundamentalism philosophy (liberalization, deregulation, privatization, and globalization) as well as in its reaction policies (such as inflation targeting, deregulated securitization, quantitative easing, degressive taxation, etc.), often inefficient, mostly counterproductive, and biased towards financial elite.

The negative economic consequences of structural imbalances and anomalies, both socio-economic and natural, have been exacerbated by the rules of economic neoliberalism, plunging humanity into a cyclical downfall marked by constants such as supply shortages, sticky inflation, high and growing debt, fiscal deficit, carcinogenic growth, etc. Stagflation, a common backdrop in this system, perpetuates the economy’s freefall. Namely, the economy floats from crisis to crisis, influenced by a random impact of diverse driving forces (finance, economy, climate, biotic feedback loops, geopolitics, etc.). Undoubtedly, climate change as a driver holds significant weight, substantially impacting our lives, those of our children, and our children’s children. Global warming, or rather global boiling, has pushed the planet to the brink of collapse. According to IMF [37], climate change not only triggers economic bust of the global economy but also widens the gap between developed and developing world<sup>1</sup>. Without addressing the root causes of the climate emergency, a sequential recovery might, at best, be the maximum achievement of anti-crisis programs.

<sup>1</sup> In the developed world, a temperature rise of 2 degrees Celsius has the potential to reduce the growth rate by up to 0.5%, with a delay of 7 years, but it causes a decrease of 0.5-1.0% in the growth rate in the developing world.

A multi-crisis reality requires a multi-transition approach. Also, correcting anomalies and facilitating recovery require complex measures because climate change and an unsustainable economy are global problems. So, things have changed structurally. Moreover, addressing a complex crisis mandates collective efforts. So, finding a solution to the climate emergency, along with forging the path toward a sustainable economy, primarily based on the respect for the reversibility principle, goes beyond simple national economic interests. The mitigation needs collective and coordinated efforts, the global context change, and the implementation of a new mix of technologies enabling economic development and a way of life respecting the limits of nature. Last but not least, this initiative is not just about individual interests of a national economy, it is a call for shared prosperity. The potential of green transition to catalyze new industrialization is huge, with far-reaching dissemination effects. Every national economy, including Serbia, has a role to play in this transformative journey.

In the global economy, the general momentum is a result of the combining effects of long-term macroeconomics trends (and problems), inherent structural imbalances in the economic system, and ineffective policy responses. As the anomalies of the economic system and unconventional economic policies have been institutionalized, opinion makers named this state a “new normal”. The crucial takeaway from this context is that the economy, society, and the planet have embarked on an unsustainable trajectory. Without a paradigm change in economics, both macro and micro, imbalances will continue to escalate nonlinearly in the economy, society, and the planet. The planet, which is on the verge of being 2.0 degrees Celsius warmer than it was in the late 1800s, when the market economy started leveraging the breakthroughs of industrial revolution, is already grappling with the climate emergency.

In the quest for a “better normal”, one thing is certain. Adhering to neoliberal rules and policies is not feasible. A transition from an old to a new system is imperative, constituting a long-term journey. Even with the implementation of a diverse and more effective platform, it should be acknowledged that reversing ongoing trends won’t be easy because the climate emergency is

not a single issue. It is intricately interconnected with many other issues. For such mega masses, un-systemic, partial and erratic responses are ineffective. Consequently, in the pursuit of solutions, actions must be guided by a comprehensive framework.

First and foremost, the purpose of the economy must undergo a change, prioritizing well-being over egoism. Simultaneously, humanity should find a sustainable path for economic development and lifestyles respecting planetary boundaries. The so-called “green transition” emerges as the gateway to this new economy and society. It entails a multi-transition from old to new system dynamics with reflections on economy, climate, biosphere, lifestyle, and geopolitics. Furthermore, the outcomes of this transformative journey must be inherently sustainable. Following this direction, the economy, society, and the planet could reach a climate-neutral inflection point by 2050, as a prerequisite for long-term sustainability. The economic transition necessitates a shift from a linear to a circular model of growth and a departure from the orthodox neoliberal policy platform colloquially named the “Washington Consensus”, both deeply rooted in market fundamentalism. Instead, there should be an embrace of a heterodox economic policy platform that achieves a better balance between core economic policies and structural (or industrial) policies. This shift is essential for climate-neutral transformation of industries related to energy and land use, such as power, manufacturing, agriculture, buildings, mobility, forestry, and waste management. Moreover, it entails a change in lifestyle based on the reversibility principle, particularly in urban areas.

Each national economy bears the responsibility to actively engage in this process. From Serbia’s perspective, the first step in this endeavor should involve the formulation of the Green Transition Action Plan. We suppose that this is only a tiny part of the comprehensive efforts required to integrate the green transition into the fabric of the desired socio-economic system and, by doing so, to develop its pillars, the circular (and regenerative) model of growth and the heterodox economic policy platform. We advocate for a transformative change because we want the economy, society, and the planet as whole to be as sustainable and inclusive as possible.

## Structural imbalances and anomalies of economic neoliberalism

Let us begin by setting the ground, adhering to the principle that in the economy everything is contingent on the context. It is also complementary to note that technology serves as an enabler of economic progress, and the socio-economic context acts as the infrastructure.

The first industrial revolution marked the beginning of the Anthropocene as a “human-centered era”. In this stage of evolution, the impact of human activities on the planet has become predominant. Unfortunately, fault lines in the design of the socio-economic context impose constraints on achieving sustainable and inclusive growth, towards both people and nature. What lacks sustainability and inclusivity will not endure.

To explain what happened in the Anthropocene, we can revisit J.W. Forrester’s concept of “system dynamics” [33]. The full interconnectedness between three layers (the socio-economic system, the physical system, and the biosphere) provides a suitable concept for analyzing the sustainability of each layer as well as the sustainability of the planet as a whole.

The socio-economic context has the potential to change everything, either positively or negatively. To achieve a positive impact, there is a need for compatibility between economic rules and laws of nature. Unfortunately, in economic neoliberalism, the supremacy of individual interests over collective well-being, along with the infiltration of market fundamentalism into economic rules and policies, fundamentally contributes not only to the unsustainability of the socio-economic context, but also to the unsustainability of other layers within the system dynamics.

The socio-economic context is changeable. It depends on human choices, not on the laws of nature. The typical laws of nature are reversibility (physical system) and evolution (biosphere). An economic system that rewards greed and profit-driven logic, internalizes benefits while externalizing costs, and ignores negative externalities, monopolistic behavior, and the informal economy, is inherently self-disruptive.

The predominantly non-linear character of all layers in the system dynamics, combined with the prevailing

trend of exponentiality, further deepens the inbuilt structural imbalances of economic neoliberalism. In such circumstances, economic modeling becomes complicated and less effective. Exponentiality is particularly visible in technological progress and its impact on economic development. The fourth industrial revolution (4IR) intensifies this trend, especially through universal connectivity as a new free good. The outcome of this development is an almost endless influx of combinatorial innovations, amalgams of scientific breakthroughs from various fields of engineering, information and communication technologies, and biotech.

Exponentiality is particularly visible in information and communication technologies (ICT). The last breakthrough in this field is quantum computing based on so-called “qubit”. Unlike a conventional bit, the crucial characteristic of a qubit is quantum parallelism, allowing it to exist in two states simultaneously (0 or 1), or in a state in between. The superposition of 0 and 1 exponentially increases the capacity and speed of supercomputers based on qubits. This also underscores the outsourcing of big data management for various business entities, enhancing the effectiveness of digitization and making the integration of artificial intelligence (AI) into business quite feasible.

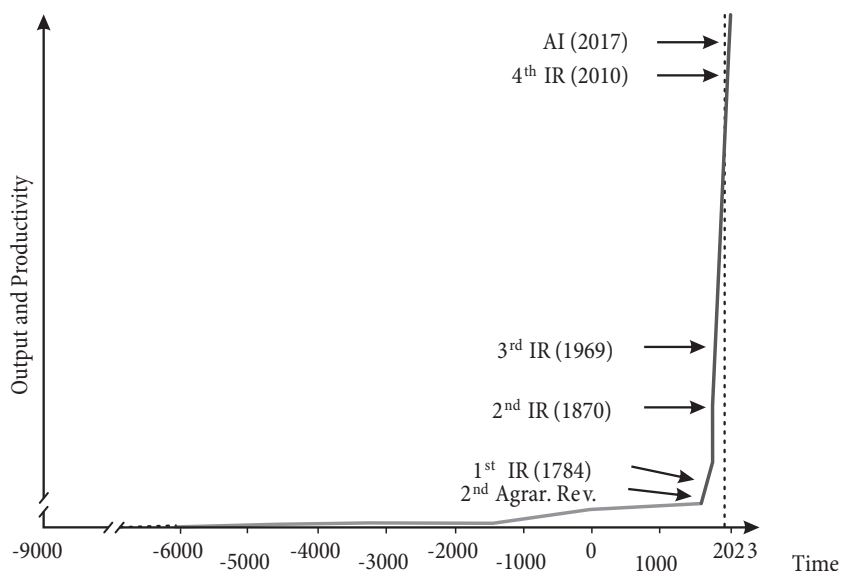
AI stands out as one of the most powerful technologies within ICT. When combined with breakthroughs from physical, cyber and biological world, AI has the potential to mitigate a variety of structural imbalances

from the past and facilitate new industrial development, all in line with planetary boundaries. It could be a technological prerequisite for a sustainable economy and society in the future. The exponential curve of AI, with significantly higher skewness compared to the long-term technological progress curve, offers a glimpse into the extensive possibilities of this technology (see Figure 1). AI can contribute to the productivity surge in carbon-neutral technologies and industry diversification toward sustainable development.

Exponentiality in a hyper-connected environment gives rise to hyper-volatility, hyper-acceleration, hyper-competition, and hyper-uncertainty. In an economy in which the distinction between probability and predictability has continuously been increasing, the so-called “disruptive innovations” [16], [30] pose both significant threats to incumbents and substantial opportunities for newcomers. So, the overall impact of this evolution manifests in increased volatility.

Economic neoliberalism implicitly affirms a linear model of growth. As this model disregards planetary boundaries, the theoretical platform of economic neoliberalism has lost its reality anchor. Figure 2 presents the list of the biggest contributors to global resource depletion based on 2022 data estimates. If everyone in the world lived like people of the U.S., then the global economy would require 4.9 Earths in order to satisfy the global need for resources in a year [32].

**Figure 1: Exponentiality as a rule in technological development**



Also, the related economic policy platform lost reality anchor. The reasons for many of reaction policy measures, such as ultra-low or even negative interest rates, quantitative easing (QE), and almost endless securitization, all inspired by a bullish narrative of being “too-systemic-to-fail”, remain unclear. Strictly viewed from an economic perspective, bankruptcy of economic entities which lost their capital base is reasonable measure. Moreover, unconventional and/or experimental policy measures indicate inconsistency, with one set of policies for “good times” and another set for “bad times”.

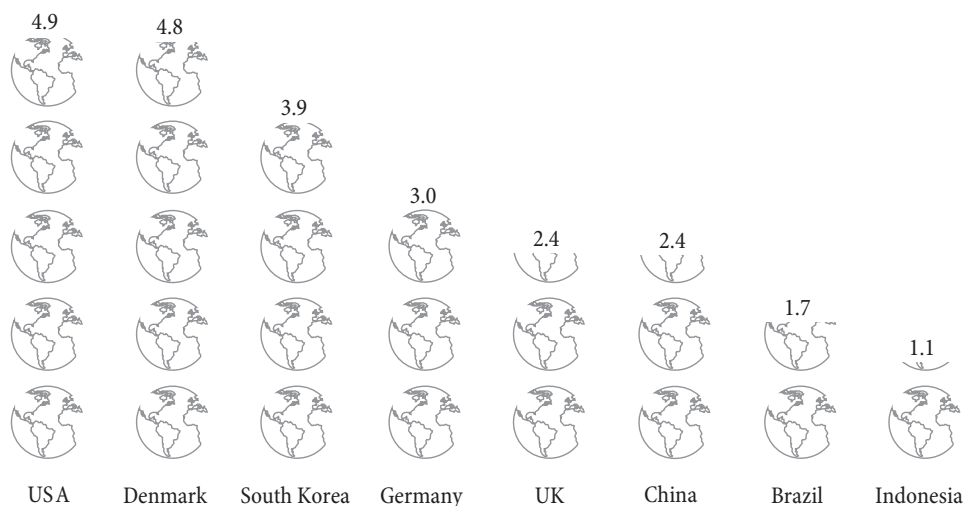
Furthermore, the reaction policies to structural imbalances and anomalies are largely misguided and counterproductive. The prevalence of supply-side economic policies, ad hoc subsidies and tax breaks, as well as policies more anchored in national security and geopolitics, such as economic sanctions, is evident. Additionally, there is no coordination between monetary and fiscal policies. For instance, a significant portion of deficits (both macro and micro) has increased due to tax cuts. The global coordination of such a policy mix seems almost impossible.

For such a set of rules and policy mix, imbalances and anomalies are imminent. The key built-in structural imbalance is permanent inflationary pressure. In each economic system, due to a holistic impact on the imbalance between demand and supply, price volatility is unavoidable, namely, the price ball almost regularly goes up and comes down. Related to the previous point is the output

gap. Namely, in an economy with constant inflationary pressure, real output is falling. Inflation targeting could not help. Moreover, market fundamentalism is continuously deepening market imperfections by ignoring negative external effects in the real economy and social costs of improper resource allocation in the financial sector. The output gap in the real economy and speculative bubbles in the financial sector are logical consequences of improper resource allocation. Furthermore, the output gap is further deepening the disbalance between demand and supply, further accelerating the inflationary spiral. With a high and growing share of services in GDP formation (financialization along with deindustrialization) and the resistance of wage inflation to macroeconomic policy measures, it is not sustainable to curb inflation by using only macroeconomic policy measures, predominantly monetary.

Also, income inequality speaks volumes about the nexus of neoliberal rules and policy mix distanced from rationality. Today, roughly 45% of all new income in the US goes to the “top 1%”, while roughly 20% of income goes to the “top 0.1%”. The concentration of income and wealth is unstoppable. According to [53, p. 9], since 2020, the richest five men in the world have doubled their wealth to about \$800 billion despite the crisis. During the same period, nearly five (out of eight) billion people have become poorer. So, the most urgent priority of economic system change is a radical increase in equality.

Figure 2: Planetary boundaries: Reality anchor lost



Source: Global Footprint Network

The fact that reaction policies are a part of the problem, not a part of the solution, is particularly confirmed by monetary policy. During the last stage of economic neoliberalism, the Quantitative Theory of Money, one of the fundamental concepts in economics, faded away<sup>2</sup>. Such policy revision was consistent with the prevailing neoliberal orthodoxy. Monetary easing, forced by negative events like liquidity crises and credit crunches, did enormous damage to the long-term health of the real economy, both directly and indirectly through its effect on the financial sector. Financialization exploded again with a well-known sequence of inflated bubbles and bubbles burst. In this way, a downward spiral that might have triggered deflation was only postponed.

In a neoliberal state, capital markets dominate central monetary power, with the demand for money (and capital) supply fueling capital markets activism. Interestingly, new waves of securitization have always had regulatory blessing<sup>3</sup>, despite growing indebtedness. At the end of 2022, the debt burden in the US peaked at a historical maximum of \$33 T, or 1.21 times the GDP. This figure represents explicit debt only. In the same year, US credit card debt surpassed \$1 T. Additionally, off-balance sheet risks are growing in the banking industry<sup>4</sup>. Money expansion, not related to real output growth, is increasing inflation pressure. Due to black holes in banks' balance sheets, it is unlikely that the odds of lending will increase. It is a great contradiction that the buyers of sovereign debt of the advanced economies and the champion of economic neoliberalism are emerging economies with quite different economic systems.

In such a financial system, a pendulum never stops in the middle, moving from one extreme to another, from tightening to easing, and back. With such a level

of money supply, the confidence in capital markets has also been shaken.

At the end of 2021, monetary authorities recognized that further monetary easing would not take them anywhere and thus made requiem for it. In the meantime, financial intermediaries adopted a “dry powder” strategy to navigate the new uncertainties arising from inflationary pressures. Consequently, from 2021 major central banks shifted from a dovish to a hawkish monetary stance, an approach predominantly advocated by financial intermediaries. This marked a complete reversal in how the central bank operates during a crisis. To ease inflation, it now adopts measures that actually lead to economic downturns.

In line with the recent policy shift, the FED increased interest rates from 50 BEPs to 525-550 BEPs in the period 2020-2023. At the end of 2023, FED held key rates at a 22-year high. This approach began yielding results, as inflation significantly declined in 2H 2023. Given that inflation is considered structural rather than transitional, such a policy suggests a stance of “higher for longer”, probably. After soft budget constraints, a new catalyst for the accumulated financial burden is debt maturity. Namely, the largest portion of U.S. debt is set to mature in 20-30 years. Also, the private credit market is tripling. So, this new phase of financialization indicates that neoliberal rules governing the organization and functioning of the economy are still influential. The problem is long-term unsustainability.

The new mantra in monetary policy involves containing inflation through hawkish policy measures. Throughout 2023, in many advanced economies (excluding Japan), the long farewell to negative-yielding debt, soft credits, and central bank balance expansion was nearly done. Headline inflation approached the target band, marking a significant shift from previous years. However, the consequence of interest rate hikes is a higher cost of capital and, consequently, increased debt. Lowering inflation through monetary measures without triggering a debt crisis and systemic financial crisis is impossible to imagine, as ultra-high interest rates are likely to lead to a surge in debt. As for a possible financial crisis, higher interest rates produce a fundamental anomaly in capital markets as the treasury curve inverts further, causing yields to fall. That volatility is in place confirms an extraordinary

2 In the post Great Recession of 2008 period, and particularly in the period 2012-21, money supply in champions of neoliberalism reached extreme levels. The US is a good example. In 2020, money supply measured by M2 went up by 27%. The expansionary monetary policy combined with an extremely low, even negative, interest rate provided only temporary relief for debt holders.

3 In the first week of January American SEC authorizes Bitcoin spot ETFs.

4 According to the BIS, there are \$65 trillion in off-balance sheet derivatives in the global financial system, with the majority coming from dollar-denominated securities.

drawdown from fixed income assets. Last but not least, this shift also affects free cash flow in the real economy, prompting investors to assess a higher risk of contingency. The diverse range of reactions is fueling recession fears.

Obviously, the output gap emerges as a significant side effect of the shift from a dovish to a hawkish monetary stance. This policy shift inevitably results in a lack of growth. In the meantime, emerging economies outperform advanced ones in various aspects, particularly in industrial output and productivity growth. These economies demonstrate relatively robust growth, but they face deflationary pressures due to a demand squeeze and protectionist measures from the developed world. This duality poses a complex challenge for the global economy and a new vulnerability of economic neoliberalism, intensifying pressure on deglobalization.

Implementing a strictly hawkish monetary stance in developing economies, which are highly indebted and lack fiscal space, is nearly a mission impossible. By the end of 2023, the debt burden of poor countries buckled under \$3.5 trillion, and the repayment obligations for sovereign bonds and credits in 2024 alone are anticipated to reach approximately \$200 billion.

Paradoxically, today the central bank is not as powerful as it pretends to be, or as it should be. Power has gone, both in good times and in bad times. The reason behind this shift is financialization. The new balance of power between the central bank and capital markets is a consequence of mostly deregulated securitization. The primary role of the central bank in new settings is to settle deficits by using monetary expansion.

The cumulative effect of the mentioned anomalies results in triple macroeconomic imbalances. The current account deficit is the first victim of diminished competitiveness caused by structural imbalances. The fiscal deficit follows as the second in the chain of negative consequences, with third deficit in capital balance succeeding due to increased debt, both internal and external. Among the champions of neoliberalism, triple macroeconomic deficits are the rule, not an exception. It is a fundamental contradiction that the system playing the role of a “spender of last resort”, both material and financial, is constantly losing material and financial resources.

Last but not least, one of the most dangerous consequences of permacrisis is deglobalization. During the permacrisis, the U.S.’s pivotal role in the world economy has diminished after the expansion of emerging economies, primarily China. Moreover, a dovish monetary stance causing inflationary pressure and currency devaluation, as it weakens the dollar or euro, strengthens offshore Chinese renminbi.

In sum, there is a good reason to conclude that neoliberal monetary policy alone may not be enough to preserve macroeconomic stability and generate sustainable growth momentum to withstand the structural imbalances the economic system is creating. Constantly ignoring the power of structural (or industrial) policies due to ideological reasons (relying on the “invisible hand” as a panacea), the architects of neoliberal capitalism, in the last stage of the crisis, had to fall back on a non-economic solution, geopolitics. The intention of geopolitics is preserving economic dominance in the shadow of national security interests. The wartime budget increase and overall militarization of the economy confirm that the relationships between economic (and military) superpowers are not in a happy place.

Protectionism with measures such as currency war, trade war, technological war, etc., in an early stage of the dominance of geopolitics over economics, evolves in further stages into more radical policy measures such as economic sanctions, proxy wars, and wars. As a new macroeconomic variable, geopolitics becomes a key driving force toward economic deglobalization and politically motivated reglobalization. Both interrelated trends tend to create inflationary pressures and other forms of macroeconomic instability.

Deglobalization and reglobalization worsen the key structural imbalance of neoliberal capitalism, the output gap. Moreover, key suppliers react by downsizing production (and price rise), creating new pressure on inflation spiral. When a national economy faces different supply constraints, both inside and outside, a growing inflationary pressure on the global level is imminent.

The new globalization inspired by geopolitics is an ineffective, unsustainable, and mostly counterproductive solution. At best, this is a time-buying solution. Ultimately,



it extends a geopolitically inspired price premium for energy, metals, and food, practically pushing inflation up. With the intensification of geopolitical tensions, the price premium spreads to other products, services, and wages. On the other hand, the new globalization, through the transformation of existing supply chains and downsizing of trade and investments, fuels fears of recession. Only a small number of connector economies are winners of the ongoing global fragmentation and reconfiguration, but only in the short term.

Given that the peace dividend era for industrial production is over, in the last couple of years, war has become a subsidy for one important segment of the economy, the military industry. Recently, the fiscal rules in the EU have been adjusted to accommodate a growing military budget. A similar example is the initiative for bond issuance to finance a military budget.

In such an extremely volatile economic context shaped mostly by (geo)politics, some national economies face inflation, some disinflation. Contrary to advanced economies, which have been preoccupied with generating feeble economic growth for a long time while fighting against inflation, China's four-decade era of hyper (or double-digit) growth abruptly ended because the geopolitical measures initiated by advanced economies against China provoked demand squeeze and price decrease on the global market and in China. So, for an overheated economy, consumer price decrease on the global level is fueling deflation threats. Moreover, China will transmit deflationary pressures to other economies, either through its low-cost manufacturing export or through its new industrial strategy for the internal market ("in China, for China").

Deglobalization and reglobalization develop new criteria for the global expansion decision-making which are not in line with economic rationality. Insourcing replaces outsourcing, and friendshoring gains within geopolitical associations. These days, a \$100 trillion global GDP leads to a new economic equilibrium, this time on a lower level. The global economy needs globalization that works. If globalization intends to be inclusive, it must deal with the sustainability issue. If not, it is counterproductive.

The direct consequence of the above-mentioned development is the unsustainability not only of the socio-

economic system, but also of other two layers of system dynamics, namely the physical system and biodiversity. War is a major destroyer of the ecosystem and a critical contributor to warming. Precisely, the fractures from the socio-economic system, including consequences of geopolitical disputes, have been automatically transferred to the physical system and biosphere. This is a key takeaway from the last context development.

Mutual interrelationships between the drivers of permacrisis exacerbate anomalies in the economic system. For example, geopolitical fragmentation imposes limits on the free spin-offs of climate-friendly technology. In such a context, an obsession with crisis management dominates the investigation of possible progress trajectories. This context is not able to capitalize on new technological frontiers, particularly AI. Along with almost unlimited opportunities in medicine and carbon capture and storage, AI is a game-changer for the business model and strategy of business entities, individual consumption patterns, and competitive dynamics.

The return to the progress trajectory highly depends on the change in socio-economic context with high inclusivity towards technological breakthroughs. Context determines everything. Before defining solutions, the climate emergency is knocking on the door.

### **Climate change: The key structural imbalance from the physical system**

Global warming (and climate change) is the root cause of fundamental natural structural imbalances on the planet, predominantly caused by misconceptions in the socio-economic layer (industrialization and way of life) within the system dynamics. It is an asymmetric external shock, which means that it emerged in the socio-economic system, adversely affecting the biosphere and physical system. Other major asymmetric shocks, like the microbe pandemics and geopolitical disputes, have not diverted attention away from climate change. Climate change is the most daunting challenge that requires sustainable, comprehensive, and expensive solutions. It is an emergency, actually a "climate emergency" that humanity will have to cope with for as long as it exists.

Global warming results from two primary factors. First, the impact from outer space on temperature increase can be explained by combining the effect of the changes in the Earth's position relative to the Sun, known as the "Milankovitch's Climate Cycle", with the impact of the Sun's turbulence on radiation levels. Second, anthropogenic contributions to global warming encompass the effect of radiative forcing due to greenhouse gas (GHG) emissions, a concept identified by Nobel Prize laureate S. Arrhenius [4], and notably popularized by Ch. Keeling [39]. The former factor dominates the latter.

Climate change and the climate emergency are associated with a nexus of risks affecting all geographies, national economies, industries, sectors, business entities, and people. Climate risks are a subject of Knightian uncertainty, whereby the probabilities of different outcomes are almost impossible to calculate. It means that climate change is so complicated that, even if the context is standardized, the approaches to assessing the risks facing different entities are unlikely to be accurate [46, p. 171].

Considering the entire history of humankind, today, the world is experiencing the highest average temperatures. The key consequences of this are extreme weather events and more frequent natural disasters, including microbe mutations. The key risk stressors triggered by extreme weather include glaciers melting and a rising sea level (3-4 mm per year), flooding, heatwaves, droughts, water loss, and the destruction of arable land (20 acres per month), etc. As extreme weather makes certain places uninhabitable, its cumulative effect is a (geo)political one, leading to a climate refugee influx.

Other negative effects are as follows. First and foremost, with the temperature increase, a significant number of living organisms would become extinct, three times as many insects, twice as many plants, and twice as many vertebrates, all contributing to massive biodiversity loss [46, p. 171]<sup>5</sup>. In the Anthropocene era, the rate of living organism extinction is higher than in any previous stage of geological history.

<sup>5</sup> At 1.5 degrees Celsius warming, coral reefs are projected to decline by an additional 70-90%, and with a warming of 2.0 degrees Celsius, they would disappear entirely. The decline of coral reefs could trigger a chain of extinctions among various living organisms within the ocean's ecosystem.

Due to human actions and inactions, the ecosystem as a magical mix of different spaces interacting together is becoming unsustainable. In light of the fact that only the human population is increasing, the question arises as to what people will eat in the near future.

Biotic feedback loops due to microbe mutations and pandemics are another difficult consequence of global warming. They relate to the tremendous prevention costs to stop diseases before their outbreak happens and ex-post costs due to lockdowns and supply chains disruptions and/or slowdowns. Moreover, due to successive mutations, it is almost impossible to anticipate a rebound.

In the 1H 2023 explicit economic costs of climate change on global level peaked at \$200 billion, which is almost three times higher than Serbia's GDP. Losses on a microeconomic level led to credit crunch, supply squeeze and unemployment or, put simply, the root causes of recession. They all reflected on macroeconomic losses.

An economy in stagflation, or even in freefall, approaches the point of no return. The maximum accomplishment of the anti-crisis policy based on the orthodox neoliberal platform is a synchronous slowdown. A sustainable escape from stagflation is only viable through a systemic transition, such as the green transition.

Environmental issues, particularly the depletion of material resources and climate change, and socio-economic issues, particularly inflation and income inequality, stand out as major structural imbalances of economic neoliberalism. The disruptive consequences of these fractures are impossible to ignore. To preserve sustainability of the socio-economic system and the other two layers of the system dynamics, humanity must take measures to halt their negative impact. Also, in defining solutions, respect to planetary boundaries and adherence to the laws of nature, such as reversibility and evolution, should be paramount.

### Mitigation of major structural imbalances: Literature cornerstones

There is a consensus about the key root causes of structural imbalances of economic neoliberalism, related to the propositions that well-being is the first derivative of

egoism<sup>6</sup>, and that the main responsibility of business entities is to maximize shareholder value.

During industrialization, despite positive effects in terms of production and productivity increases, diversification and structural changes, human civilization messed up the planet with different forms of pollution (heating, primarily).

There is no doubt that the bottomization of the motivational system at individual level and the simplification of the mission of business entities to shareholder value creation led to a tragic consequence. The economy, society, and the planet are not sustainable at all.

To survive and prosper, the economic system should improve itself. Mitigation of the negative consequences of climate change is the desirability of a new economy. Also, a push toward the environmentalization of the economic system is critical. It is time to bring harmony between the layers of system dynamics [27, p. 12]. Regarding the roots of economic inefficiencies and global warming, as well as their cumulative effects, the new economic theory offers a very clear constellation of the planet's future. Two things are pivotal. First, the linear model of growth mindset of making so much and so fast should be replaced with a circular one of making enough by respecting planetary boundaries, along with a more complex policy platform based on two coordination mechanisms, market and state. Second, the world should mitigate the root causes of climate change instead of adapting to them.

Humanity is facing a decisive moment. The shift from dominance to coexistence vis-à-vis people and nature is a prerequisite for the green transition toward a sustainable economy, representing the terminal point on this journey. The approach to mitigating a permacrisis involves multiple layers. The concept has emerged at the

intersection of various fields, diverse schools of thought, and perspectives from optimists, pessimists, and constructive skeptics, at least.

In the emerging context, the hierarchy of priorities is undergoing a shift. Mitigating the root causes of climate change and developing a sustainable economy are now on the top of the priority list, surpassing the traditional focus on shareholder value creation. These new priorities are indispensable unless we want to take the world back into caves. As both priorities are global in nature, they necessitate collective activism and ingenuity on a global scale. United in this endeavor, humanity has the potential and responsibility to maintain the sustainability of this wonderful planet.

Four organizations contributed fundamentally to understanding the limits of growth and the climate emergency. Along with the UN, three of them are non-governmental think tanks.

The publication of the first report by the Club of Rome (CoR) in 1972 [49] and the initial release of the Intergovernmental Panel on Climate Change (IPCC) report in 1990 [38], played a fundamental role in advancing our understanding of the problem and fostering a commitment to action. The inaugural CoR report presented a computer model elucidating how natural limits lead to an unsustainable growth trajectory for the global economy. Simultaneously, the first IPCC report established a new scientific foundation for comprehending the ongoing climate breakthrough, originally discussed by the CoR. The meteorological explanation was explicit about the extent of climate change and the role of human activity, the so-called anthropogenic factor, in it [46, p. 174]. This breakthrough enhanced our understanding of the predominant anthropogenic root causes of global warming, specifically, the contribution of GHG emissions resulting from human activities in the economy and social life to the warming of the Earth's surface.

The so-called "radiative forcing" is a major negative externality of one of the pillars of economic neoliberalism, a linear model of growth. GHG emissions are measured by CO<sub>2</sub> equivalent in a metric ton. According to projections, since the first industrial revolution until today emissions have hit more than 30 trillion metric tons of CO<sub>2</sub> equivalent.

<sup>6</sup> First and foremost, an exogenous character of nature and technology, ignorance of natural limits ("the planet is enough"), disregard for negative external effects, wrong treatment of public goods and public companies, etc. This system of economic rules does not have built-in corrective mechanisms. Moreover, there is inconsistency in the economic policy platform in good times and bad times (or a time of crisis). The so-called "Washington Consensus" and inflation targeting are operating in good times. Unconventional and/or experimental economic policies undertaken in bad times are soft budget constraints policy, both micro and macro, "too-systemic-to-fail" policy of liquidity infusion, quantitative easing, extremely low, even negative, interest rate policy, decreasing taxation, etc.

Acceleration is particularly evident in the period 1990-2020 when emissions reached more than 50 billion metric tons of CO2 equivalent (see Figure 3).

Today, the planet is 1.3-1.5 degrees Celsius warmer than it was in pre-industrial period (the late 1800s). In the recent report the IPCC predicts that under current trends, temperatures could increase by 2.0 degrees Celsius by 2030, and by 2.1-3-5 degrees Celsius, or more, by 2100 relative to preindustrial levels [45].

The cornerstone literature consistently grapples with the question: What steps must we take to mitigate the permacrisis and address its core issue, the climate emergency? In the quest for a solution, the architects of a new economy should, first and foremost, discard the mantra associating the first derivative of well-being with egoism and, instead, embrace sustainable development goals like the UN 17 SDGs [62], as the essence of well-being and a prerequisite for the achievement of individual goals.

In 2018, the IPCC published its Special Report on Global Warming of 1.5 degrees Celsius [1]. In the last two reports published in recent years [45], the IPCC shows that climate change is accelerating, widespread and intensifying [42], [50], [3]. There is a significant convergence in standpoints in the previous studies.

In 2022, fifty years after the first issue, the CoR published a new release of Limits and Beyond: 50 years on from The Limits to Growth, what did we learn and what's

next? [7]. Recent studies have bolstered initial pessimism regarding the future trajectory of the world under the “as is” scenario, grounded in two fundamental components: the linear model of growth and the orthodox economic policy platform. Without ambitious and comprehensive mitigation efforts, global warming is poised to exceed the critical threshold of 1.5 degrees Celsius, leading to an irreversible loss of ecosystems, or an extended period of crisis after crisis, triggered by a series of catastrophic events [11, p. 1].

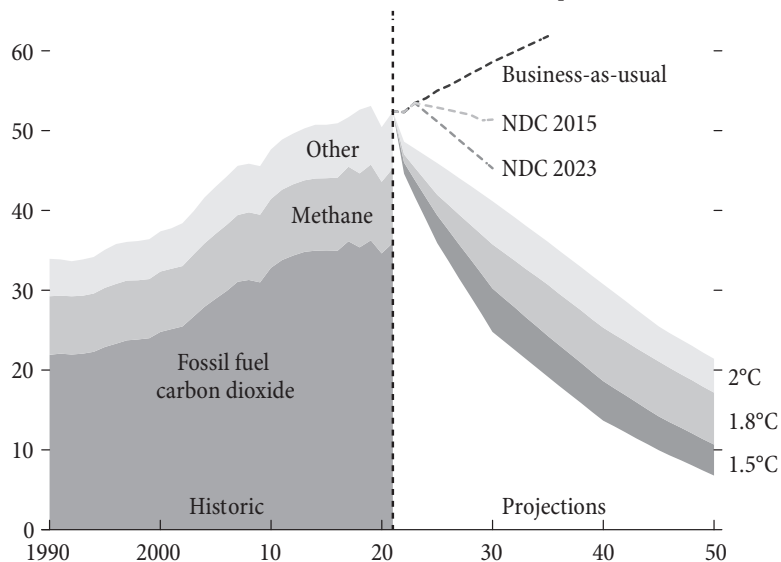
As highlighted in both CoR and IPCC reports, the anthropogenic factor is estimated to be dominant in climate change, responsible for approximately two-thirds of global warming. The remaining one-third of this collective effect is mainly attributed to Milankovitch’s effect [8]. Milankovitch’s effect explains why global warming was notably higher, ranging from two to three times, in specific regions of the northern hemisphere, such as the Arctic and Siberia, compared to the global annual average.

The intention of successive UN COP conferences on climate ([59], [60], [61]) is to develop a long-term systemic approach to achieving the objectives of a carbon-neutral and nature-positive world by 2050 while providing a feasible, secure and inclusive access to energy, water and food [23].

Anyhow, the last climate summit COP 28 focused on reviving and safeguarding nature, attempted to build momentum to accelerate energy efficiency measures,

**Figure 3: Yearly GHG emissions, period: 1990-2050**

(Billions of tons of carbon dioxide emissions equivalence)



Source: IPCC; Black, Parry and Zhunussova (2023); and IMF staff estimates

scale the deployment of renewable energy, and address feasible energy sources in line with energy demand. The summit made significant progress in securing funds for the green transition and unlocking investment for a nature-positive future, e.g. reforestation. Unfortunately, there is no unity about strategic elements of the agreement such as the perspective of coal, as it was expected [31], [22], [20].

The standpoint that businesses exist to serve stakeholders, and not just shareholders, gained more attention with the World Economic Forum (WEF) campaign regarding sustainable value creation and the related performance measurement system based on ESG (environment, social and governance) criteria [65]. The WEF defined 21 indices for comprehensive performance measurement system that are Paris-aligned and in accordance with the latest climate tensions. ESG approach was popularized by certain opinion-makers like [13], as well as by [19]. The ESG conceptual framework has undoubtedly contributed to the expansion of information base that enables a more comprehensive analysis of the business, financial, and environmental profiles of companies [44, p. 78]. At the same time, it has been demonstrated ESG criteria can motivate business agents to behave in an environmentally responsible manner [21], [15].

The related performance measurement system associated with the aforementioned concept has exploded with many details in recent years. The proliferation of metrics was huge because there was no single definition of ESG [66], [10]. However, the critical set of measures remained unclear [5]. Without universal standards, sustainability metrics are tremendously flawed. To avoid the previous issue, in 2020, following a six-month consultation process with over 200 companies, the WEF published a refined set of 21 core and 34 expanded metrics and disclosures to measure the efficiency of stakeholder capitalism, actually SDG criteria, for sustainable business performance in its report *Towards Common Metrics and Consistent Reporting of Sustainable Value Creation* [65].

These days, ESG metrics have evolved into standards that advocate for the environmentalization of business activities, foster positive relationships with employees and communities, and endorse effective governance structures. They are microeconomic performance measures

complementary with SDG macroeconomic performance measures. Two years ago, major investors, representing over a third of total assets under management globally, endorsed the “Principles for Responsible Investment”, emphasizing the greater use of ESG goals for investment selection [54].

Environment and income inequality are the biggest challenges in designing a new growth model and related economic policy platform. Another crucial aspect in relation to income inequality is executive remuneration [52], [17], [41]. In the global political economy and regulation framework under the impact of neoliberal orthodoxies, as expected, the first response to the climate emergency was “free-market environmentalism” or market-driven climate governance [9], [47]. The initial premise posited that the market mechanism could act as a corrective force for the climate emergency. Consequently, national economies were free to pursue mitigation policies without impeding the value creation interests of all business entities, including high-emitting sectors, even if this practically meant no reduction in GHG emissions. Under the Kyoto Protocol, market-based flexibility mechanisms, such as international emissions trading [64], [43], were introduced. Developed economies could exceed internationally agreed emission limits by purchasing “carbon credits” from developing economies that emitted less than their targeted amount of CO<sub>2</sub> equivalent. So, global carbon trading became a fast growing market, involving green credits and related financial instruments with a total volume exceeding \$300 billion worldwide [46].

The variant of the same approach is a self-regulating initiative proposing the disclosure of climate change risks. Classifying climate risks as a dynamic material risk, Mazzucato & Collington [46] eloquently suggest open joint stock companies to disclose the climate risks they face from both the physical impacts of climate change and the transition to lower emissions, with the same rigor as financial information disclosure. Since the early 2010s, the Climate Disclosure Standards Board (CDSB) has become a forceful advocate of this approach [2]. The ultimate result of this approach is IFRS Standard S/1 and S/2 [57].

Unfortunately, market-driven climate governance and self-regulating climate disclosure are not enough to

mitigate the climate emergency. Despite expectations, the data show that the planetary impact of human activities has only become worse. The mitigation will only be successful when gas emissions are properly constrained through a systemic intervention, including not only market shaping macroeconomic policies, but also structural policies and properly designed impact investments. Even more, the development of new technologies that reduce the demand for fossil fuels and capture emissions would be essential to preventing the climate emergency [46]. The key breakthroughs, from renewable energy to carbon sequestration, have been driven by structural policies and state impact investments.

The global economy, full of inbuilt structural imbalances, operates within planetary boundaries and experiences complete interconnectedness. The mitigation of structural imbalances and anomalies requires the internalization of negative external effects. So, the depletion of resources, pollution and global warming will have a crucial impact on the transition towards a new growth model and the related economic policy platform. In designing new settings, we need a new balance between coordination mechanisms. Consequently, new macroeconomic management should be disposed to two coordination mechanisms, the “invisible hand” of the market and the “visible hand” of the state. The market is playing the role of the catalyst of technological breakthroughs. Government, via macroeconomic policies as well as structural policies, is the coordinator of future investments. We have already extensively discussed the previous issues in [26], [27], [28], [29], [34].

Green finance is the hard core of climate action. In 2022, McKinsey published a report that estimated the most alarming capital spending for high-emitting sectors across sixty-nine countries [48], concluding that the green transition would cost \$275 trillion by 2050 [6].

When allocating capital for the purpose of green transition, business entities should prioritize R&D over CAPEX and/or external growth beyond the existing structural portfolio over internal growth.

Due to the high risks associated with the green transition, opinions are divided on how to finance the development and implementation of new technologies. A conventional way is to use bond issuance, actually “green

bonds” and “green credits”. In time of crisis, green bonds yield curve can easily fall. As for green credits, the higher risk is pushing the cost of capital. If the crisis continues, green bonds can fall further and interest rate on green credits can grow more. In short, in using conventional financial instruments for green finance, only “V-shaped” recovery based on new industrialization matters.

The green transition poses a fundamental trilemma for policymakers, requiring a delicate balance between achieving climate and sustainability standards in new industrialization, preserving fiscal sustainability, and keeping inflation under control. To mitigate the climate emergency and achieve other targets, some of the world’s leading voices of the new economics, such as S. Brunnhuber [12], suggest bold steps like green quantitative easing (or green QE).

Sustainability is not a side effect or a consequence of regulatory pressure. It is a substance explaining who we are and what we stand for as humans. Consequently, the sustainability-related disclosures explain how the sustainability policy fits the accounting standards. In June 2023, IFRS released two sustainability-related disclosure standards IFRS S1 (IFRS Sustainability Disclosure Standard S1: General Requirements for Disclosure of Sustainability-Related Financial Information) [35] and IFRS S2 (IFRS Sustainability Disclosure Standard S2 – Climate-Related Disclosures) [36].

These standards are also supposed to apply to non-for-profit and public entities from the period commencing on or after January 1, 2024, including GPFS prepared in accordance with GAAP (IFRS S1).

## Serbia’s economy fact sheets

Serbia is a landlocked, underdeveloped, open economy, which, for a long period, has been excommunicated, either explicitly or implicitly, from the EU mainstream. This nexus of weak points portraying Serbia’s geopolitical position also impacts its macroeconomic fact sheet.

In terms of level of economic development, this ultra-small economy participating roughly with 0.14% in global GDP creation, in terms of economic development lags significantly behind the near environment (the EU,

other economies in Emerging Europe and the western republics of the former Yugoslavia). The key vulnerability is the output gap [29, p. 21], coupled with an inadequate output structure, including an energy mix heavily reliant on fossil fuels. During the breakup of the former Yugoslavia in the 1990s, Serbia lost 55% of pre-transitional GDP in constant prices. It was the biggest contraction in Europe since WWII.

Another key constraint hindering accelerated catch-up with the EU relates to natural deposit and labor force limits. Concerning natural deposits, exceptions are arable land and deposits of some metals and minerals. Namely, Serbia boasts more proven reserves of copper and lithium than any other country in the region. However, some fossil fuel deposits, such as coal, lack strategic value.

When it comes to the labor force, there are both negative and positive trends. On the negative side, the birth rate has dramatically fallen over the last 40 years, and population aging has become particularly pronounced [40]. After anti-depopulation measures were imposed three years ago, the total fertility rate has significantly grown, but stays still low (1.63). Additionally, the emigration of youngsters, especially those with a college education, remains at a high level, although it is easing. A concerning issue is the concentration of people in cities, which is excessively high. With inadequate infrastructure and lack of social services, villages are mostly uninhabitable, particularly in the southeast part of the country. On a positive note,

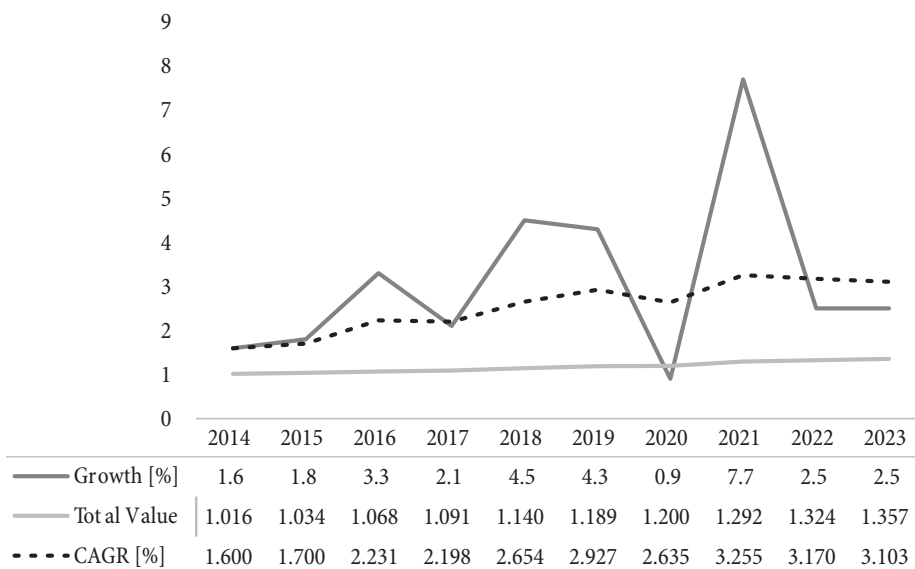
Serbia is doing well in terms of new employment. The unemployment rate is at a historic low reaching 9.0% at the end of 2023. Also, in the recent period, government impact investments in both physical and digital infrastructure, along with FDI acceleration, have positively affected new employment and slightly reversed the outflow of economic immigrants.

From an economic policy perspective, there are several positive signals indicating the effective implementation of industrial policies focused on infrastructure and tradable sectors, fostering new employment and growth. Prudential monetary policy also matters. However, despite these constructive efforts, persistent and robust inflationary pressures, along with recession fears coming from the global economy, exacerbate the threat of a double-dip crisis.

In 2023, growth was in positive territory. In December, the economy grew by 0.3% MoM, surpassing the estimated 0.2% growth rate. The main contribution comes from industrial production, which rose by 0.4% MoM. The YoY growth rate reached 2.5%. This growth rate is below the compound annual growth rate (CAGR) for the period 2014-23. The CAGR for the analyzed period was slightly above 3% (see Figure 4).

Such growth is deemed insufficient, not only because, by definition, sustainable growth, among other things, requires a CAGR of around mid-single digits (or 5-6%), but also because this is a nominal growth rate with inflated earnings. According to R. Rajan [55, pp. 47-48], at the

Figure 4: Serbia's CAGR = 3.1%, period: 2014-2023



end of the first industrial revolution, fast-growing early developers during the 1850s and 1870s achieved annual growth rates of 1.3-1.8%. At the end of second industrial revolution, late developers during the 1950s and 1970s grew at multiples of these rates. For instance, Japan grew at a rate of around 8.0% per year in the period 1950-73, setting an aspirational level for the developing world. After the third industrial revolution started in the late 1980s and during the fourth industrial revolution, which started almost immediately after that, China even exceeded the previously defined aspirational rate, entering the double-digit area over an extended period. However, due to the permacrisis, in the last period China struggled to achieve a 5% growth rate.

While growth in Serbia is a positive thing, it falls short. Due to the output gap, for Serbia to catch up with the EU average, a 7% real CAGR is needed in the next twenty years. This represents the bottom line for economic sustainability.

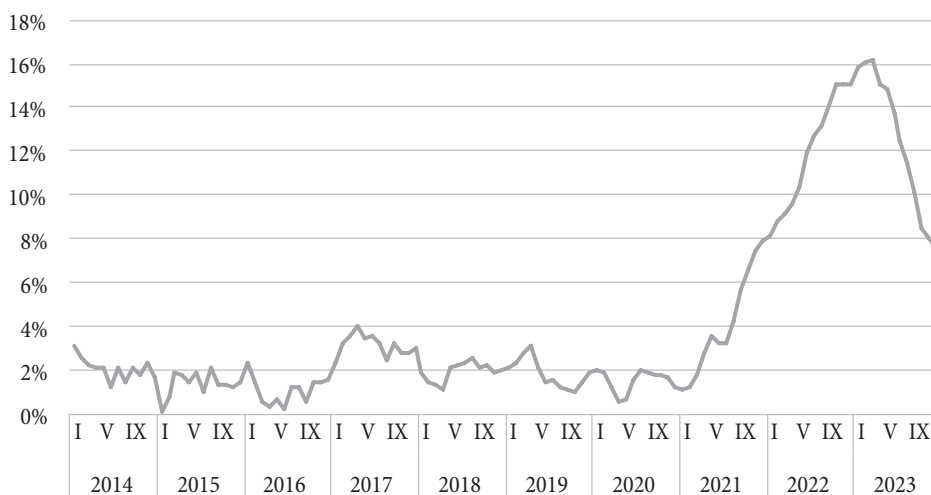
Being in positive territory in terms of growth in the permacrisis is an encouraging fact, but we can feel the presence of the so-called “growth illusion” because high inflation has boosted earnings. Among economic fundamentals, inflation is the worst issue (see Figure 5). Headline inflation of 16.2% at the end of 1Q 2023 reached the highest level since 2014.

Inflation has structural roots. The supply side, particularly import, fundamentally determined the inflation story in Serbia. Moreover, in the last three years, input

prices edged higher due to the impact of two episodes of exogenous price increase, the lockdown triggered by the COVID-19 pandemic and the geopolitical price premium. With the rapidly increasing energy and food prices, inflation has soared. In such a setting, keeping inflation under control is almost mission impossible, considering that service inflation is hard to bring down. The most difficult factor in anti-inflation strategy is the government’s efforts to maintain social cohesion by minimizing the impact of high inflation on living standards. Unfortunately, this highly socially acceptable measure has resulted in the wage inflation cycle. Figure 6 shows nominal and real net wages growth in the period from October 2022 to October 2023.

Actually, since the end of 2021, the NBS has remained at the hawkish monetary stance camp with the primary aim of hitting the inflation bullseye. Consequently, the NBS has been completely committed to raising the key interest rate as a monetary policy pivot, along with the reserve requirement ratio increase, expecting that both pivots would lead to a non-inflationary environment. Also, the monetary power expects that the shift from a dovish to a hawkish monetary policy will result in hard lending and a partial compression of the central bank’s balance sheet. Simultaneously, the NBS continues with a dinarization strategy with the aim of decreasing exposure to reserve currencies. Looking for a targeted inflation level, the NBS indicates that a headline inflation MoM level of 0.3%, or below, will be achievable.

Figure 5: Inflation in Serbia, period: 2014-23



Source: NBS data base



Another pivot of the anti-inflation strategy is well-known fixed FX rate. The NBS has primarily paid attention to variable that it can control, namely, FX. An almost fixed FX regime, instead of floating one, is a way to minimize the impact of structural imbalances from the past and geopolitical price premium on inflation<sup>7</sup>.

Despite a tightened monetary policy and fixed FX, at the end of 2023 inflation was still above the target. Headline inflation decelerated less than expected landing in December at 7.6% YoY. In the same month, core inflation of 6.5% YoY hit its lowest since the beginning of 2H 2023. Average annual inflation in 2023 was 12.1%. The previous confirmed that inflation fell, but still remains stubbornly sticky. Namely, inflation remains uncomfortably above the NBS target. Expectedly, the decrease in import prices, with an almost fixed FX regime, had a significant impact on inflation deceleration.

Keeping the FX rate unchanged, in combination with an ultra-high policy rate, and agile liquidity management (both macro and micro), constituted the key monetary policy measures. By implementing such a policy mix, the NBS has achieved partial success in the short run,

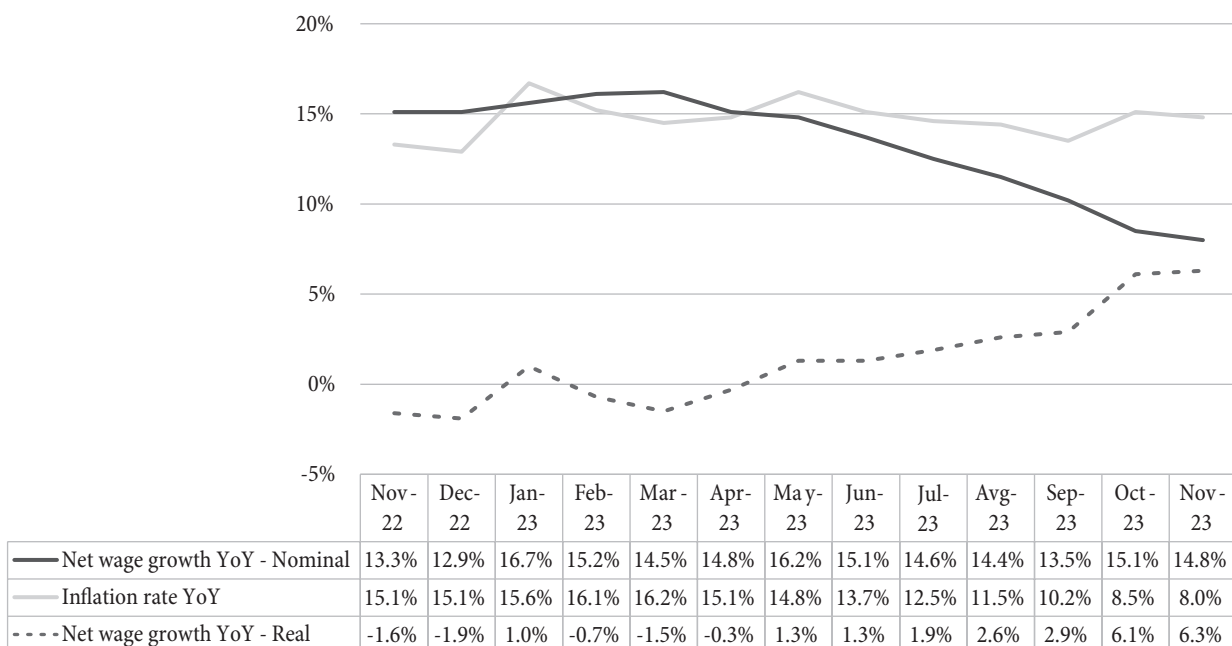
preserving macroeconomic stability, particularly the stability of the financial system, even without reaching the inflation target. Specifically, the financial system has been functioning smoothly despite inflation decreasing slowly. The reason is the inflow of FDI.

The NBS predicts that inflation will continue to fall toward the policy target by the beginning of 2H 2024. In such a case, the actual growth rate will be above potential, namely a recession threat will be avoided. The final and perhaps the trickiest question is how the NBS will respond if inflation stays above the target band (3-3.5%). In this geography, the current policy stance could be derailed by many external asymmetric shocks, primarily geopolitics. Additionally, internal political turmoil, coupled with growing inflation fears, could contribute to a “no landing” scenario, meaning stagflation.

In sum, structural imbalances, particularly the output gap, high service inflation, real wages growth, along with low to stagnant total productivity increase, may trigger a textbook price spiral. It is too early to declare victory over inflation. The NBS should not lower its guard and should persist with hikes because the mission is not accomplished. Namely, the NBS is not yet ready to pivot towards monetary easing. When the NBS does not entertain a hope for recent rate cuts, soft lending is unlikely to be expected.

<sup>7</sup> In mid-January 2024, the oil price experienced a one-day change of 2.03% (or one standard deviation) due to the escalation of the war in the Middle East, particularly in Yemen.

Figure 6: Wages and inflation, period: October 2022 - October 2023



Source: Authors' calculations

Currently, the benchmark rate of 650 BEPs is higher than the Eurozone rate (400 BEPs), the BOE rate (525 BEPs), and the FED rates (525-550 BEPs). The key policy rates suggest that the NBS remains perhaps too optimistic. It is highly expected that the NBS will push back against the expectations of the real economy for rate cuts (and soft lending).

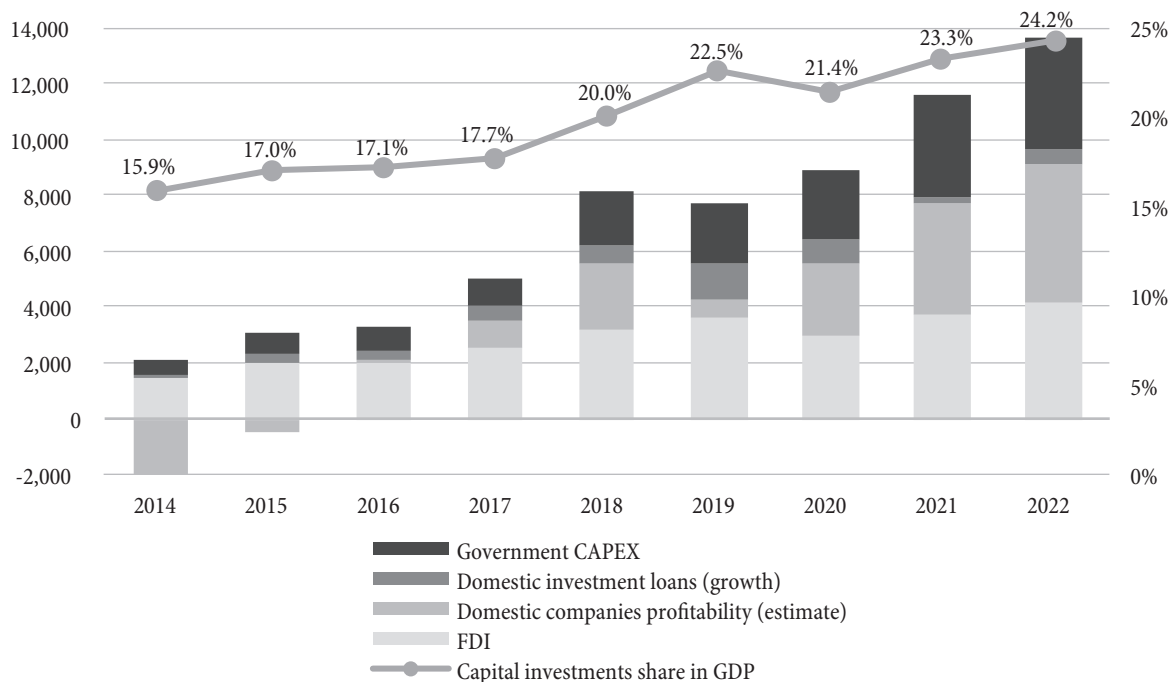
One more aspect to consider. If the NBS intends to keep on trucking with the fixed FX rate, it should align Serbia’s inflation with that of the Eurozone. Significant gaps in inflation and key policy rates suggest that in 2024, the “higher for longer” scenario, or even a higher policy rate, will not show divergence. Namely, the NBS should be prepared not only to continue with monetary tightening but also to tighten further if needed, without hesitation. Therefore, “high for longer” or “rates cut” outlooks will not be relevant until there is harmonization of Serbia’s inflation with the EU’s inflation.

In an inflationary economy with the output gap, despite a prudential monetary policy, growth is typically restricted to a low or, eventually, moderate level. Such an economy can avoid falling into technical recession if the following three conditions are met. First, an economy needs to be agile in terms of investments, both private

and state. Investment activism helps the economy migrate slowly but steadily away from downside threats. Second, the government must keep the budget (both at the state level and at the level of local governments) under balance in order to keep necessary strengths for fiscal spending. A hard budget constraint acts as a barrier to derailing the positive results of an investment boom created by state impact investments and FDI. Last but not least, maintaining external liquidity is a prerequisite for the previous two conditions. Serbia’s debt-to-GDP ratio of 52% at the end of 2023 confirms the government’s ability to sustain external and internal liquidity without major constraints. A closer look at macroeconomic fundamentals reveals that Serbia’s policymakers are fully aware of these conditions. Multilateral financial organizations and credit rating agencies confirm these achievements.

In the recent period, the share of investment in GDP formation stabilized at 25%. The structure of investments is well-balanced (see Figure 7). FDI plays a crucial role in maintaining liquidity, both internally and externally. The government has effectively provided stimuli for FDI, contributing to economic growth, technological improvements, the expansion of tradable sector, and jobs creation. The latter goal is extremely important in an

Figure 7: Magnitude and structure of capital investments, period: 2014-2022



Source: Authors’ calculation based on NBS, Macroeconomic Developments in Serbia, January 2024, p. 6

environment marked by high and persistent unemployment and related political tensions. Moreover, fueling the money via M2 injects liquidity into the economy.

In theory, a tightening monetary policy stance hits sustainable economic growth. Interestingly, in 2023 growth was above potential. Based on the previous, it is reasonable to predict that the NBS in 2024 could maneuver between three scenarios: (i) rate pause, as a central scenario (650 BEPs), (ii) hawkish stance scenario (> 650 BEPs), and (iii) dovish stance scenario (< 650 BEPs). In all scenarios, to maintain NPL ratio at a controllable level (currently NPL ratio is 3.5%), the NBS should avoid any possibility of soft lending.

The crucial problem with the fixed FX rate policy combined with the hawkish benchmark interest rate is that such a policy mix sinks exports, particularly those held by domestic companies. However, the dominance of FDI in export mitigates the weight of this factor. All things considered, Serbia's mixed economic picture is unlikely to quash growth prospects. Despite a sharp rise of the cost of capital, Serbia did not spiral into debt crisis. With the share of debt in GDP of 52%, external liquidity has eased. In contrast to the situation in the middle of 2014, when default seemed almost imminent, throughout the entire period of fiscal consolidation, which ended successfully in 2018, Serbia never missed a Eurobond interest payment. At the end of 2023, the fiscal gap reached 2.2%, indicating an encouraging trend of improvement in public finance. This is a crucial input for the current country's credit rating, which is one step below investment grade. To be honest, the current tax burden has an ambivalent effect, negative for private investments and positive for public investments.

Despite tighter monetary policy, fixed FX rate and fiscal discipline, another crucial factor for sustainable and inclusive growth is business confidence. It is complementary with the ongoing anti-inflation policy based on mentioned pivots. The high level of FDI, including a better structure of investments as well as lenders activism in financing impact state investments, confirms a relatively high level of business confidence. Despite a sharp rise in the cost of capital, Serbia has managed to avoid recession and steer clear of a debt spiral. Obviously, it has successfully averted

a crisis by boosting business confidence. However, it may face challenges in doing so again, for instance, if FDI from Germany fails to meet expectations. Various factors, not least geopolitics, might still disrupt encouraging macroeconomic fundamentals. One of them is election mania fueled by many irrationalities inside the political class.

In sum, during 2023 Serbia's economy remained relatively viable and resilient as major structural and (geo) political problems were contained. A moderate increase in FDI, the agility of impact investments and a dynamic housing market are clear signals of the aforementioned. The general impression is that the economy is gradually recovering, despite the permacrisis.

The forecasted growth rate of 3.5% for 2024 is achievable but falls short of ensuring a sustainable economic future. Serbia must improve trust in its economic strategy by moving beyond crisis management and related growth rate target. To achieve convergence with the EU, Serbia needs CAGR = 7% in real terms in the next twenty years, which is not achievable without massive capital investments and new industrialization. An alternative scenario involves massive stimuli, both monetary and fiscal, but this would increase relatively high financial leverage to an unsustainable level. Namely, without structural policies and impact investments dedicated to new industrialization within the framework of the green transition, due to vicious circle (interest rates rising and falling and inflation fluctuating), the economy is likely to be caught in sluggish growth trajectory, leading to a slow closure of the output gap.

Overall, some macroeconomic data signal recession calls, while others do not. The conflicting signals of high investment agility in state impact investments and FDI agility on one hand, and the flattening of domestic investors on the other, create uncertainty. Mega projects like EXPO are welcomed. No doubt, along with the NBS, the Treasury Department has more work to do to keep macro balances at a sustainable level. A new set of fiscal pivots in the form of automatic macroeconomic stabilizers, coordinating the green transition as a core structural policy in the future, should be defined. Normally, the impact of industrial policies on tradable sectors should continue.

Caution is in order. A balanced budget (and fiscal space), which Serbia did not have in the last two years, is

a necessary condition for sustainable growth [56]. These days, a sufficient condition is related to intelligent and sizeable investments in the green transition. Since Serbia has a development gap, not only its prosperity but also its very survival depends on new industrialization. To accelerate this process, EU accession can play a catalytic role. Unfortunately, the EU is under dilemma of “to enlarge, or not to enlarge: that is the question”. Moreover, stagflation megatrend in the EU over the medium term could and should push inflation higher and growth lower. To escape this conundrum, Serbia should find something attractive enough to run the economy in a sustainable and inclusive way, toward both people and nature. In this stage of history, “all roads lead to Rome” (actually, to the green transition).

Industrialization based on FDI and mega projects is a sound strategy in the medium term, but it does not ensure the sustainability of macro balances in the longer term. Macro deficits increase indebtedness, reduce reinvestments and the speed of growth, ultimately leading the economy into the middle-income trap. The key challenge to escape this trap lies in how the economy charts the path of technological development. This involves not only being a beneficiary of leapfrogging but also, and primarily, being an active participant in the development of frontier technologies through *in situ* research and development. Industrial policies in ICT and BIO 4 spheres represent steps in the right direction.

Last but not least, in a politically polarized country like Serbia, there is a wide gap between people’s general feelings about the economy and official economic figures. One indicative perception is the carbon footprint. Serbia has relatively high emissions of the CO2 equivalent p.c.

The key sources of emissions within the country include consumer electricity, heating, mining, industry, transport, and agriculture. Although the production of renewable energy has increased in recent years, the majority of energy production still comes from coal (68%). In addition, the country contributes significantly to GHG emissions through the production of copper, steel, and aluminum. The scale of the Serbia’s carbon footprint and the urgency of shrinking it to a tolerable level should be translated into meaningful action. The green transition action plan for Serbia is a crucial part of the collective effort to save the planet.

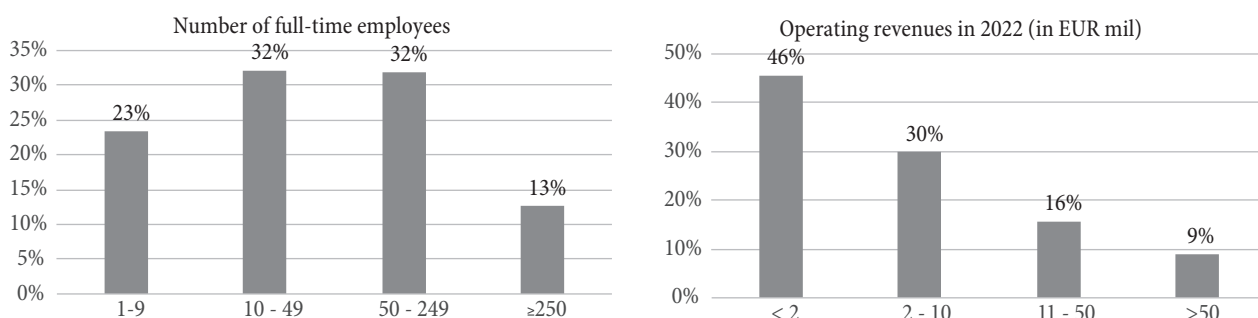
Before Serbia enters the green transition, we should lend weight to attitudes towards Paris-aligned and climate emergency metrics, or SDGs/ESG nexus of sustainability metrics, and related sustainability-related disclosure.

### Attitudes towards the SDGs in Serbia’s business community

The empirical research aimed to examine the extent to which companies in Serbia adhere to sustainability goals and the progress they have made in sustainability reporting. Given the nature of the research topic, opinions and attitudes of top management representatives and company owners were assessed<sup>8</sup>. The study was conducted on a sample of 261 companies. About 41% of respondents were (co)owners, 61% had more than 10 years of managerial experience, and two-thirds were male. The majority of analyzed companies operate in the manufacturing

<sup>8</sup> The data collection was carried out through a questionnaire distributed from July to October 2023, with coordination provided by the Serbian Chamber of Commerce – Chamber of Commerce of Belgrade.

**Figure 8: Company size: number of employees and operating revenues in 2022**



Source: Authors’ calculations

industry (38%), retail and wholesale (8%), construction (7%), agriculture (6%), etc.

The observed companies have an average age of 24 years. In terms of company size, small and medium-sized enterprises dominate. Figure 8 illustrates the number of full-time employees and operating revenues for the observed companies.

The majority of the observed companies are export-oriented (about two-thirds). We assumed that the implementation of sustainable practices in these companies is more advanced, considering that many of them are already obligated to adhere to certain standards imposed by international supply chains to which they belong. One of our objectives was to assess the disparity in the representation of sustainability goals between observing companies (mainly companies from the tradable sector) and those solely operating in the domestic market. The IFRS sustainability-related disclosure standards will firstly impact the operations of companies in tradable sectors, particularly exporters.

When it comes to the extent to which sustainability goals are present in the practices of domestic companies, the findings seem encouraging at first glance. About 60% of companies had specific goals or strategies for the next year to improve their environmental and sustainability performance. However, some of these companies have established goals without specifying particular targets or activities for improving sustainability performance in the next year.

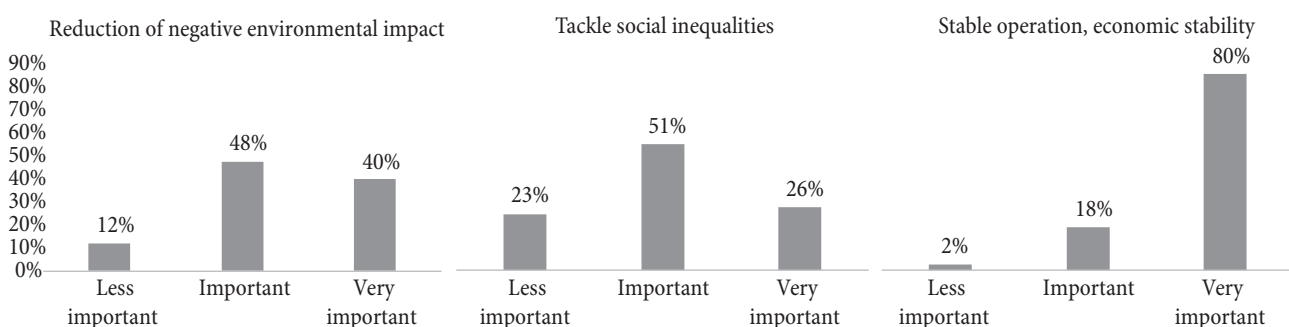
When asked about their sustainability goals in general, the vast majority (80%) prioritize economic stability as the most important goal. In second place are environmental goals, specifically reducing the negative

impact on the environment, with 40% of surveyed managers considering it very important. The goals related to the social community are comparatively less emphasized, as only 26% of respondents consider addressing social inequalities highly important (see Figure 9).

These results are in line with well-known Carroll's pyramid model of corporate social responsibility [14]. According to this model, the primary responsibility of top management is to ensure financial stability and profitable operations in the long run (economic responsibility), which is particularly pronounced in a context of crisis. Corporate social responsibility is built upon the premise of an economically sound and sustainable business. To be able to contribute to others, a company must first ensure its survival. Second, companies must ensure regulatory compliance and run their businesses by the laws (legal responsibility). The third one is ethical responsibility, that is, the obligation to do what is right, just, and fair, while being a good corporate citizen and contributing resources to the community is in the last place (philanthropic responsibility). The first two types of responsibilities are required, the third is expected, and the last one is desired by society.

We start with SDGs testing. We asked the managers which goals from the UN Agenda 2030 [62] their companies contribute to with their specific actions/targets in the next year. The following four SDGs stand out in particular: (i) decent work and economic growth, (ii) industry, innovation, and infrastructure, (iii) reducing energy use, affordable and clean energy, and quality education (see Figure 10). This is quite consistent with the previous results regarding general sustainability goals and Carroll's pyramid model. The first two SDGs correspond to economic stability or

**Figure 9: Sustainability weight in the sample of companies**



Source: Authors' calculations

economic sustainability, the third one aligns with the reduction of negative environmental impact, while quality education represents a societal goal.

The SDGs represent a set of global goals established for comprehensive societal development, primarily used at a macro level, guiding countries and organizations in setting priorities and policies to achieve sustainable development on a global scale. On the other hand, ESGs refer to specific criteria employed to evaluate the sustainability and ethical impact of individual companies or organizations, particularly within an investment context. The incorporation of ESG considerations will contribute significantly to the overarching goal of achieving the SDGs.

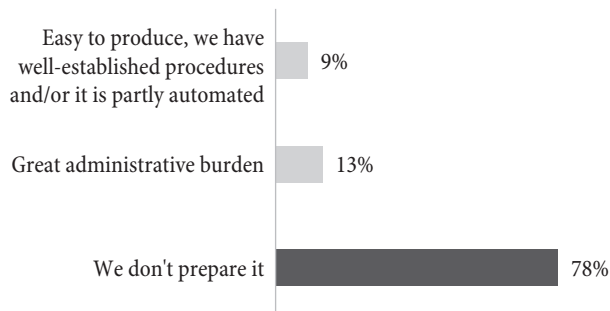
Although the majority of analyzed companies have set sustainability goals and activities, sustainability reporting is very limited and underdeveloped. More precisely, 78% of companies do not prepare a sustainability report at all, 13% do prepare it but consider it a significant administrative burden, while only 9% of companies have established the necessary procedures and automated the sustainability reporting process (Figure 11). When it comes to companies that have automated sustainability reporting, 83% of them are exporters, which is in line with our expectations, and more than half of them are large enterprises.

Sustainability-related disclosure raises numerous organizational issues. The responsibility for sustainability reporting can vary depending on the size and structure

of the organization. In many cases, the role of overseeing sustainability reporting is assigned to a dedicated sustainability or corporate responsibility department, particularly in larger organizations. However, in smaller companies, the responsibility may fall on the shoulders of specific individuals, departments, or cross-functional teams. The development of sustainability reporting has led to the emergence of a new executive position – Chief Sustainability Officer (CSO). In companies that do not have this position, the CFO often assumes a leading role in sustainable reporting, considering the inherent connection between financial data and ESG as well as the CFO’s key role in providing financial support to sustainable programs and investments.

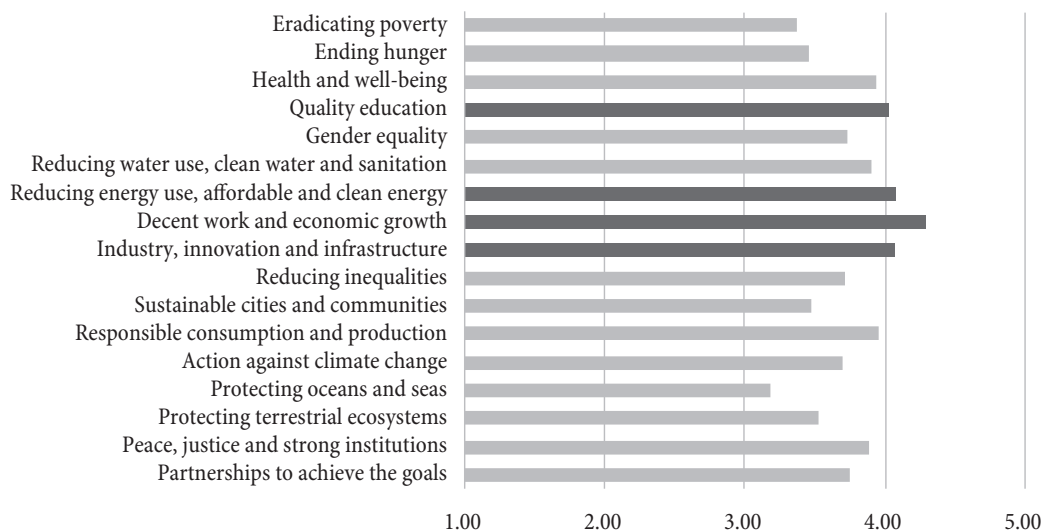
Our empirical results show that only 10 out of 261 analyzed companies have a specially formed organizational

**Figure 11: Do you prepare a sustainability report and if so, to what extent do you find it difficult to prepare one?**



Source: Authors' calculations

**Figure 10: Sustainability goals of Serbian companies and the UN Agenda 2030**



Note: 1 – least important, 3 – important, 5 – very important  
Source: Authors' calculations

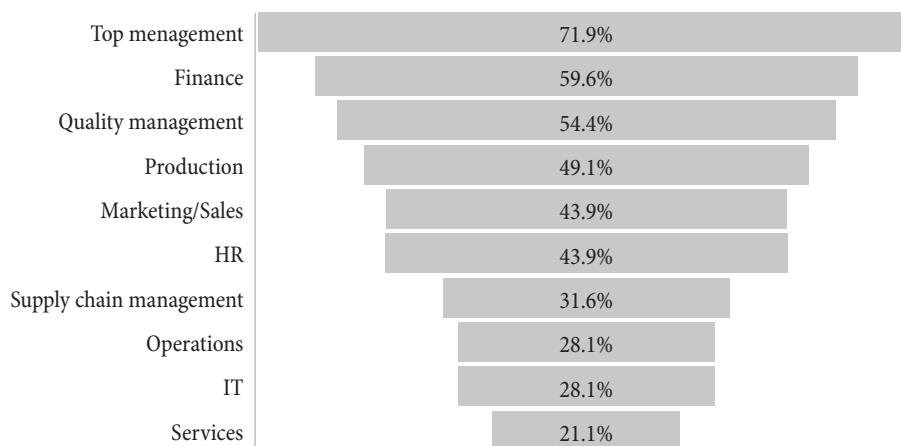
unit responsible for sustainable reporting under designations such as Corporate Responsibility, Global Group Sustainability, ESG, etc. Notably, these are predominantly large and export-oriented companies. Conversely, within the broader spectrum, the preparation of sustainability reports is often added as an additional responsibility to top management (usually CFO) or other departments (most frequently communication and public relations). According to [25], the main barriers to sustainability reporting are identified as data collection challenges and a lack of suitable support from managers and leaders.

The analysis shows that numerous functions are involved in the process of collecting the data needed for the report. Apart from top management, crucial data primarily originates from sectors such as finance, quality

management, production, marketing, sales, and others (see Figure 12). Regardless of the specific organizational structure, clear accountability, coordination, and collaboration across departments are essential to ensure accurate and comprehensive sustainability reporting.

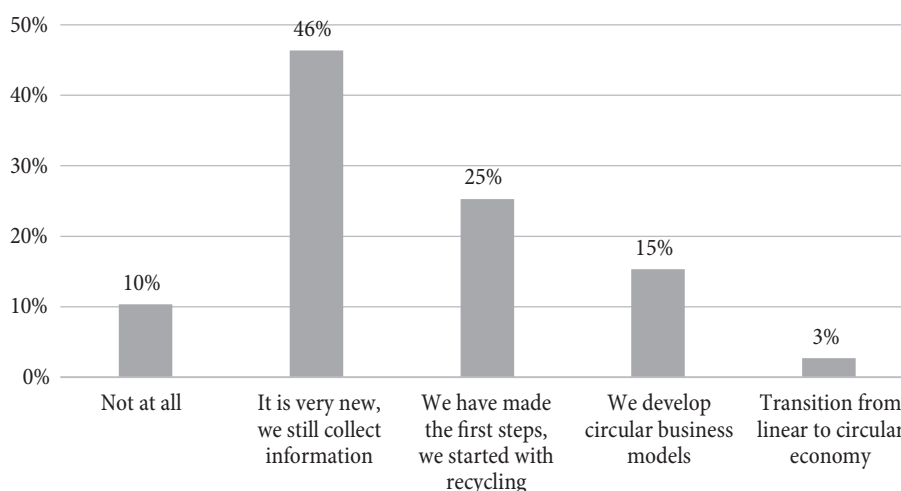
When it comes to the implementation of the circular economy in Serbia, for the majority of companies, this still represents a new concept. They are either in the information-gathering process (46%) or consider it unrealistic to expect implementation in the next five years (10%). On the other hand, 44% are in some phase of the green transition process. More specifically, 25% have taken initial steps and started recycling, 15% are developing circular business models, and only 3% have fully transitioned to a circular economy (Figure 13). The current situation indicates the necessity

**Figure 12: Functions that provide information for a sustainability report**



Note: Percentage of the total number of companies that prepare the sustainability report (57 companies)  
Source: Authors' calculations

**Figure 13: How realistic is the implementation of the circular economy in your company in the next 5 years?**



Source: Authors' calculations

of systemic support from the government through the development of an appropriate Green Transition Action Plan as well as securing funds for its financing.

One of the current challenges facing managers is sustainability-related disclosure is the AI. To gauge the perspectives of our managers on this matter, we inquired about the realistic prospects for the implementation of AI in the next five years (see Figure 14). The findings indicate that the use of AI tools is present to varying degrees in only 15% of the analyzed companies in Serbia. Conversely, 36% have never used AI nor deem it necessary, while 49% of managers perceive AI as a novel concept, actively engaging in information gathering and exploring potential applications. The strategic adoption of AI technologies can enhance various aspects of a company’s operations, providing a competitive advantage in today’s dynamic business environment. Companies that overlook these trends face weak prospects for survival.

### The Green Transition Action Plan for Serbia

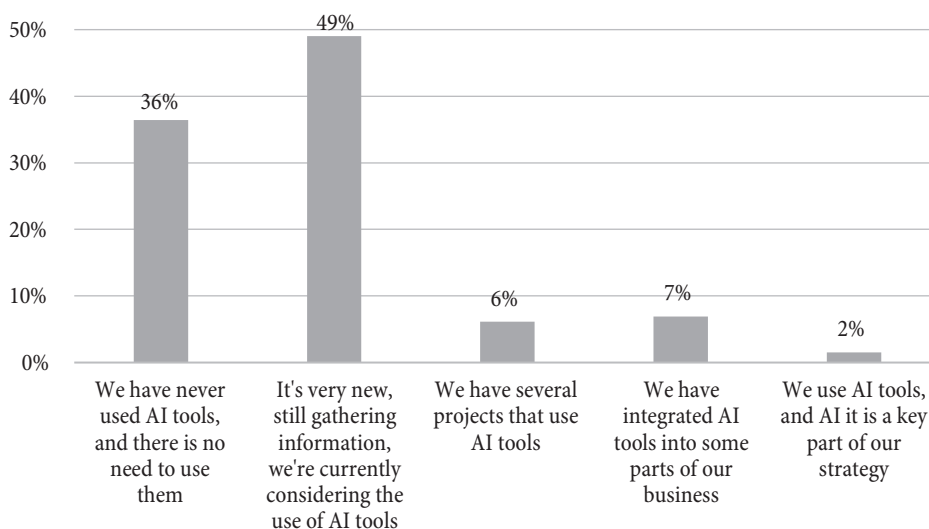
As the global economic context could not support sustainable development, mostly due to the structural imbalances and negative consequences of global warming, for the architects of the new economy, two key topics are in the spotlight: green transition and sustainable development. The changing context transforms everything, and an elevated context necessitates more elevating users of this

context. Serbia should actively participate in this process. It is the collective responsibility of each national economy.

Evidence from empirical tests of sustainability-related disclosure indicates that attitudes within Serbia’s business community towards the SDGs/ESG have a thin crust. These attitudes reflect how the economy intends to lead. It is necessary to improve understanding of what the green transition entails and what it does not. The catalytic impact of the state in this process is imminent. To survive and prosper, Serbia should be extremely agile towards the green transition in 2024 and beyond, aiming to capitalize on momentum for change. The negative consequences of GHG emissions are far too high. If Serbia postpones their mitigation, it will not only lose momentum in addressing the climate emergency but also miss the opportunity to embark on new industrialization as the primary path to convergence with the developed world. Pursuing the green transition could be the most effective way to accelerate accession to the EU, realize ambitions to be a regional heavyweight, and face the future with confidence.

Embarking on this astonishing venture with depth and speed is a prerequisite not only for recovery but also for ensuring sustainable development in Serbia for years to come. The approach of aligning every transformation in Serbia with other national economies and within planetary boundaries will be increasingly welcomed by climate enthusiasts, opinion makers (and decision makers) worldwide. Due to the climate emergency, the philosophy

Figure 14: How realistic is the implementation of artificial intelligence in your company in the next 5 years?



Source: Authors’ calculations



of individualism and the supremacy of particular interests over collective ones is no longer welcomed, neither here nor anywhere else.

Serbia as an underdeveloped economy should engage in such an interplay, primarily because prevailing attitudes from the relevant world have changed. Everywhere, achieving sustainable results requires a switch to a circular growth model and a heterodox economic policy platform. This necessity underscores the importance of defining the Green Transition Action Plan for Serbia. This fundamental step aims to ramp up the sustainability of the economy and society. The plan, grounded in quite new ambitions, will outline decarbonization targets, the development of a portfolio of green technologies, the implementation of new financing models, along with updated investment evaluation criteria, and the recruitment of most qualified individuals to execute it. The plan should be submitted for accreditation to multilateral financiers and institutions, with the EU Commission being a primary recipient.

The plan should establish a framework for the implementation of sustainability-related disclosure, encompassing both macro (SDGs) and micro (ESG) levels. It will serve as a symbol of the country's commitment and innovative drive towards sustainable development, grounded in new industrialization. Moreover, the best way to combat stagflation, escape a double-dip crisis, and avoid the middle-income trap is through offensive investments in green infrastructure, green investments, both private and public, spanning various industries, and necessitating adjustments at the policy level in tradable sectors and public utilities.

In the Green Transition Action Plan, as in any transition plan, there is a lack of explanatory details. Therefore, the architects of the plan should draw insights from structural economics, behavioral economics (and finance), and best practices observed in Asian economies, e.g., AI interface with other transformative technologies such as Industry 4.0, quantum computing, biotechnology, and 5G/6G, etc. Industry 4.0, for instance, offers numerous opportunities and solutions in the realm of climate and nature actions, including CO<sub>2</sub> capture. Similarly, the application of AI holds promising potential in new industrialization.

To fulfill the earlier mentioned ambitions, the plan also needs prioritization vis-à-vis the latest COP 28 initiatives. The summary document of COP 28 [61] outlines four pillars of climate action: (i) energy transition, (ii) climate finance, (iii) human factors, lives, and livelihoods, and (iv) full inclusivity. This could serve as a framework for the Green Transition Action Plan for Serbia.

*i. Energy transition.* Energy transition should be the primary focus of climate action. The first step in this endeavor is to enhance energy efficiency. To align with global trends, Serbia should aim to double the average annual rate of energy efficiency improvements from around 2% today to over 4% every year until 2030. Additionally, the development of energy-efficient buildings, incorporating technologies such as smart HVAC systems, energy-efficient lighting, and advanced insulation materials, will contribute significantly to overall energy efficiency improvements.

Nevertheless, a key lever in energy transition is the growing role of sustainable (and clean) energy sources in the energy mix. Nuclear energy, green hydrogen, solar, and wind power are crucial components for substituting fossil fuels and based on that, driving new industrialization. To implement the sustainability manifesto, Serbia may not have the capacity to integrate all new technologies simultaneously. The COP 28 Declaration to Triple Nuclear Energy, which aims to triple global nuclear energy capacity by 2050, is not relevant for Serbia. Instead, it should concentrate on a small number of new technologies such as hydro, solar, wind, and green hydrogen.

Serbia faces challenges in its current energy supply, marked not only by a dynamic energy deficit but also, and predominantly, by its dependency on fossil fuels. The government must escape in reasonable time from energy production based on fossil fuels, as something foolish enough, to successfully execute the green transition. Timing is crucial. A global dilemma has surfaced: phasing out or phasing down fossil fuels. While the phase-out of fossil fuels is inevitable in the long run, major producers of oil and gas like OPEC+ strongly oppose short-term and possibly mid-term cuts. Developing countries resist ending the use of fossil fuels, prioritizing energy access over energy transition. Moreover, early retirement of coal requires public finance support, which is almost unfeasible due to high

indebtedness. Serbia will follow that path but recognizes that fossil fuel reduction should be a gradual process, especially given that coal currently constitutes 68% of its energy production. The government should prioritize green transition in the energy sector through industrial policies. The primary leverage involves state impact investments in green energy infrastructure, such as a grid capable of capturing surplus energy from renewable sources, a pipeline for green hydrogen, facilities for carbon capture/storage, high voltage transmission lines, charging stations for electric vehicles, and more. Complementary policy tools include transfers (compensation for price increases due to carbon pricing schemes) and competitiveness measures (unilateral carbon tax on energy-intensive production such as iron, steel, aluminum, cement, etc.).

*ii. Climate finance.* The question of where funds for the green transition will come from lies at the heart of climate action. The answer involves a carefully calibrated mix of key financing instruments, namely revenue-based instruments (carbon taxes, resource pricing, tax incentives, excises, etc.), and expenditure-based instruments (carbon reduction subsidies, green credits, green bonds, etc.).

Another important issue is emission trading standards. In the realm of carbon taxes, the current average of \$53 per ton of CO<sub>2</sub> equivalent falls short of avoiding the 2 degrees Celsius threshold. A minimum carbon pricing fit for purpose should be higher, exceeding \$90. In terms of resource pricing, adjustments are also necessary, particularly in fuel excises on fossil fuels, which currently contribute to 1-1.5% of GDP. The most important incentive is the permit price within a carbon-trading scheme.

The primary purpose of subsidies is to encourage the innovation and deployment of climate-neutral technologies. Given their significant fiscal costs, subsidies are particularly targeted towards urgent needs such as “feed-in subsidies”, “guaranteed prices”, etc. Also, they can be implemented to allocate the effects of price increases downward and upward in energy-intensive businesses.

Retained earnings from the private sector alone are not enough to create a critical mass of funds for climate finance. While Serbia’s banking system has core strengths, such as the NBS’s monetary reserves and deposits in

commercial banking, the capital base is not adequate to finance the green transition. Key lenders in this context could be international players, either independently or via a syndicate of banks.

Despite the high risk, green projects have not exhibited spectacular profitability. In the release of green credit, foreign banks, multilateral financial organizations, and sovereign wealth funds primarily focus on the country’s credit rating. With Serbia’s credit rating one step below investment grade, it is considered permissible. Furthermore, foreign lenders effectively obtain seniority over domestic creditors. Consequently, green credits tend to be more permissive than they should be based on the specific profitability of the financed green projects. Complementing this, a net-zero commitment for evaluating investments in the process of green credit selection, as well as in the underwriting of green bonds, is also welcomed.

As we have already outlined, developing nuclear energy in Serbia is deemed impossible, even in the long run. However, co-financing joint ventures, for instance, with Hungary, is a feasible idea.

Green bonds hold the potential to attract institutional investors (primarily insurance companies) as financiers of green projects. While this may not be an attractive source of investment for private investors, given the underdeveloped secondary market in Serbia, depositors keeping money in banks stand to gain a real upside from investments in green state bonds.

For strategic green projects, the EU could and should serve as the anchor investor. The involvement of U.S. investment banks is also welcomed. With their determination, knowledge, and interest, coupled with Serbia’s critical resources this could be a perfect match for green joint ventures.

Green QE represents an innovative model of green financing. This model could be implemented in mega green transition projects capable of creating Pareto superior, with unconstrained positive external effects for consumers and multiple positive external effects for investors.

*iii. Human factors, lives and livelihood.* The key is to make information accessible, relatable, and actionable. Fostering a sense of responsibility and showcasing the benefits of sustainable living can encourage individuals, businesses,

and communities to embrace a more environmentally conscious lifestyle.

Redirecting AI solutions toward the green transition makes sense and can help avoid massive layoffs from conventional industries in the future.

*iv. Full inclusivity.* Full inclusivity requires that the green transition should be fast tracking, orderly, and equitable. In this way, Serbia could contribute to the acceleration of the implementation of SDG/ESG goals.

The set-up of emission trading standards is also a part of that process, particularly in energy-intensive and hard-to-abate sectors. It primarily involves setting a minimum share of renewable use for power generation (at least more than 10%), a minimum share of electric vehicles in the vehicle fleet of business entities and institutions, and average carbon emissions per kilowatt-hour across power generation plants or per ton of steel, cement, aluminum, etc.

Sustainability standards are particularly important in the banking industry, especially concerning the so-called “financed emissions”. The production of green credits and the underwriting of green bonds emissions are impossible without the implementation of green investment standards in the evaluation and selection of green projects.

In this area, massive but easy-to-implement initiatives are also appreciated. Planting trees that temporarily store carbon is an effective measure to conserve nature. According to the UN-REDD Programme [63], deforestation and forest degradation account for approximately 11% of carbon emissions, surpassing the entire global transportation sector and ranking second only to the energy sector.

Another prerequisite for a successful green transition is to educate and raise awareness about the importance of sustainability through education programs (at schools, universities, and business levels), as well as on online platforms and through corporate initiatives within corporate social responsibility, etc.

Fostering the green transition through international cooperation requires collaboration on various levels. Encouragement for participating in international agreements and treaties is critical. Among the many agreements introduced by COP 28, Serbia should select and join documents of primary importance for its green

transition plan. Our view is that key priorities include the following documents.

*i. Global Renewable and Energy Efficiency Pledge.* This document stipulates that signatories commit to working together to triple the world’s installed renewable energy generation capacity to at least 11.000 GW. The document proposes the collaboration with the International Renewable Energy Agency (IRENA) and the so-called High-Level Champions in areas of advanced electrification, renewables-ready grids, and clean energy deployment.

*ii. Global Cooling Pledge.* This document focuses on collaboration towards reducing sectorial emissions by at least 68% relative to 2022 levels by 2050.

*iii. Certification Schemes.* This document treats renewable energy and low-carbon hydrogen and hydrogen derivatives.

*iv. Oil and Gas Decarbonization Charter.* The document commits to achieving net-zero operations by 2050, ending routine flaring by 2030, and achieving near-zero upstream methane emissions.

*v. Industrial Transition Accelerator.* This document regulates decarbonization across heavy-emitting sectors, including energy, industry, and transportation. In the industry segment, the document aims to focus on cement and concrete by sharing best practices, working on joint policies and standards, and supporting innovation from the circular economy area (carbon capture and storage, for instance).

A rapid green transition is key to keeping the goal of 1.5/2.0 degrees Celsius within reach. In this process, green energy transition capable of maintaining energy security and new “go green” industrialization play a central role.

## Conclusion

From the Great Recession of 2008 until today, despite the combined effect of the last two industrial revolutions (3IR and 4IR), humanity has lived in an era of wasted opportunities. The reason for this lies in a fractured socio-economic system and an enduring permacrisis as its consequence, both generating and deepening structural imbalances and anomalies of the economic system and continuously ruining the prospects for sustainable development. The

previous inconveniences are also ruining the economic system's capacity to respond to external asymmetric shocks and black swan events that continue to intensify.

According to the World Bank forecasts [67], the global economy will grow by 2.4% in 2024 and 2.7% in 2025, which is much slower than the growth experienced in the beginning of economic neoliberalism more than four decades ago. Efforts to restore sustainability thresholds face an insurmountable challenge. From the perspective of developing economies, if global growth fails to meet mid-single-digit growth (CAGR = 5-6%), catching up with the developed world seems almost impossible. Moreover, for some parts of the developing world, GDP growth rates in 2024 are anticipated to be lower than those recorded at the onset of the COVID-19 pandemic. Fast-growing emerging economies are in a more vulnerable situation due to overheating and a disinflation threat. Anyhow, global feeble growth threatens to undercut many of the sustainable macroeconomic goals outlined by the UN 17 SDGs, making it harder to finance the green transition, and implement sustainability-related metrics (ESG) within a comprehensive measurement system of microeconomic performance.

In the new normal two major challenges facing humankind are unsustainable economic development and climate change. The green transition offers a solution to both challenges simultaneously. By prioritizing the respect of planetary boundaries and the laws of nature, the green transition fosters cooperation for a shared tomorrow, establishing a new economic equilibrium between the factor prices and factor incomes on a global level.

Market fundamentalism has created a fractured, highly fluid system where different stakeholders (national economies, big tech, big corporations, big banks, etc.) compete with different values, objectives, measures, and strategies. Such a context could not support sustainable economic development. Context changes everything. In the search for a solution, returning to economic neoliberalism as a theoretical background of the pre-permacrisis era is not an option. To create new context, we need a paradigm change. From an economic perspective, the key outcomes of rebuilding trust could be a circular model of growth and a heterodox economic policy platform capable of

finding solutions for the major problems of economic neoliberalism.

Escaping the new normal and creating a better normal requires a new context that stimulates creative thinking, capable of incorporating the latest advances from science and technology to address at least three global imperatives. First, addressing the climate and nature crises. Second, fulfilling broken promises of the Paris Agreement regarding the lasting protection of the planet and its natural resources. Third, reversing the trend from new globalization, or forced deglobalization, to the globalization as we once knew it.

Despite a universal diagnosis of root causes and universal targets, the realization of necessary achievements at the individual country level is unlikely to occur solely through the implementation of a universal blueprint. Instead, individual countries, including Serbia, will need to craft a specific green transition action plan. This plan will enable Serbia to navigate a sustainable future, seeking a new equilibrium by minimizing trade-offs and maximizing synergies from new resource allocation what seems to be the failure of the orthodox neoliberal approach.

The design of a new economic framework entails moving beyond conventional anti-crisis measures towards actionable structural reforms and translating viable ideas into tangible actions. The ultimate goal is to build a more promising setup (or a better normal) inspired by sustainable and inclusive development for all. Rather than saving the neoliberal variant of capitalism at any cost, even through geopolitics, the mission of the green transition is to save the economy, society, and the planet as a whole, as well as to ensure the development of a more progressive model of capitalism. By transforming the socio-economic system, the green transition aims to secure human existence.

Despite relatively good strategic fit with the situation, Serbia's economy should follow the green transition path. Prosperous national economies are not those that developed in a sustainable way simply by growing with extraordinary growth rates at the expense of global commons. Wealthy nations are sustainable because their economies have grown steadily through innovative practices over an extended period. They achieve high-quality growth, one that respects planetary boundaries, the laws of nature,

the health of living organisms, and human well-being. Achieving this should be a collective responsibility for the common future of all nations, and Serbia is no exception to this rule. Such an orientation could be a key leverage for fostering sustainable relationships with the EU as an environment we are approaching to.

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