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Preserving economic and financial stability in an emerging market country during the pandemic crisis: Croatia's experience

MISLAV BRKIĆ, univ. spec. oec.*

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Abstract

The Croatian authorities' response to the pandemic crisis was considerably greater in size and scope than their reaction to the 2008-09 global financial crisis. This paper aims to identify the main factors that allowed the authorities to respond so ambitiously this time. In particular, the paper explains how solid macroeconomic fundamentals backed by a steady inflow of EU funds enabled the Croatian government and the Croatian National Bank to take bold steps to restore stability in key financial markets and provide liquidity support to the economy without compromising currency stability and fiscal sustainability. In addition, as an EU member state, Croatia was in a position to benefit from a currency swap line with the ECB, as well as from the EU's common recovery facility, which reduced concerns about the pandemic-induced rise in government debt. Finally, the paper identifies some positive external factors that were beneficial for all emerging market economies.

Keywords: monetary policy, fiscal policy, COVID-19, international reserves, financial crisis

1 INTRODUCTION

The outbreak of the COVID-19 pandemic in March 2020 was a massive shock for the entire global economy. It triggered a recession that was sharp and brief like no other before. Unlike most other recessions, this one was not caused by excessive borrowing and spending. Since it was triggered by a genuinely external shock, this time the blame could not be placed upon irresponsible governments or financial institutions.

The virus did not cause such a deep economic decline by itself. It was the virus containment measures that triggered the recession. The worldwide introduction of severe mobility restrictions, which were needed to contain the spread of the virus and to buy time to develop medical solutions to it, led to a virtual standstill of activity in contact-intensive sectors. Apart from producing a sharp drop in domestic demand, lockdown restrictions caused significant disruptions in cross-border trade and travel, which resulted in a compression of foreign demand. The extent of economic decline in a particular country was proportional to the severity of the health emergency as measured by infection rates, the share of contact-intensive sectors in gross value added and the country's reliance on tourism as a source of revenue (IMF, 2021).

Although Croatia was not among the worst performing EU member states according to the infection rates and death toll in the first wave of the pandemic, it reported one of the largest declines in real GDP in 2020, as its tourism-dependent economy suffered heavily due to strict bans on international travel. However, despite the unprecedented contraction of domestic and external demand and the consequent strong deterioration in public finances, Croatia managed to maintain financial and economic stability throughout the crisis, as evidenced by a stable exchange rate, low government bond yields, and a low unemployment rate.

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The objective of this paper is to identify the main factors that helped Croatia contain the economic fallout of the pandemic. In particular, it explains how sound initial macroeconomic fundamentals enabled the Croatian authorities to deploy a wide range of measures – including some that had never been used before – to restore stability in key financial markets and support households and corporations negatively affected by the pandemic crisis. The sound fundamentals and the fact that Croatia was on a firm path towards ERM II made it possible for the Croatian National Bank to negotiate a precautionary currency swap line with the ECB in April 2020 worth 2 billion euro. Obtaining the swap line, which contributed significantly to efforts to preserve the stability of the kuna, would not have been possible if Croatia had shown poor economic performance or if it had not made progress towards euro adoption. Furthermore, as a member state of the EU, Croatia enjoyed a sizeable net inflow of EU funds both before and during the pandemic crisis, allowing it to maintain a strong balance of payments position in 2020 despite the sharp drop in tourism revenues that year. Finally, the Croatian authorities' ability to provide economic stimulus was further boosted by the establishment of an EU recovery facility – the Next Generation EU instrument. By improving the medium-term growth prospects of EU member states, the creation of the recovery facility helped ease investor concerns about the sustainability of their elevated debt levels.

Some of the factors that enabled Croatia to cope well with the COVID-19 turmoil were relevant for other emerging market economies as well. For example, the swift policy response by central banks and governments of advanced countries helped stem the panic and re-establish favourable liquidity conditions in international financial markets, which made it easier for emerging market countries to implement their own crisis response packages. In that regard, the experience with unconventional monetary policy measures gained during the global financial crisis of 2008-09 proved valuable, as advanced countries' central banks were able to reintroduce asset purchase programs shortly after the outbreak of the pandemic to provide relief. Interestingly, asset purchase programs were successfully implemented for the first time in a number of emerging market economies, including Croatia. Furthermore, the peculiar nature of this crisis – which was caused by a temporary health shock rather than by irresponsible behaviour of individual countries – seems to have made rating agencies and financial investors more tolerant of the large pandemic-related fiscal deficits and rising debt levels. In particular, the number of sovereign rating downgrades, especially in Europe, was significantly lower during the pandemic crisis than is usually the case in severe crises.

The paper is structured as follows. The next chapter provides a brief overview of the pandemic crisis and the global economic policy response to it, with particular emphasis on measures taken by central banks and governments of major advanced countries. Chapter 3 documents the comprehensive fiscal, monetary and prudential policy measures adopted by the Croatian government and the Croatian National Bank to curb the economic costs of the pandemic, while chapter 4

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identifies factors, both country-specific and external, that enabled the Croatian authorities to respond to the pandemic crisis in such an ambitious way. Chapter 5 concludes the paper.

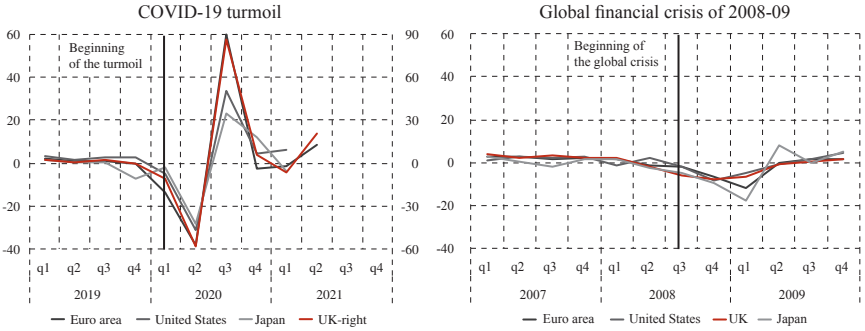
2 COVID-19 TURMOIL AND THE ECONOMIC POLICY RESPONSE WORLDWIDE

2.1 COVID-19 TURMOIL IN A HISTORICAL CONTEXT

The recession triggered by the COVID-19 pandemic was unprecedented in many ways. It was a brief, severe and highly synchronized contraction of economic activity at the global level. At the peak of the crisis, in the second quarter of 2020, most countries registered record-high quarterly drops in economic activity. This was in contrast with the usual pattern of recessions. Global recessions are never so severe at the beginning or so synchronized across countries. They typically evolve more gradually and affect different countries to different degrees. Figure 1 compares the annualized quarterly GDP growth rates of the main advanced economies during the two recent crises – the COVID-19 turmoil and the global financial crisis of 2008-09. While the global financial crisis was a severe recession – at the time, the strongest since the Great Depression – it was much milder than the COVID-19 turmoil in terms of the maximum quarterly decline in GDP. The reason behind such a harsh start to the COVID-19 crisis was the instant collapse of personal consumption and international trade caused by the introduction of the lockdown. As soon as the lockdown restrictions were eased, economic activity bounced back, also at unprecedented rates (figure 1).

Figure 1

Annualized quarterly real GDP growth rates in major advanced countries (in percent)



Sources: IMF, Federal Reserve Bank of St. Louis, Eurostat.

Another distinctive feature of this global recession is that it was intentional – governments all over the world deliberately closed parts of their economies to slow down the spread of the virus and save lives. In other words, the recession was a side effect of a shock that was triggered outside of the economic system. By contrast, a typical recession is endogenous, in the sense that it emerges from vulnerabilities that have built up within the economic and financial system. Three well-known episodes of global recession illustrate this point. Specifically, the beginning of the

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Great Depression of 1929-1933 was associated with excessive speculation in the US in the run-up to the stock market crash in October 1929 (Friedman and Schwartz, 1963; Romer, 1993). On the other hand, at the root of the 1981-82 global recession was high inflation in advanced countries coupled with elevated external vulnerabilities in emerging market economies. As the Federal Reserve and other advanced countries' central banks tightened monetary policy to curb inflation, global interest rates rose significantly, causing a sharp economic slowdown and making it more difficult for emerging market countries to service their U.S. dollar-denominated debts (Kose, Sugawara and Terrones, 2020). Finally, the global financial crisis of 2008-09 was the result of an interaction between excessive private sector borrowing and a rapid accumulation of risks in the financial system in the context of a widespread use of complex credit derivatives.

2.2 ECONOMIC POLICY RESPONSE TO THE COVID-19 CRISIS

While its origins were different, the COVID-19 crisis threatened to produce economic damage of a magnitude similar to that produced by other severe global recessions. In particular, the collapse in aggregate demand caused by the outbreak of the pandemic led to a strong decline in corporate profits, some firms in contact-intensive sectors such as hotels and restaurants seeing their revenues drop to zero. If the authorities had not intervened, such a liquidity shock would inevitably have caused a massive surge in corporate insolvencies and job losses with long-term negative implications for growth. This, in turn, would have negatively affected banks' balance sheets, as an increasing share of loans to households and corporations would have become nonperforming. The natural reaction of banks to rising defaults would have made things even worse – by cutting down on new lending with an aim to reduce exposure to credit risk and recover their capital ratios, they would have precipitated a further decline in economic activity. In short, the outbreak of the pandemic threatened to set off a severe and self-sustaining recessionary spiral with tremendous economic and social costs.

In order to avoid such an adverse scenario, policymakers in advanced countries intervened promptly and decisively. While these measures could not prevent a recession from occurring in the first place, they were effective in limiting its long-term damage and in providing conditions for a swift recovery once the health crisis subsided. The main objective was to enable firms coping with a sudden drop in revenues to survive the liquidity shock and retain their employees. This was crucial to preserve the productive capacities of the economy. To accomplish this primary objective, authorities resorted to a wide range of fiscal, monetary, and prudential measures.

2.2.1 FISCAL POLICY RESPONSE

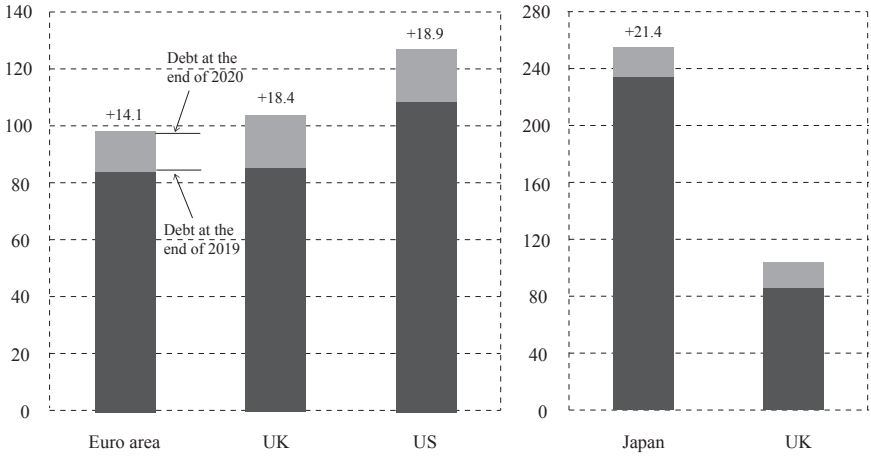
On the fiscal front, governments implemented significant economic relief programs. Due to the unprecedented severity of the economic contraction and the specific type of shock that caused it, the relief programs were understandably much larger than in previous crisis episodes. In a number of developing and emerging market countries, the costs of the pandemic exceeded the fiscal capacity of the government. By the end

of 2020, around 80 countries had requested financial assistance from the IMF to cover the costs of economic relief measures and increased health-related expenditure (IMF, 2020c). In the EU, discretionary fiscal support packages implemented by national governments during the first year of the pandemic were several times larger than those implemented in 2009, when the European economy was struggling with the fallout of the global financial crisis (Haroutunian, Osterloh and Sławińska, 2021). Moreover, confronted with the threat of a prolonged economic downturn, EU leaders agreed to implement for the first time in history a common fiscal response package – the Next Generation EU program worth more than 800 billion euro financed by a multi-year EU bond issuance program – to facilitate economic recovery after the pandemic (European Commission, 2020a).

Fiscal support, as a rule, consisted of a series of instruments aimed at providing comprehensive relief to the most affected parts of the economy (OECD, 2020). Most commonly used were part-time work schemes and wage subsidies, tax deferrals, loans granted by state development banks, and government guarantees, which enabled liquidity-constrained companies to obtain market funding on favourable terms. Some countries also resorted to tax relief and equity injections to support companies from vulnerable sectors more directly. Although each of these measures helps ease the liquidity constraints of companies, there is an important difference in their longer-term impact on solvency. In particular, while tax deferrals, public loans and government guarantees merely defer the burden of the crisis to a later period, wage subsidies, tax relief and equity injections constitute a permanent relief, as these funds are not expected to be repaid.

Figure 2

Increase in the government debt-to-GDP ratios, 2020 (percentage of GDP)



Sources: IMF, Eurostat.

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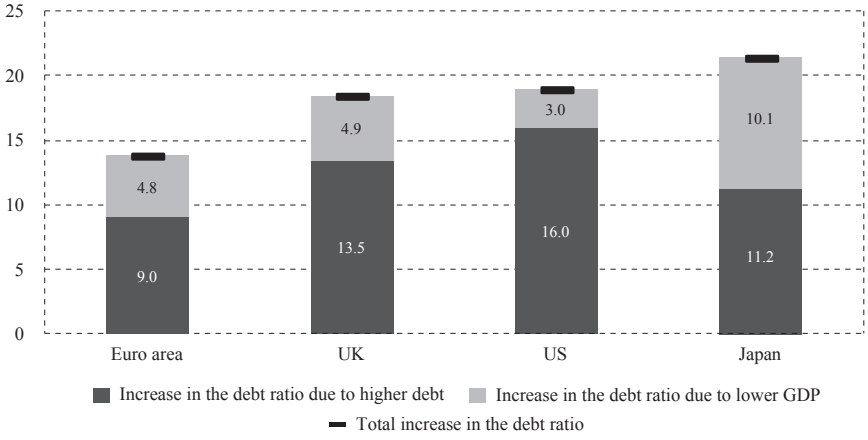
The relative weights attributed to particular fiscal instruments varied from country to country. In the United States, for example, particular emphasis was placed on improving companies' access to credit and providing direct income support to vulnerable households. In the EU, on the other hand, part-time work schemes and wage subsidies accounted for a large share of overall fiscal stimulus, especially during the first wave of the pandemic when the most severe lockdown restrictions were in place (OECD, 2020). Reliance on wage subsidies was strongest in countries where sectors heavily affected by the lockdown represent a large part of the economy, such as in tourism-dependent Mediterranean countries (ESRB, 2021).

Discretionary fiscal support measures, combined with the operation of automatic stabilizers, resulted in a substantial widening of fiscal deficits and a sharp increase in the government debt-to-GDP ratios. Figure 2 illustrates the impact of the COVID-19 pandemic on government debt in four major advanced economies. In 2020, each of these economies reported a double-digit increase in the debt ratio, ranging between 14 and 21 percentage points of GDP. It is important to note that the sharp rise in the debt ratio was not only the result of the increase in debt caused by the need to finance pandemic-induced deficits. It was also a reflection of the unprecedented contraction of nominal GDP, which serves as the denominator in calculating the debt ratio. As shown in figure 3, the decline in the denominator was responsible for a quarter of the total increase in the debt-to-GDP ratio in the UK, for more than a third in the euro area and for almost a half of the total increase in Japan. The United States was an outlier with a relatively small contribution of nominal GDP decline to the overall increase in the debt ratio, given that it managed to avoid a severe economic contraction during the whole of 2020.

Figure 3

Contributions to the total increase in the debt-to-GDP ratio in 2020 (percentage points of GDP)



Source: IMF, Eurostat.

The fact that the outbreak of the COVID-19 pandemic was a truly exogenous shock, rather than a product of macroeconomic and financial imbalances, did not protect some highly indebted advanced countries from experiencing tensions in their sovereign debt markets. In particular, in early March 2020, Italy and Spain experienced a sharp rise in government bond yields following the introduction of lockdown restrictions (Corradin, Grimm and Schwaab, 2021). These two countries were particularly vulnerable, and were therefore most penalized by the financial markets, because of their high infection rates and elevated initial levels of government debt. Market participants correctly assumed that the severe contraction of economic activity triggered by the pandemic and the fiscal response to it would cause a further significant increase in their already high government debt levels.[1]

Interestingly, during the acute phase of the market turmoil, liquidity strains were evident even in the U.S. Treasury market, which is universally regarded as the most deep and liquid market in the world and which serves as the main safe haven during financial crises. In the case of the US, the increase in yields was not caused by investor concerns regarding the sustainability of federal debt, but it was rather a reflection of liquidity disruptions that occurred in other segments of the financial market. Specifically, as money market funds faced large redemption requests that exceeded their available cash buffers, they began selling Treasuries and other high quality assets on a large scale to obtain the cash needed to meet the requests, which in turn transmitted liquidity strains to the U.S. Treasury market (Hespeler and Suntheim, 2020).

2.2.2 MONETARY POLICY RESPONSE

Central banks of advanced economies responded forcefully in March 2020 to address disruptions in sovereign debt markets and other key funding markets and in this way limit the overall economic damage of the pandemic. The approach was very similar across major central banks: all of them resorted to a wide range of tools, including policy rate cuts, enhanced liquidity provision to banks and, in some jurisdictions, to non-banks, asset purchases and forward guidance. The main idea behind these actions was to provide ample liquidity to financial markets, restore confidence, and thus enable both the public and private sector to enjoy favourable access to markets at the time when their financing needs were highest. In their response to the COVID-19 turmoil, central banks took advantage of the rich experience they had gained during the global financial crisis of 2008-09. In particular, given that asset purchase programs and enhanced liquidity provision operations had been successfully tested in the previous crisis, central banks were in operational terms prepared to launch similar programs soon after the outbreak of the pandemic. This crisis has confirmed that instruments considered unconventional in the past have become a standard part of central banks' toolkits (English, Forbes and Ubide, 2021).

[1] Indeed, by the end of 2020, Spain and Italy had seen their government debt-to-GDP ratios increase by more than 20 percentage points, reaching the very high levels of 120 and 156 percent of GDP, respectively.

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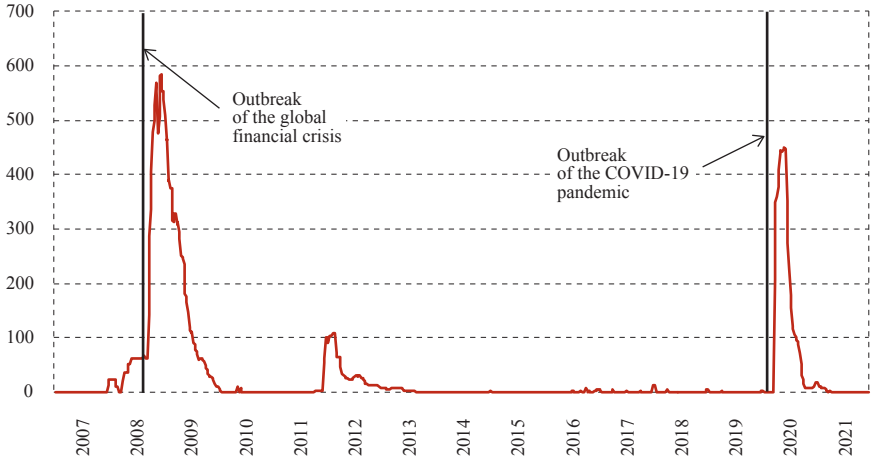
In the U.S., the Federal Reserve intervened in a similar way as in 2008. The target range for the federal funds rate was lowered by 150 basis points to zero, discount window borrowing was made more affordable, and a large-scale asset purchase program was launched with the aim of addressing disruptions in the U.S. Treasury and mortgage-backed securities markets (Clarida, Duygan-Bump and Scotti, 2021). Several other facilities that had been used extensively during the global financial crisis were reintroduced in March 2020. One of these facilities – the Primary Dealer Credit Facility – was aimed at improving the liquidity positions of primary dealers, which are key non-bank financial institutions in the U.S., while other facilities helped to ease tensions in the commercial paper market and the asset-backed securities market.

Figure 4

Federal Reserve's liquidity swaps with other central banks (USD bn)



Source: Federal Reserve Bank of St. Louis (FRED database).

Apart from making efforts to address disruptions in domestic financial markets, the Federal Reserve once again acted as the global lender of last resort. In particular, to address the shortage of U.S. dollar liquidity in international financial markets, the Federal Reserve provided ample liquidity to other major central banks through bilateral currency swap lines (figure 4). Liquidity was provided through the Federal Reserve's permanent swap lines with the ECB, the Bank of England, the Bank of Canada, the Swiss National Bank and the Bank of Japan, but also through temporary swap lines that were set up with nine other central banks, from both advanced and emerging market countries. These central banks channelled the dollar liquidity they obtained from the Federal Reserve to their domestic financial institutions that had refinancing needs in US dollars.[2]

[2] Addressing the worldwide shortage of U.S. dollar liquidity was not only important to other countries but it was also in the interest of the United States itself. When foreign financial institutions lose the ability to borrow in U.S. dollars in wholesale markets, their only remaining option to obtain dollar liquidity is to sell their dollar-denominated assets, such as U.S. Treasuries, which can create downward pressure on their prices. Therefore, by acting as the global lender of last resort in times of financial turmoil, the Federal Reserve indirectly supports the stability of the U.S. financial system.

While the general approach was very similar, there are two important differences in the Federal Reserve's response to the global financial crisis of 2008-09 and the recent COVID-19 turmoil. First, during the recent turmoil there was no need for the Federal Reserve to engage in recapitalizations of failing institutions, as none of the systemically important institutions experienced financial difficulties.[3] Their greater resilience during the COVID-19 turmoil was the outcome of comprehensive regulatory reforms that had been implemented in the aftermath of the global financial crisis, due to which major financial institutions entered this crisis better capitalized and more liquid, and much less dependent on wholesale funding sources (Financial Stability Board, 2021b). Second, as the lockdown restrictions affected the real sector more severely than the financial sector, this time the Federal Reserve also established facilities that channelled funds directly to the economy (Clarida, Duygan-Bump and Scotti, 2021). Specifically, three programs were set up through which the Federal Reserve invested directly in corporate bonds and loans, in both the primary and the secondary market.

In the euro area, the monetary policy response was equally comprehensive. While the ECB had no room for policy rate cuts, it successfully deployed all the other tools available to stem the panic. Most importantly, in March 2020, the ECB launched a massive asset purchase program – the Pandemic Emergency Purchase Program (PEPP) – which played a key role in stabilizing the euro area sovereign debt markets in the early stage of the turmoil. Under the PEPP, the ECB committed to purchase up to 750 billion euro[4] of euro area government bonds in a highly flexible manner, as there was no upper limit on the share of an individual member state's outstanding debt that could be bought within the program.[5] The announcement of the program provided an instant relief to sovereign debt markets, especially in Italy and Spain, which were particularly vulnerable at that time (Corradin, Grimm and Schwaab, 2021). Had the ECB not intervened in such a way, financial markets in the euro area would have experienced fragmentation along national lines – as happened during the European sovereign debt crisis a decade earlier – with bond yields of fiscally vulnerable member states rising to prohibitive levels. This would not only have raised serious doubts about the ability of these member states to continue servicing their large debt stocks, but it would also have made it more difficult for the ECB to run monetary policy.

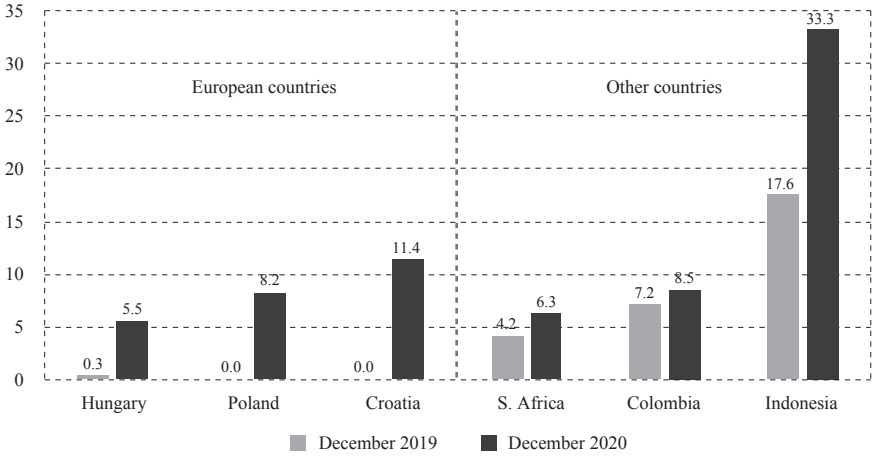
[3] By contrast, in 2008, the Federal Reserve committed substantial resources to facilitate the takeover of the failing investment bank Bear Stearns by JP Morgan and to support the recapitalization of the large insurance company AIG, which was on the brink of bankruptcy due to heavy losses on its credit default swap contracts (Mishkin, 2011).

[4] The program was later gradually scaled up to 1,850 billion euro.

[5] In contrast, under the earlier program – the Public Sector Purchase Program, which ran from 2015 to 2018 – the Eurosystem could buy only up to 33% of a member state's total outstanding debt.

Figure 5

Claims on central government as percent of total central bank assets, selected emerging market economies (percentage of total assets)



Source: IMF Monetary and Financial Statistics.

An interesting fact about the monetary policy response to the COVID-19 crisis was that even some emerging market economies launched asset purchase programs to support the stability of their sovereign debt markets. Previously, it was believed that unconventional monetary policy tools were available only to advanced countries' central banks, as central banks of emerging market countries lack the necessary credibility for their use. In particular, it was believed that monetary expansion associated with asset purchases would trigger inflationary expectations and currency depreciation, which in turn would offset the positive effects of asset purchases. Heavily dollarized countries were considered the least suitable to use such tools, given that they are especially vulnerable to currency depreciation. Nevertheless, during the COVID-19 turmoil, central banks of several emerging market economies successfully implemented government bond purchase programs while preserving price and exchange rate stability (Sever et al., 2020; Arena et al., 2021). As a reflection of bond purchases, claims on central government as a share of total central bank assets increased markedly in several countries (figure 5). Emerging market economies that successfully implemented asset purchase programs had one thing in common: they all had had sound initial macroeconomic fundamentals and a proven track record in maintaining low inflation. Their experience provides an important lesson for the future, as it shows that unconventional monetary policy tools can be effectively used by emerging market economies as well, provided they have the ability to maintain macroeconomic stability.

2.2.3 PRUDENTIAL POLICY RESPONSE

The crisis caused by COVID-19 required also a swift counter-cyclical response by prudential authorities. As some parts of the economy experienced a sharp drop in income due to the lockdown, the quality of banks' lending portfolios was expected

to deteriorate significantly. However, despite the expected sharp increase in non-performing loans, it was crucial for banks to keep on lending, in order to mitigate liquidity pressures in the economy. If banks had instead decided to deleverage, the resulting credit crunch would have made the recession much more severe. Encouraging banks to lend in the environment of a sharp recession and unprecedented uncertainty was challenging because it was against the basic principles of prudent risk management. Hence, prudential authorities had to take several important steps to stimulate bank lending.

First, they had to make sure that the temporary increase in non-performing loans did not produce excessive costs for the banking system. The pandemic was an external shock, so households and corporations that were affected by it were in no way responsible for the deterioration in their debt servicing capacity. In such a context, accepting a sharp temporary rise in non-performing loans without engaging in forced collection was in the best interest of both banks and their customers. In order to incentivize banks to follow a "wait and see" approach and offer moratoriums on loan repayment to crisis-affected borrowers, prudential authorities around the world temporarily relaxed the rules on loan classification (Coelho and Zamil, 2020). In particular, they issued guidelines according to which loans that became non-performing after the onset of the pandemic could still be classified as performing. Such a favourable regulatory treatment of overdue loans made it possible for banks to grant moratoriums to crisis-affected borrowers without experiencing a consequent increase in loan loss provisions. In most countries loan repayment moratoriums played a major role in providing relief to households and corporations facing cash-flow problems (Financial Stability Board, 2021a).

Second, capital and liquidity requirements were eased so that they would not represent an obstacle to continued credit provision (Financial Stability Board, 2020). In countries where the counter-cyclical capital buffer rate was above 0% before the outbreak of the pandemic, prudential authorities released the buffer altogether, thus freeing up capital for new lending. In some cases, prudential authorities went as far as reducing the structural buffers, such as the systemic risk buffer, which were originally not intended to be released in times of crisis. However, it turned out that most banks were not willing to consume the released buffers, probably due to the fear that a decline in their capital ratios would be penalized by financial markets.

Third, prudential authorities advised banks to retain earnings instead of paying out dividends to their shareholders. Given the high uncertainty associated with the future course of the pandemic and the pace of economic recovery, keeping banks well capitalized was important to ensure that they had sufficient capacity to absorb losses and provide credit to the economy. Advising banks to retain earnings was also justified because banks were large beneficiaries of fiscal and other policy support programs: fiscal measures such as wage subsidies, tax deferrals and loan guarantees helped keep the economy afloat and in this way mitigated the deterioration in banks' loan portfolios. Furthermore, the decision of prudential authorities to relax the loan

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classification rules prevented a large increase in the cost of provisions for loans that had already become non-performing. In such an environment, where banks' profits were directly and indirectly supported by various policy measures, it would have been unreasonable to allow them to be distributed to shareholders. Restrictions on dividend payments were eventually lifted in the second part of 2021, as the economic recovery gained momentum and uncertainty subsided.

To sum up, the crisis brought about by the COVID-19 pandemic prompted an ambitious and comprehensive response by fiscal, monetary and prudential authorities across the globe. The measures taken achieved their goals: the stability of financial markets was quickly restored, while corporate insolvencies and employment losses were contained, which set the stage for a strong economic rebound after the worst phase of the pandemic had passed. However, the capacity to provide economic relief varied among countries depending on the health of their macro-financial fundamentals. The better the fundamentals were, the more able the authorities were to support the economy and the financial system. The next two chapters deal particularly with the policy response in Croatia. In particular, they illustrate how sound initial macro-financial fundamentals, EU membership and a clear perspective to introduce the euro in the near future enabled the Croatian authorities to implement – by international standards – a very generous economic relief program.

3 ECONOMIC POLICY RESPONSE IN CROATIA

The Croatian authorities were confronted with multiple challenges following the outbreak of the pandemic. As in virtually all other countries, the spread of the virus required the introduction of severe restrictions to save lives and alleviate the pressure on the healthcare system. The lockdown and the high uncertainty over its duration led to a significant deterioration in the outlook for economic growth and public finances. The negative impact on the economic outlook was more pronounced than in most other EU member states given Croatia's heavy reliance on tourism, which was a particularly vulnerable sector in the early stages of the pandemic. In its economic forecast published in May 2020, the European Commission indicated that it expected Croatia to record the fourth largest decline in real GDP in 2020, just behind its Mediterranean peers – Greece, Italy and Spain (European Commission, 2020b).

3.1 EFFORTS TO PRESERVE FINANCIAL STABILITY

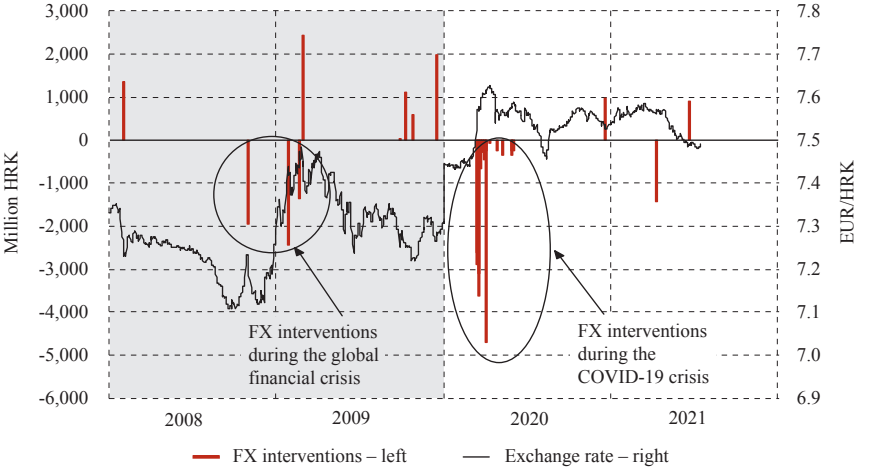
The deteriorating economic outlook weighed on the financial markets, particularly the foreign exchange market and the sovereign debt market. In the foreign exchange market, the Croatian kuna was exposed to strong depreciation pressures in March and April 2020 due to worries that the lockdown would severely affect the services-oriented Croatian economy (CNB, 2021a). In particular, some financial institutions had to close their short foreign exchange positions as expectations about the tourist season deteriorated. As it was clear that the tourism sector would underperform in 2020 because of travel restrictions, financial institutions correctly assumed that the kuna would not exhibit its typical seasonal appreciation in

the summer months. In addition, pressures on the currency were a side effect of increased outflows from investment funds. To avoid potential losses, many investors decided to sell their fund shares and put their money instead in much safer foreign currency deposits with banks, which contributed to depreciation pressures. Liquidity disturbances in the investment fund sector affected not only the foreign exchange market, but also the sovereign debt market. Specifically, in order to obtain the cash needed to meet redemption requests, investment funds started selling government bonds on a large scale, thus exerting downward pressure on their prices (CNB, 2021a).

In such a challenging environment, the authorities responded ambitiously by deploying a range of tools, some of which had never been used before. The Croatian National Bank played a key role in addressing the turmoil on the financial market. In doing so, the central bank found itself in a difficult position, because it had to simultaneously manage disruptions that occurred in different market segments. In order to counter depreciation pressures on the kuna, the central bank intervened strongly in the foreign exchange market by selling a total of 2.7 billion euro of its international reserves, which was equal to 5.5 percent of GDP. The interventions were larger than those carried out during the global financial crisis when similar tensions arose in the foreign exchange market[6] (figure 6).

Figure 6

FX interventions during the global financial crisis and the COVID-19 pandemic



Source: Croatian National Bank.

[6] The total amount of liquidity released through foreign exchange interventions in late 2008 and early 2009 was 0.9 billion euro. However, it should be borne in mind that at the height of the global financial crisis, the Croatian National Bank used other instruments in addition to foreign exchange interventions to provide the financial system with much-needed foreign currency liquidity (Galac, 2010). In particular, the central bank abolished the marginal reserve requirement, reduced the minimum required foreign currency claims, and reduced and adjusted the general reserve requirement, thus releasing additional 3.6 billion euro into the banking system.

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The Croatian National Bank's strong focus on exchange rate stability in times of crisis is necessary given that a stable currency is a prerequisite for macroeconomic stability in the heavily euroized Croatian economy. Specifically, if the kuna had been allowed to depreciate in spring 2020, this would have made it more expensive for the government and other sectors to service their foreign currency-indexed liabilities, thus aggravating the decline in disposable incomes. Moreover, risks in the banking system would have materialized: some foreign currency loans would have become non-performing due to the inability of borrowers to meet higher monthly instalments, while the general drop in confidence would have prompted many depositors either to convert their kuna deposits into foreign currency deposits or to withdraw their deposits from the banking system. Finally, a depreciation of the kuna would have caused the country's risk premium to increase, which would have worsened the government's ability to borrow in the international financial markets. All this would have made the pandemic-induced crisis much more severe and costly.

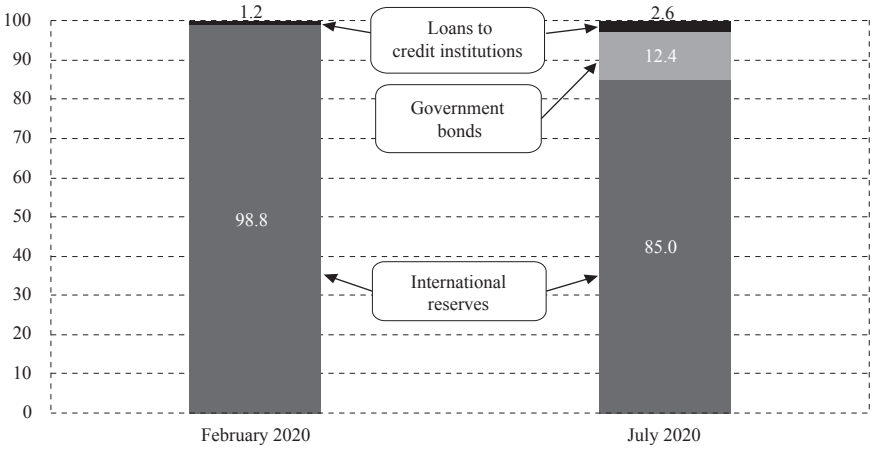
Apart from intervening in the foreign exchange market, the Croatian National Bank took decisive steps to restore stability in the sovereign debt market. In line with actions taken by the ECB and other major central banks at the time, the Croatian National Bank acted as a buyer of last resort to prevent interest rates on government bonds from soaring (CNB, 2021a; Arena et al., 2021). As mentioned above, liquidity strains in the sovereign debt market arose immediately after the outbreak of the pandemic when investment funds, confronted with substantial outflows, began liquidating their positions in government securities. Given that tensions in the sovereign debt market were caused by a temporary imbalance between demand and supply, rather than by concerns about fiscal sustainability, the central bank's decision to perform the role of buyer of last resort was justified and, as it turned out later, highly effective. However, launching a government bond purchase program in March 2020 was a delicate decision for the central bank, as such transactions had never been tested in Croatia before. In particular, there was a risk that purchases of domestic currency-denominated government bonds could feed depreciation expectations and thus undermine efforts to preserve the stability of the kuna.

To enable the program to have a meaningful impact, the central bank first had to expand the list of eligible counterparties to allow the non-bank financial institutions – investment funds, pension funds and insurance companies – that held a large share of outstanding government bonds to participate in the auctions. From March to June 2020, five auctions were held at which the Croatian National Bank purchased government bonds with a total market value of 20.3 billion kuna, or 5.5 percent of GDP. The implementation of the bond purchase program altered the composition of the central bank's balance sheet (figure 7). In February 2020, before bond purchases were launched, the central bank's assets were almost entirely composed of international reserves. By July, however, the share of international reserves had dropped to 85%, while government bond holdings had reached 12% of the total assets. This was the result of both the reduction of reserves due to foreign exchange interventions

and the creation of a large government bond portfolio under the bond purchase program. Loans to credit institutions as a share of total central bank's assets had increased as well, mostly due to a large structural repo operation carried out in March to support favourable liquidity conditions.

Figure 7

Composition of the Croatian National Bank's assets (percentage of total)



Source: Croatian National Bank.

The Croatian National Bank's actions proved to be sufficient to restore stability in the foreign exchange market and the sovereign debt market (figures 8 and 9). The liquidity support provided by the central bank to stabilize these two markets was abundant – foreign exchange interventions and bond purchases combined amounted to 11 percent of GDP. Half of the total effort was financed by international reserves. As already mentioned, the total amount of foreign exchange sold to banks to curb depreciation pressures was 2.7 billion euro, which was equal to 15 percent of net international reserves. Despite this sharp decline, reserves remained sufficient according to all reserve adequacy indicators (Lukinić Čardić, 2020). On the other hand, bond purchases were financed by money creation, as the central bank bought exclusively government bonds denominated in domestic currency. However, the fact that bond purchases were financed by printing money does not mean that the capacity of the Croatian National Bank to support the sovereign debt market was unlimited. Had the volume of bond purchases become too large, this could have triggered speculation against the currency, with negative implications for the financial system and the economy. Advanced countries' central banks, such as the Federal Reserve and the ECB, do not face such limitations when they intervene in their sovereign debt markets (Brkić, 2021).

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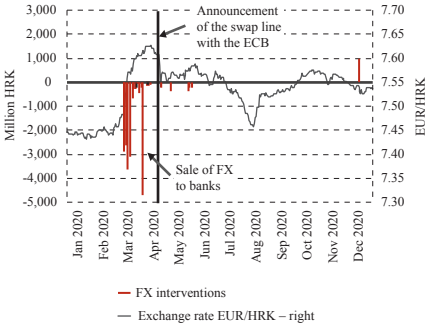
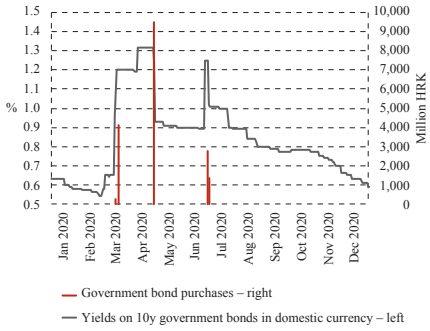
FIGURE 8
Nominal exchange rate and FX interventions



Source: Croatian National Bank.

FIGURE 9
Government bond yields and bond purchases



Source: Croatian National Bank, Eurostat.

The credibility of the central bank's response to the COVID-19 crisis was enhanced by the signing of a precautionary swap line with the ECB in mid-April 2020. The swap line enabled the Croatian National Bank to obtain, if needed, up to 2 billion euro from the ECB in exchange for an equivalent amount of the Croatian kuna. Gaining access to the ECB's liquidity was very valuable at the time given the loss of reserves that had been sustained in the first weeks of the pandemic. Although the possibility of obtaining euro liquidity at the ECB was never used, the agreement on the swap line had a major positive impact on financial stability (CNB, 2021a). It sent a signal to the markets that the central bank had additional firepower at its disposal – on top of international reserves – to support the domestic currency and financial stability in general. The announcement of the swap line therefore contributed to the stabilization of the foreign exchange market in the second half of April (figure 8).

3.2 SUPPORT PROVIDED TO THE REAL ECONOMY

While monetary policy tools were applied to restore stability in key financial markets, the main objective of fiscal policy and prudential policy was to improve liquidity positions of businesses and households. In particular, the government adopted a sizeable fiscal stimulus package, while the central bank relaxed the loan classification rules, encouraging banks to offer moratoriums on loan repayments to distressed borrowers. The fiscal response to the COVID-19 crisis cannot be viewed in complete isolation from monetary policy actions. Specifically, had the central bank failed to curb tensions in the foreign exchange and sovereign debt markets, the government probably would not have been able to implement a strong fiscal stimulus without resorting to international financial assistance. In other words, a successful monetary policy response was a necessary precondition for an effective fiscal policy response. As shown in the previous chapter, the case in the euro area was the same: without a massive intervention by the ECB, some member states would have experienced a sharp increase in borrowing costs, which would have made it more difficult for them to cope with the large fiscal burden of the pandemic.

The fiscal stimulus package was large by international standards. Its size was justified given Croatia's strong reliance on services, particularly on the tourism

sector, which experienced a virtual standstill following the introduction of the lockdown. In addition, the large fiscal effort was motivated by the authorities' desire to prevent the pandemic crisis from turning into another protracted recession with massive job losses, such as the one that had occurred in 2009-2014. The fiscal stimulus, as in other EU member states, consisted of a large number of measures that were designed to help businesses – and, indirectly, households – overcome the liquidity squeeze caused by the lockdown. For example, businesses that had suffered a sharp drop in revenues were eligible for wage subsidies so that they could retain their employees, and were allowed to postpone the payment of taxes and social security contributions falling due during the lockdown (Government of the Republic of Croatia, 2021). Significant relief for businesses also resulted from the adjustment in the value added tax system, as companies were no longer obliged to pay VAT immediately after the invoice was issued, but after the customer paid the invoice. The government also made steps to improve companies' access to finance by issuing state guarantees and boosting the lending capacity of the Croatian Bank for Reconstruction and Development (HBOR) and the Croatian Agency for SMEs, Innovation and Investments (HAMAG-BICRO).

It is important to note that the composition of the fiscal stimulus package was not constant throughout the crisis. As time went on, the government fine-tuned some of the measures introduced previously to better respond to the needs of the beneficiaries. In particular, the first package of support measures announced in March 2020 included a tax deferral scheme, which was meant to be a key measure to alleviate liquidity difficulties in the corporate sector. In this way, companies affected by the lockdown were allowed to postpone the payment of direct taxes and social security contributions for the period when they were closed or operating at reduced capacity. However, as early as the following month, the government adopted a second fiscal support package, under which the tax deferral scheme was effectively replaced by tax relief. Specifically, lockdown-affected companies were exempted – partially or completely, depending on the size of the company and the severity of the fall in revenue it had suffered – from the obligation to pay taxes and contributions for the period when they were operating at reduced capacity. This was a very generous measure, as it constituted a permanent (solvency) support, in contrast to the tax deferral scheme, which would merely delay tax payments to a later date and thus provide only temporary (liquidity) support. Only a few EU member states decided to grant tax relief to businesses as part of their fiscal support programs, and Croatia stood out among them in terms of the total amount of tax relief granted (ESRB, 2021).

Of the many fiscal measures implemented, wage subsidies and tax relief had the strongest impact. In the period March-May 2020, when the first lockdown was in place, around 100,000 companies employing more than half a million workers, or 30 percent of total employment, were beneficiaries of wage subsidies (figure 10). The take-up of subsidies later decreased as the first wave waned and the restrictions were eased. The outbreak of the second wave of the pandemic in autumn 2020

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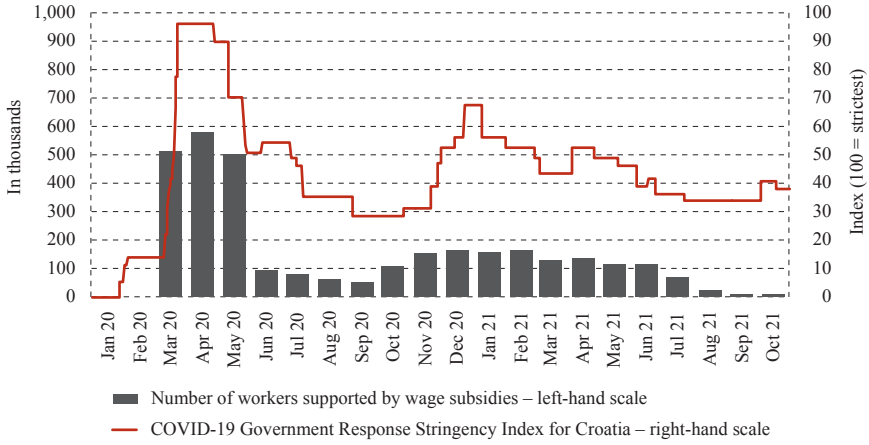
brought another round of restrictions, and thus a renewed interest in wage subsidies. However, as the restrictions imposed in the second and subsequent waves were less severe than those introduced in the first wave, the number of workers covered by wage subsidies never again reached the levels recorded in spring 2020. Although wage subsidies generated substantial fiscal costs[7] – close to 3 percent of GDP – their introduction was highly appropriate and justified as they shielded a large percentage of the workforce from losing their jobs. There is no doubt that wage subsidies were the main reason why the pandemic crisis, despite triggering a sharp recession, had a relatively mild impact on the labour market. The second key measure, tax relief, was granted to as many as 130,000 companies. The total amount of tax relief granted was lower than the total amount of wage subsidies, but still substantial – by April 2021, taxes and contributions written-off had reached 1.1 percent of GDP (Government of the Republic of Croatia, 2021).

Figure 10

Use of wage subsidies in Croatia during the pandemic



Sources: Croatian Employment Service (HZZ), Hale et al. (2020).

In the area of prudential policy, the Croatian National Bank took the necessary steps to facilitate the use of moratoriums on loan repayments. As explained in the previous chapter, given the specific nature of the pandemic crisis, it was reasonable for banks to be patient with clients whose debt servicing capacity was temporarily reduced due to cash-flow problems caused by the lockdown. To encourage banks to offer moratoriums to such clients, the central bank relaxed the loan classification rules, allowing banks to treat loans that had turned non-performing due to the pandemic as performing loans regardless of the temporary deterioration in their quality. Specifically, clients who had been classified as "A clients" at the end

[7] According to the Croatian Employment Service, the total fiscal cost of job preservation measures implemented from the outbreak of the pandemic until October 2021 amounted to 11.8 billion kuna, or 2.9 percent of 2019 GDP.

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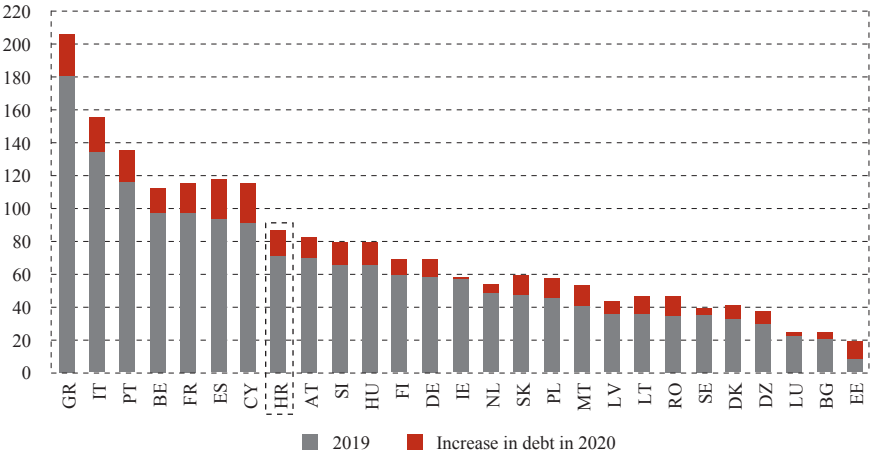
of 2019 could still be classified as "A clients" even if they failed to meet their instalments for three consecutive months starting from April 2020. This adjustment was critical, as it enabled banks to grant loan repayment moratoriums to distressed borrowers without being required to set aside provisions for such loans. Given such a favourable regulatory treatment of moratoriums, banks were willing to grant moratoriums to virtually all borrowers who applied for them. As a result, a large number of borrowers experiencing cash-flow problems made use of this possibility during the pandemic crisis. By September 2020, the total value of loans under moratoriums had reached 14.9 percent of GDP[8] (CNB, 2021a). The take-up was higher among companies than in the household sector. While more than a quarter of total corporate loans were covered by moratoriums, the same was the case with less than 10 percent of total loans to households. When looking at individual business sectors, it is not surprising that companies from the accommodation and food services sector relied the most on moratoriums – repayment of about 40 percent of their total debt to banks was either suspended or postponed (CNB, 2021b).

Figure 11

Government debt in EU member states (percentage of GDP)



Source: Eurostat.

It is safe to say that the above-mentioned fiscal and prudential measures delivered on their objectives. By preventing massive job losses and corporate bankruptcies and by mitigating the fall in disposable incomes, policy support measures helped preserve the foundations for a strong economic rebound that started as soon as the restrictions were eased. However, the generous policy response was anything but a free lunch. As in other EU member states, it came at the cost of a significant increase in government indebtedness (figure 11). By the end of 2020, the government debt-to-GDP ratio had reached 87 percent, which was 16 p.p. higher than a year earlier.

[8] The positive impact of moratoriums on liquidity was, of course, much less than 14.9 percent of GDP because that figure reflects the total value of loans under moratoriums rather than the value of monthly loan instalments that were delayed due to moratoriums.

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This effectively offset the entire progress in fiscal adjustment that had been made since 2015. Yet, despite a significant deterioration in fiscal indicators, Croatia maintained its investment-grade credit rating and enjoyed favourable financing costs throughout the pandemic. This suggests that there must have been some factors at play that helped Croatia remain resilient and credible in the face of the pandemic. These factors are identified and discussed in the next chapter.

4 HOW CROATIA MANAGED TO IMPLEMENT SUCH A STRONG POLICY RESPONSE

The economic relief program implemented in Croatia after the outbreak of the COVID-19 pandemic was considerably larger than that employed during the 2008-09 global financial crisis. At the height of the global financial crisis, Croatia did not have the capacity for a discretionary fiscal stimulus. In fact, confronted with a sudden deterioration in financing conditions, the government was forced to engage in pro-cyclical fiscal tightening in order to reduce the budget deficit and restore investor confidence. The tight fiscal policy, predictably, was an additional drag on domestic demand, contributing to a deep recession. In such an environment, monetary policy was "the only game in town" at that time. In late 2008 and early 2009, the Croatian National Bank released substantial buffers of foreign currency liquidity into the banking system to alleviate pressures on the currency, preserve financial stability and allow the government to refinance its maturing debts (Galac, 2010).

The overall policy mix was much more supportive during the COVID-19 crisis. Instead of becoming tighter as in the previous crisis, fiscal policy took a highly expansionary stance which, as explained above, was key to mitigating the economic fallout of the pandemic. Monetary policy responded even more forcefully than during the global financial crisis. The central bank not only provided the banking system with ample domestic and foreign currency liquidity, but it also successfully implemented a government bond purchase program for the first time ever.

In the remainder of this chapter, three groups of factors that enabled the Croatian authorities to provide such a strong economic stimulus are identified. First, sound initial macroeconomic fundamentals – with healthy public finances and a comfortable balance of payments position – allowed the authorities to temporarily step up public spending and release part of foreign exchange reserves without jeopardizing fiscal sustainability and the credibility of the currency peg to the euro. Second, the authorities' capacity to provide economic stimulus was further boosted by Croatia's EU membership. In particular, a steady inflow of EU funds ensured that the balance of payments position remained stable despite the sharp drop in exports, while the announcement of a future common EU recovery fund reduced concerns regarding the sustainability of the larger government debt. Furthermore, as Croatia was at the time close to joining ERM II, the Croatian National Bank managed to negotiate in April 2020 a currency swap line with the ECB, which had a major calming effect on the foreign exchange market in Croatia. Third, the fact that governments and central banks of the largest economies, such as the U.S. and

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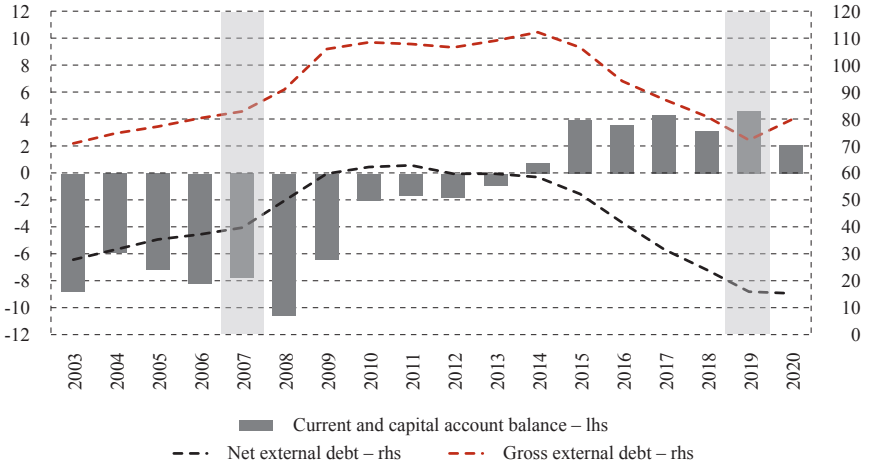
the euro area, managed to restore confidence in global financial markets very soon after the outbreak of the pandemic made it easier for emerging market countries such as Croatia to carry out their own stimulus programs.

4.1 SOUND INITIAL MACROECONOMIC FUNDAMENTALS

Croatia showed solid macroeconomic performance in the years leading up to the pandemic. The economy had been expanding continuously since 2015 on account of robust domestic demand and exports, particularly exports of services. In 2019, foreign exchange revenues of the tourism sector alone reached a record-high level of 10.5 billion euro, which was equal to 19 percent of GDP. Due to strong exports and a steady net inflow of transfers from the EU budget, Croatia recorded sizeable current and capital account surpluses (figure 12). These favourable "flow" indicators were mirrored by a substantial reduction in "stock" imbalances: between 2015 and 2019, gross and net external debt declined by 34 and 36 percentage points of GDP, respectively. The persistent surpluses in the current and capital account supported a rapid accumulation of foreign exchange reserves. By the end of 2019, gross reserves had reached a comfortable level of 18.6 billion euro, or 33 percent of GDP. As a result, on the eve of the pandemic, Croatia was able to satisfy all relevant benchmarks of reserve adequacy by a large margin (IMF, 2020b).

Figure 12

External vulnerability indicators in the period 2003-2020 (percentage of GDP)



Note: The shaded areas represent the year before the onset of the global financial crisis and the year before the outbreak of the COVID-19 pandemic.

Source: Eurostat.

In contrast, as shown in figure 12, Croatia's external fundamentals were very weak in 2007, the year preceding the global financial crisis. In the pre-crisis period, Croatia was going through unsustainable economic expansion fuelled by external borrowing, which was reflected in a rapidly increasing debt and persistent current account deficits (Brkić and Šabić, 2014). Pronounced external imbalances

and excessive reliance on capital inflows had made the Croatian economy vulnerable to external shocks. This is the main reason why, after being hit by the global financial crisis, Croatia ended up in a long and deep recession.

The financial disruptions that occurred in 2020 illustrated how important it is for a small, euroized country like Croatia to build ample foreign exchange reserves in good times. Owing to large reserves, the Croatian National Bank was well equipped to counter the strong depreciation pressures that emerged with the onset of the pandemic in early March 2020. By the end of May, the central bank had sold a total of 2.7 billion euro to commercial banks to satisfy the increased demand for foreign currency. Although the size of the interventions carried out between March and May was unprecedented, the remaining stock of reserves was still more than sufficient to guarantee financial stability (Lukinić Čardić, 2020).

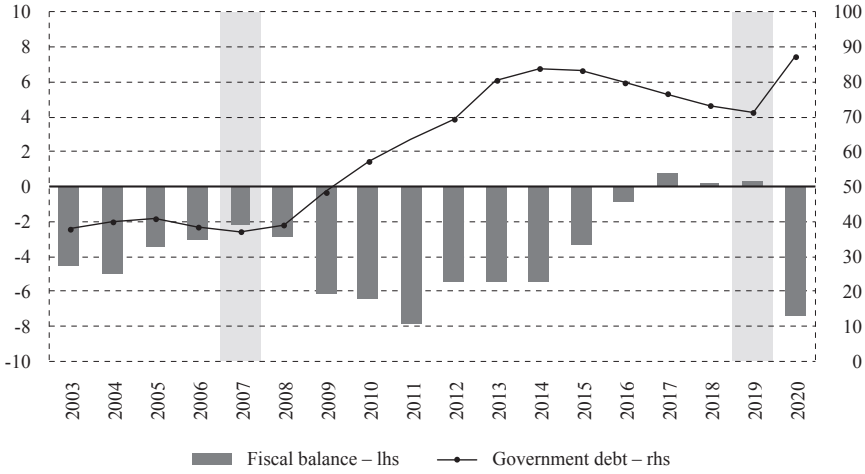
As mentioned earlier, the central bank not only intervened in the foreign exchange market to support the currency but it also made significant efforts to mitigate tensions in the market for kuna-denominated government bonds (CNB, 2021a; Arena et al., 2021). Although these two objectives were in part mutually conflicting – in the sense that foreign exchange interventions drained kuna liquidity from the financial system, while bond purchases injected it – the central bank managed to attain both of these objectives. Therefore, the pandemic crisis once again demonstrated that the Croatian National Bank possesses sufficient financial and institutional capacity to act as an effective crisis manager.[9] The financial capacity for managing crises is guaranteed by the Croatian National Bank's sizeable foreign exchange reserves, while the institutional capacity is a reflection of its proven track record in maintaining financial stability, which serves as an anchor for expectations in crisis times. The decision by one of the major credit rating agencies to keep Croatia's rating unchanged following the outbreak of the pandemic was to a large extent based on the abundance of foreign exchange reserves and the credibility of the Croatian National Bank in safeguarding exchange rate stability (Fitch Ratings, 2020b).

On the other hand, as the pandemic crisis has clearly shown, maintaining financial stability is a much more difficult task for central banks in countries with low foreign exchange reserves and a troubled recent financial past. In such countries, when a crisis hits, depreciation expectations tend to be so strong that they typically become self-fulfilling, leading to a depletion of reserves and an actual depreciation of the currency. A case in point here is Turkey, a country with modest reserves, weak fundamentals and a history of recurrent financial crises. Turkey's central bank took a highly expansionary stance in 2020 to cushion the impact of the pandemic crisis, which indeed allowed Turkey to avoid a recession, but at the expense of a sharp depreciation of the lira (Cakmakli et al., 2020).

[9] The Croatian National Bank was praised in the past for successfully alleviating the impact of the 2008-09 global financial crisis on the Croatian economy (IMF, 2009).

Figure 13

Fiscal balance and government debt in the period 2003-2020 (percentage of GDP)



Note: The shaded areas represent the year before the onset of the global financial crisis and the year before the outbreak of the COVID-19 pandemic.

Sources: Croatia Bureau of Statistics, Croatian National Bank.

In addition to having a strong balance of payments position, Croatia entered the pandemic crisis with resilient public finances. Despite a larger initial level of government debt, it is safe to say that public finances were healthier on the eve of the COVID-19 pandemic than they were before the start of the 2008-09 global financial crisis. There are three main arguments in support of this claim. First, due to prudent fiscal policy and positive nominal GDP growth, Croatia's fiscal balance was in surplus in three consecutive years preceding the pandemic crisis, while the debt-to-GDP ratio was declining rapidly (figure 13). The solid fiscal performance coupled with the reduction of external imbalances enabled Croatia to regain its investment-grade credit rating and enjoy very favourable financing conditions (CNB, 2020a). In contrast, in the run-up to the global financial crisis, Croatia reported fiscal deficits although the economy was overheating. Second, the maturity structure of government debt was more favourable at the onset of the pandemic crisis. This was the result of the authorities' efforts to lock in favourable financing conditions by issuing bonds with longer maturities (Government of the Republic of Croatia, 2021)[10]. These actions have not only secured lower debt servicing costs for the years to come, but they have also made Croatia less exposed to refinancing risk. Finally, risks for public finances stemming from general macroeconomic developments were less severe on the eve of the pandemic than they were before the global financial crisis. Due to a healthy initial state of the economy, Croatia was able to recover quickly from the pandemic crisis, so the deterioration in public finances, although very sharp, was short-lived. By contrast, given

[10] The share of debt with a maturity longer than 10 years in total government debt increased from 40% at the end of 2015 to 50% at the end of 2019.

the high vulnerability of the Croatian economy at the time, the global financial crisis of 2008-09 pushed Croatia into a deep and long recession that was mirrored by persistently high fiscal deficits and a rapidly increasing debt (figure 13).

4.2 EU MEMBERSHIP

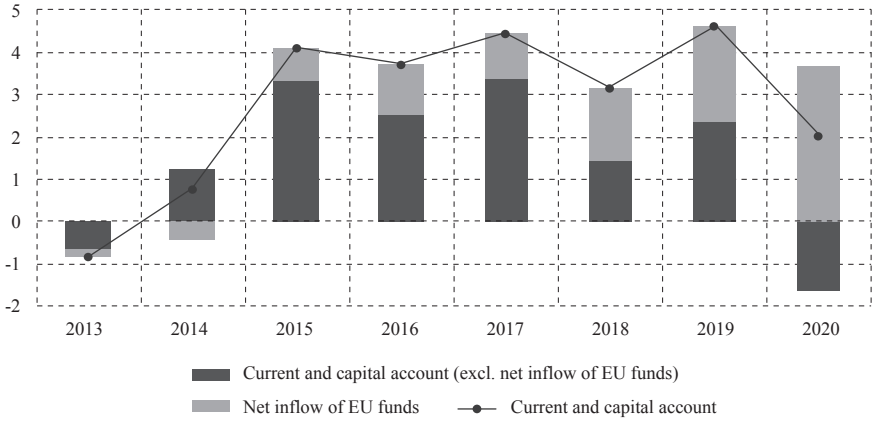
There is no doubt that the improvement in macroeconomic fundamentals in the years leading up to the pandemic was to a large extent the result of Croatia's EU membership. Since its accession to the EU in July 2013, Croatia has reaped substantial macroeconomic benefits in terms of free access to the common market and a sizeable net inflow of EU funds. These benefits have provided a strong impetus to economic growth and the balance of payments, thus enhancing Croatia's resilience to external shocks. In particular, EU accession introduced a simplified regime for cross-border trade with the EU, which has made it easier for Croatian exporters to place their products on the common market. As noted by Lukinić Čardić and Šelebaj (2021), in the first few years after joining the EU, Croatia recorded rates of growth of merchandise exports higher than its peers from Central and Eastern Europe. Indeed, robust export growth facilitated by EU accession was a key driver of economic recovery in the aftermath of the global financial crisis.

The impact of EU funds on the balance of payments position has been significant. In the first two years, net inflow of EU funds was actually negative because payments to the EU budget exceeded the absorption of EU funds. However, as the public administration's capacity to manage EU funds improved over time, annual net inflows gradually increased, resulting in comfortable current and capital account surpluses (figure 14). The inflows peaked in 2020 when the disbursement of EU funds intensified in the entire EU due to the relaxation of disbursement rules, which was part of the EU's common response to the pandemic crisis. Owing to the significant inflow of EU funds, Croatia managed to achieve a current and capital account surplus that year, despite a 54 percent drop in net income from tourism[11]. Therefore, it is safe to say that the balance of payments position would have been much less favourable before and during the pandemic if Croatia had not been a member state of the EU.

[11] The drop in tourism revenues, although very sharp, was less pronounced than in some other Mediterranean EU member states, such as Greece, Spain, Malta and Cyprus, which recorded a drop in net income from tourism in excess of 75 percent. The relatively solid performance of the Croatian tourism sector in 2020 can be explained by some of its specific characteristics, which are in normal circumstances regarded as structural weaknesses (CNB, 2020b). One of these characteristics is Croatia's relatively low reliance on guests arriving by air. As the pandemic affected air transport much more than road transport, Croatia managed to perform better than countries where foreign guests arrive primarily by air. Another specific characteristic that proved beneficial in 2020 is the high seasonality of Croatian tourism: as almost three quarters of total nights spent are usually realized in the summer months, Croatia was – compared to countries where the tourist season lasts longer – relatively less affected by the restrictions on international travel that were in force in the spring and autumn of 2020.

Figure 14

Impact of EU funds on the balance of payments (percentage of GDP)

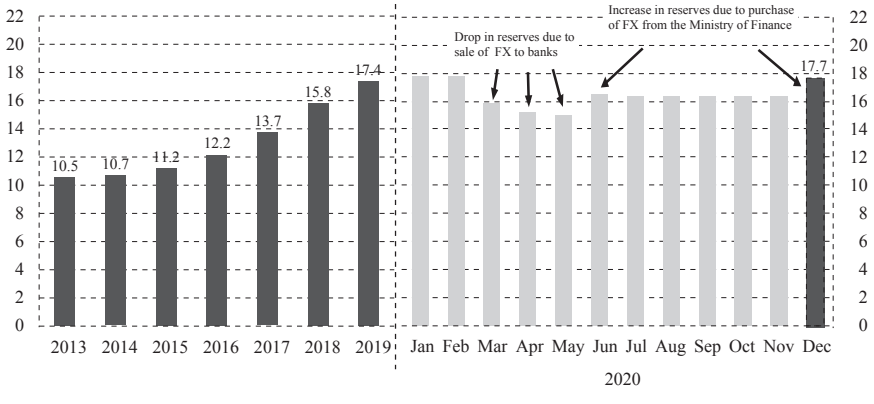


Source: Croatian National Bank.

The same conclusion applies to foreign exchange reserves. By allowing Croatia to enjoy consistently high current and capital account surpluses, net inflow of EU funds supported the rapid accumulation of reserves in the years before the pandemic. Importantly, the sizeable net inflow of EU funds in 2020, coupled with the proceeds from the government's international bond issue in June that year, allowed the central bank to quickly replenish its partly depleted reserves by purchasing foreign exchange from the Ministry of Finance (CNB, 2021a). Net foreign exchange reserves stood at 17.7 billion euro in December 2020, which was even higher than at the end of 2019 (figure 15). This was remarkable given that as much as 2.7 billion euro of reserves had been sold to banks in the first half of 2020 in an effort to preserve the stability of the currency. Such a rapid recovery of foreign exchange reserves would not have been possible without the large inflow of EU funds.

Figure 15

Net foreign exchange reserves, 2013-2020 (EUR bn)



Source: Croatian National Bank.

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Finally, EU membership provided Croatia with access to emergency financing, which helped ease pressures on the currency and reduce concerns about the pandemic-related increase in government debt. On the one hand, given that Croatia was at the onset of the pandemic an EU member state with a clear prospect of joining ERM II and adopting the euro, the Croatian National Bank was in a position to negotiate a currency swap line with the ECB worth 2 billion euro. As explained earlier, the setting-up of the swap line in mid-April 2020 sent a signal to the financial markets that the central bank had additional euro liquidity at its disposal to support the currency in case of need. Pressures on the currency subsided soon after the announcement of the arrangement with the ECB, so the swap line never had to be drawn upon (CNB, 2021a). On the other hand, as a member state of the EU, Croatia benefited from positive confidence effects generated by the decision to create a common EU recovery facility – Next Generation EU. As the announcement of the recovery facility sparked optimism about member states' ability to recover from the pandemic crisis, concerns about the sustainability of their heightened debt levels waned. The expected positive impact of the recovery facility was among the factors that supported Croatia's investment-grade credit rating during the pandemic (Fitch Ratings, 2020a).

4.3 OTHER FACTORS

Croatia's capacity to deal with the pandemic crisis was strengthened also by some external factors that were beneficial to other emerging market economies as well. One of these positive common factors was the quick normalization of global liquidity conditions following the swift policy response by leading central banks. Drawing on the experience with unconventional monetary policy tools gained during and after the 2008-09 global financial crisis, the Federal Reserve, the ECB and other leading central banks responded forcefully to the outbreak of the pandemic in March 2020 by expanding the size of their liquidity-providing operations and launching large-scale asset purchase programs. Announcements of these monetary interventions brought a quick rebound in investor confidence, with positive spill over effects on emerging markets (IMF, 2020a). In particular, as global risk appetite recovered due to expectations that major central banks would be successful in cushioning the impact of the pandemic, emerging market economies with sound fundamentals, including Croatia, enjoyed strong investor demand when placing their bonds in international financial markets.

Another positive common factor was the ability of emerging market central banks to carry out their own asset purchase programs without being penalized by financial markets. Before the pandemic, it was believed that asset purchase programs were not a suitable policy tool for emerging market central banks because – due to their insufficient institutional credibility – asset purchases could feed depreciation pressures and therefore become self-defeating. However, in early 2020, confronted with the massive COVID-19 shock, a number of emerging market central banks, including the Croatian National Bank, decided to take their chances and launch asset purchase programs for the first time ever. Surprisingly, in most of

these countries asset purchases were highly effective in stabilizing bond markets, with virtually no side effects in terms of currency depreciations or higher inflation (Sever et al., 2020; Arena et al., 2021).

The explanation of the success of asset purchase programs in emerging market economies consists of three parts. First, since advanced economies relied extensively on asset purchases during and after the 2008-09 global financial crisis, a view seems to have formed that it is legitimate for central banks to act as buyers of last resort in sovereign debt markets in times of stress. In other words, following the global financial crisis, asset purchases have gradually become part of the standard toolkit of central banks. This partly explains why financial markets did not react negatively to the announcements of asset purchases by emerging market central banks. Second, given the prolonged low interest rate environment – further supported by additional monetary stimulus from major central banks starting from March 2020 – there were few incentives for capital to leave emerging markets that had started conducting asset purchases (Arena et al., 2021). Emerging market economies would have found it much harder to avoid currency depreciation had interest rates in advanced economies been higher at the time. Finally, the fact that the crisis was caused by a global health emergency rather than by country-specific vulnerabilities increased the likelihood that market participants would take a positive view of these central bank interventions, particularly if a country's macroeconomic fundamentals had been sound before the start of the pandemic.

The credit rating agencies' flexible treatment of the pandemic-induced fiscal deficits was yet another external factor that made this crisis easier to deal with. During the pandemic crisis, credit ratings agencies seemed to have been more tolerant of deteriorating public finances than they had been previously. In particular, while during the 2010-12 European sovereign debt crisis a number of EU member states suffered a rating downgrade, there were virtually no sovereign rating downgrades in the EU during the pandemic crisis despite the significant increase in debt levels (Arnal et al., 2021). Again, such an approach by credit rating agencies was reasonable given the peculiar nature of the pandemic crisis, which was a genuinely external shock. Financing a large fiscal deficit would have been more difficult for Croatia or any other country if its credit rating had been downgraded, particularly if it had lost its investment grade status because of the downgrade.

To sum up, there were a number of factors, both country-specific and common, that enabled the Croatian authorities to respond aggressively to limit the economic fallout of the COVID-19 pandemic. Croatia entered the crisis equipped with sound macroeconomic fundamentals and easy access to EU financing, while also indirectly benefiting from significant policy efforts taken at the global level, more flexible credit rating agencies and the fact that central bank interventions in sovereign debt markets were considered legitimate by credit rating agencies and financial markets. These positive factors did not exist at the onset of the 2008-09 global financial crisis, so the Croatian authorities' overall policy response to that crisis was much more limited in size and scope.

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5 CONCLUSION

The outbreak of the COVID-19 pandemic in March 2020 pushed the global economy into a short, but severe recession. In an attempt to slow down the spread of the virus and save lives, countries all over the world decided to impose strict nationwide lockdowns. While necessary at the time, strict lockdowns were highly disruptive, as they brought a sudden stop to economic activity in some sectors.

In order to contain the economic fallout of the pandemic, central banks and governments of advanced countries intervened promptly and decisively. Central banks resorted to a range of conventional and unconventional tools, including government bond purchase programs and enhanced liquidity provision. On the fiscal front, governments carried out large-scale economic relief programs, designed to provide financial support to companies and households negatively affected by the lockdown. Prudential policy was also used in a counter-cyclical manner: central banks and other regulators decided to relax certain prudential rules to encourage financial institutions to keep providing credit to their clients despite the sharp increase in default rates.

The economic policy response in Croatia was, in terms of its size and scope, comparable to policy responses in major advanced economies. Given Croatia's heavy reliance on tourism, the negative impact of the pandemic on economic activity was more pronounced than in most other EU member states. The deteriorating economic outlook weighed on the financial markets, particularly the foreign exchange market and the sovereign debt market. In order to counter depreciation pressures on the kuna, the Croatian National Bank intervened strongly in the foreign exchange market, while at the same time acting as buyer of last resort in the sovereign debt market. Although these two objectives were in part mutually conflicting – in the sense that foreign exchange interventions drained kuna liquidity from the financial system, while bond purchases injected it – the central bank managed to attain both of these objectives. The liquidity support provided by the central bank to stabilize these two markets was sizeable: the foreign exchange interventions and bond purchases combined amounted to 11 percent of GDP.

While monetary policy tools were applied to restore stability in key financial markets, the main objective of fiscal policy and prudential policy was to improve liquidity positions of companies and households. The fiscal stimulus consisted of a large number of measures, among which wage subsidies and tax relief were the most widely used and therefore had the strongest positive impact on the economy. In the area of prudential policy, the Croatian National Bank relaxed the loan classification rules, enabling banks to treat loans that had turned non-performing due to the pandemic as performing loans regardless of the temporary deterioration in their quality. This adjustment was critical, as it enabled banks to grant loan repayment moratoriums to distressed borrowers without being required to set aside provisions for such loans.

The policy response to the pandemic crisis was considerably larger than the policy response to the 2008-09 global financial crisis. There were essentially three groups

of factors which enabled the Croatian authorities to play such an active role this time. First, Croatia's sound initial macroeconomic fundamentals allowed the authorities to expand public spending and release part of the foreign exchange reserves without jeopardizing fiscal sustainability and exchange rate stability. In the years leading up to the pandemic, Croatia showed solid macroeconomic performance, as evidenced by robust growth, stable public finances and a strong balance of payments coupled with abundant foreign exchange reserves. Owing to sound fundamentals, the authorities had the necessary capacity and credibility to support financial markets and the economy once the pandemic began. In contrast, on the eve of the 2008-09 global financial crisis, Croatia's fundamentals were very weak, significantly constraining the authorities' capacity to provide relief.

Second, managing the pandemic crisis was made easier by Croatia's EU membership. Since 2015, sizeable net inflows of EU funds have been a major driver of Croatia's persistent current and capital account surpluses and have therefore supported the rapid accumulation of foreign exchange reserves. For example, the sizeable inflow of EU funds in the second half of 2020 allowed the Croatian National Bank to quickly replenish its reserves after 2.7 billion euro of reserves had been spent in the period March-May 2020 to support the kuna. Furthermore, given that Croatia was at the time an EU member state with a clear prospect of joining ERM II, the Croatian National Bank was able to negotiate a currency swap line with the ECB worth 2 billion euro. In addition, EU membership enabled Croatia to benefit in mid-2020 from the positive confidence effects generated by the decision to create a common EU recovery facility – the Next Generation EU instrument worth more than 800 billion euro.

Third, Croatia was positively affected by some external factors that were beneficial to other emerging market economies as well. One of these positive common factors was the quick normalization of global liquidity conditions following the swift policy response by leading central banks. Another positive common factor was the ability of central banks of emerging market economies to carry out asset purchase programs for the first time ever without being penalized by financial markets. The Croatian National Bank was one of them. Their experience provides an important lesson for the future, as it shows that unconventional monetary policy tools can be effectively used by emerging market economies as well, provided they have previously demonstrated the ability to maintain macroeconomic stability. Finally, during the pandemic crisis, credit ratings agencies seemed to have been more tolerant of deteriorating public finances than they had been in the past. There were virtually no sovereign rating downgrades in the EU during the pandemic crisis, despite the sharp increase in debt levels. Financing the large pandemic-induced deficits would certainly have been more difficult for member states had their credit ratings been downgraded.

Hence, the capacity of the Croatian authorities to maintain macroeconomic stability during the pandemic crisis was strengthened by a number of factors, both

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common and country-specific. Among them, Croatia's sound initial macroeconomic fundamentals seemed to have been the most critical. Had the fundamentals been poor in early 2020, the overall scale of policy support during the pandemic would have been much lower, while the Croatian National Bank would certainly not have been able to negotiate a currency swap line with the ECB. The experience of the pandemic crisis is therefore another reminder of how important it is for a small, highly euroized country to build policy space in good times.

Disclosure statement

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REFERENCES

1. Arena, M. [et al.], 2021. Asset Purchase Programs in European Emerging Markets. *Departmental Paper Series*, No. 2021/021. Washington, DC: International Monetary Fund.
2. Arnal, J. [et al.], 2021. Credit Ratings Fell Sharply During the Eurozone Crisis – Why Have They Held Firm Through the Pandemic? *LSE European Politics and Policy (EUROPP) Blog*, April 30, 2021.
3. Brkić, M. and Šabić, A., 2014. Framework for Monitoring Macroeconomic Imbalances in the European Union – Significance for Croatia. *Surveys*, No. 17. Zagreb: Croatian National Bank.
4. Brkić, M., 2021. Costs and Benefits of Government Borrowing in Foreign Currency – Is It a Major source of Risk for Member States Outside the Euro?. *Public Sector Economics*, 45(1), pp. 63-91. https://doi.org/10.3326/pse.45.1.2
5. Cakmaklı, C. [et al.], 2020. COVID-19 and Emerging Markets: An Epidemiological Model with International Production Networks and Capital Flows. *IMF Working Paper*, No. 20/133. https://doi.org/10.5089/9781513550183.001
6. Clarida, R. H., Duygan-Bump, B. and Scotti, C., 2021. The COVID-19 Crisis and the Federal Reserve's Policy Response. *Finance and Economics Discussion Series*, No. 2021-035. https://doi.org/10.17016/FEDS.2021.035
7. CNB, 2020a. *Annual Report 2019*. Zagreb: Croatian National Bank.
8. CNB, 2020b. *Macroeconomic Developments and Outlook*, No. 9. Zagreb: Croatian National Bank.
9. CNB, 2021a. *Annual Report 2020*. Zagreb: Croatian National Bank.
10. CNB, 2021b. *Financial Stability 22*. Zagreb: Croatian National Bank.
11. Coelho, R. and Zamil, R., 2020. Payment Holidays in the Age of Covid: Implications for Loan Valuations, Market Trust and Financial Stability. *FSI Briefs*, No. 8.
12. Corradin, S., Grimm, N. and Schwaab, B., 2021. Euro Area Sovereign Bond Risk Premia during the Covid-19 Pandemic. *Working Paper Series*, No. 2561. https://doi.org/10.2139/ssrn.3857400
13. English, B., Forbes, K. and Ubide, A., 2021. Monetary Policy and Central Banking in the Covid Era: Key Insights and Challenges for the Future. In: B. English, K. Forbes and A. Ubide, eds. *Monetary Policy and Central Banking in the Covid Era*. London: Centre for Economic Policy Research.
14. ESRB, 2021. *Financial Stability Implications of Support Measures to Protect the Real Economy from the COVID-19 Pandemic*. Frankfurt am Main: European Systemic Risk Board.
15. European Commission, 2020a. *European Economic Forecast – Autumn 2020*. Brussels: European Commission.
16. European Commission, 2020b. *European Economic Forecast – Spring 2020*. Brussels: European Commission.
17. Financial Stability Board, 2020. *COVID-19 Pandemic: Financial Stability Implications and Policy Measures Taken. Report submitted to the G20 Finance Ministers and Governors*. Basel: Financial Stability Board.

18. Financial Stability Board, 2021a. *COVID-19 Support Measures – Extending, Amending and Ending*. Basel: Financial Stability Board.
19. Financial Stability Board, 2021b. *Lessons Learnt from the COVID-19 Pandemic from a Financial Stability Perspective.* Basel: Financial Stability Board.
20. Fitch Ratings, 2020a. *Fitch Affirms Croatia at 'BBB-'; Outlook Stable*. Published 5 June 2020.
21. Fitch Ratings, 2020b. *Fitch Revises Outlook on Croatia to Stable; Affirms at 'BBB-'*. Published 1 April 2020.
22. Friedman, M. and Schwartz, A., 1963. *A Monetary History of the United States 1867-1960*. Princeton: Princeton University Press.
23. Galac, T., 2010. The Central Bank as Crisis-Manager in Croatia – A Counterfactual Analysis. *Working Papers*, No. 27. Zagreb: Croatian National Bank.
24. Government of the Republic of Croatia, 2021. *Convergence Programme of the Republic of Croatia for the Period 2022-2024*. Zagreb: Government of the Republic of Croatia.
25. Hale, T. [et al.], 2020. *University of Oxford Coronavirus Government Response Tracker (OxCGRT)*. Blavatnik School of Government.
26. Haroutunian, S., Osterloh, S. and Sławińska, K., 2021. The Initial Fiscal Policy Responses of Euro Area Countries to the COVID-19 Crisis. *Economic Bulletin*, No. 1.
27. Hespeler, F. and Suntheim, F., 2020. The Behavior of Fixed-income Funds during COVID-19 Market Turmoil. *Global Financial Stability Notes*, No. 2020/02. https://doi.org/10.5089/9781513563695.064
28. IMF, 2009. Republic of Croatia: 2009 Article IV Consultation: Staff Report. *Country Report*, No. 09/185. Washington, DC: International Monetary Fund. https://doi.org/10.5089/9781451817492.002
29. IMF, 2020a. Global Financial Stability Report, October 2020*: Bridge to Recovery*. Washington, DC: International Monetary Fund.
30. IMF, 2020b. Republic of Croatia: 2019 Article IV Consultation – Press Release and Staff Report. *IMF Country Report*, No. 20/50. https://doi.org/10.5089/9781513530604.002
31. IMF, 2020c. World Economic Outlook, October 2020*: A Long and Difficult Ascent*. Washington, DC: International Monetary Fund.
32. IMF, 2021. World Economic Outlook, April 2021*: Managing Divergent Recoveries*. Washington, DC: International Monetary Fund.
33. Kose, M. A., Sugawara, N. and Terrones, M. E., 2020. Global Recessions. *Policy Research Working Paper*, No. 9172. https://doi.org/10.1596/1813-9450-9172
34. Lukinić Čardić, G. and Šelebaj, D., 2021. Trgovinski tijekovi između Hrvatske i inozemstva od ulaska u EU do izbijanja pandemije koronavirusa. *Pregledi*, No. 47. Zagreb: Croatian National Bank.
35. Lukinić Čardić, G., 2020. Does Croatia Have Sufficient International Reserves? *HNBlog*, 27 April 2020.

36. Mishkin, F. S., 2011. Over the Cliff: From the Subprime to the Global Financial Crisis. *Journal of Economic Perspectives*, 25(1), pp. 49-70. https://doi.org/10.1257/jep.25.1.49

37. OECD, 2020. Tax and Fiscal Policy in Response to the Coronavirus Crisis: *Strengthening Confidence and Resilience*. Paris: OECD.

38. Romer, C. D., 1993. The Nation in Depression. *Journal of Economic Perspectives*, 7(2), pp. 19-39. https://doi.org/10.1257/jep.7.2.19

39. Sever, C. [et al.], 2020. Effects of Emerging Market Asset Purchase Program Announcements on Financial Markets During the COVID-19 Pandemic. *IMF Working Paper*, No. 20/292. https://doi.org/10.5089/9781513564661.001

Determinants of combining budgetary innovations at the local level: experience from Slovakia

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Abstract

Slovakia belongs to a highly decentralised group of European countries, especially in terms of autonomy of local governments. The structure of local governments is extremely fragmented and therefore the individual capacities of many of them can be quite limited. Programme performance-based budgeting was introduced as a compulsory budgetary innovation for all larger local governments several years ago. Moreover, dozens of them have already experienced participatory budgeting. The aim of this article is to analyse the links between programme performance-based budgeting and participatory budgeting as local budgetary innovations and to identify the key political factors influencing the spread and durability of participatory budgeting in Slovakia. The findings show that in most municipalities there is a link between PB and PPBB, which is rather positive and could help to sustain PB in the municipality. The second part of the research reveals two political determinants influencing the success of participatory budgeting in Slovakia.

Keywords: programme performance-based budgeting, participatory budgeting, transparency, accountability, local government, Slovakia

1 INTRODUCTION

Significant reform efforts have challenged policy-making at all levels of government in almost all democratic countries in recent decades (De Vries, Nemec and Špaček, 2019; Eymeri-Douzans and Pierre, 2011; Hammerschmid et al., 2016; Koprić, Wollmann and Marcou, 2018; Kuhlmann and Bouckaert, 2016; Pollitt and Bouckaert, 2011; Ramesh, Araral and Wu, 2010). Many of them have been based on the introduction and adoption of various innovative budgetary measures. While some of them were implemented strategically, others were seen more as experiments and their implementation was not guided by strategies. Participatory budgeting, which is one of the topics of our article, is somewhere in between these two poles – experience from different countries shows us different observational results, and the situation varies greatly if one compares various countries (De Vries, Nemec and Špaček, 2022; Džinić, Murray Svidroňová and Markowska-Bzducha, 2016; Klimovský et al., 2021; Krenjova and Raudla, 2013; Mikuš, Brix and Šmatlánek, 2021; Oliveira, 2017; Sintomer, Herzberg and Röcke, 2008; Wampler, McNulty and Touchton, 2018).

Participatory budgeting (hereafter "PB") is an innovation that promotes the democratic nature of public budgeting through the direct involvement of citizens (or the wider public) in certain budgetary processes. "Its central institutional feature of interfacing civil society through neighbourhood-based deliberation regardless of local levels of organisation also sets it apart from participatory governance schemes that rely on organised civil society, often through sectoral interfaces" (Baiocchi, 2001: 43). The original PB model was invented in Porto Alegre, Brazil in the late 1980s, and has changed considerably over the last three decades. Its modifications have been rooted not only in the necessity to adapt this innovation

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to very different legal, social, economic, political and administrative environments, but also in the different driving forces that have played decisive roles in the processes of its introduction. Moreover, according to Baiocchi and Ganuza (2014), the global diffusion of PB has been accompanied by different expectations and intentions on the part of governments, policy makers, active citizens, NGOs or international organisations.

The path of PB across Latin America during the 1990s has traditionally been typically associated with strengthening politically or socially excluded communities and improving participatory or deliberative approaches in policy-making. Outside this region, the introduction of PB was divorced from these political considerations, and innovators instead emphasised, for example, co-creation or targeted spending. This development is explained by Bartocci, Grossi and Mauro (2019), who highlighted those rational logics of governance and community building that replaced or coexisted at least with the traditional political logic.

Although the literature on PB is not scarce, the topics addressed in this article have not yet received much attention in the scientific literature. The fact that the links between programme performance-based budgeting (henceforth "PPBB") and PB have rarely been the focus of researchers' attention is not surprising because the two systems coexist in very few countries. In Slovakia, local governments mainly use public financial resources, more specifically their own revenues for PB purposes. Since almost all of the local governments that have adopted PB must simultaneously apply a programme performance-based approach to public budgeting, it is to be expected that participatory budgets (i.e., documents created through public engagement in certain PB budgeting processes) are clearly part of the public budgets of the same local governments. At this point, we are not focussing only on some separate budgetary lines or items. Given the programmatic nature of budgeting, the adoption of PB in such circumstances could or even should be linked to some official policy priorities and budgetary goals.

Moreover, research on the political determinants affecting the implementation and durability of PB is more complex, but as of today this dimension has not been explored in depth for most, if not all, post-transition countries in Central and Eastern Europe (CEE). This led us to formulate the following objective of our article: to analyse the link between PPBB and PB as local budgetary innovations and to identify the core political factors influencing the diffusion of PB in Slovakia. At this point, we can emphasise the fact that different budgetary innovations are usually analysed separately; this happens although they are commonly adopted and used at the same time, and therefore they may mutually condition each other's success. It opens an interesting and stimulating research gap and our intention is to address it by analysing relevant data from Slovakia. However, filling this gap, our research aims to contribute to the ongoing international research discourse with global insights on both the PB and PPBB domains and, moreover, to support further international research on the determinants of combining budgetary innovations in general.

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The structure of this article is as follows. The first part briefly introduces the concept of PB and provides a review of the literature related to our research questions. The second part presents a brief picture reflecting the implementation of PB and PPBB in Slovakia. The following two parts explain the methodology employed and show our results and findings.

2 PARTICIPATORY BUDGETING

"PB represents a direct-democracy approach to public budgeting. It offers citizens as a whole the opportunity to learn about government operations and to negotiate, discuss and influence the allocation of public resources. It is a tool to educate, involve and empower citizens and strengthen the demand for good governance" (Shah, 2007: 1). The very first PB initiative appeared in Porto Alegre, Brazil in 1989, and was part of broader local political and administrative reforms (Abers, 1998). Diffusion of this democratic innovation across the Latin American region was rapid. Its popularity was positively determined in particular by the activities of left-leaning political parties (Goldfrank, 2007). It took almost a decade for this innovation to reach other regions, especially North America, Europe and Asia. Various NGOs, international associations of local government representatives, and a few international donors, e.g., the World Bank, USAID (Goldfrank, 2012; Teivainen, 2010) played an important role in these processes. However, as pointed out by Röcke (2014), focussing in particular on Europe, the adoption of PB under different political, administrative, economic, and societal circumstances inevitably challenged the original Brazilian model, and these challenges led to rapid and multiple variations. For example, Sintomer, Herzberg and Röcke (2008) distinguished six different PB models that are now commonly used in different parts of the globe. Other researchers, e.g., Krenjova and Raudla (2013), offered a similar typology. They also outline the main environmental variables (i.e., financial autonomy, political culture, size of local government, heterogeneity and prosperity of the local government) that are likely to influence the applicability and feasibility of PB in different local governments. Obviously, PB models differ, but each model enables citizens to participate in the approval of the local government budget either directly or in a mediated way by various intermediaries (NGOs, community groups) (Džinić, Murray Svidroňová and Markowska-Bzducha, 2016). One could even say that there are no two PB processes alike, as each municipality adapts this tool to its own needs.

Table 1

Determinants influencing the implementation and durability of PB

Category	Determinant	Authors
Economic	Better budget allocation	Švaljek, Rašić Bakarić and Sumpor (2019), Akyel, Korkusuz-Polat and Arslankay (2012)
	Budgetary process	Tanase (2013), Callahan (2002)
	Efficiency	Sintomer et al. (2010), Džinić, Murray Svidroňová and Markowska-Bzducha (2016)

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Category	Determinant	Authors
Social	Social justice, gender mainstreaming	Sintomer, Röcke and Herzberg (2016), Baiocchi and Ganuza (2014), Lüchmann (2017)
	Citizen empowerment, socio-economic development, culture	Saguin (2018), Wampler and Touchton (2019), Röcke (2014), Talpin (2012)
Political	Uncertainty of decision-making	Baranowski (2020), Bardovič and Gašparík (2021), Cho, Jérôme and Maurice (2021), Klimovský et al. (2021), Popławski (2020)
	Level of administration maturity, level of political decentralisation	Beuermann and Amelina (2018)
	Voter turnout, direct democracy, public/citizen participation	Kukučková and Bakoš (2019), Freitag and Stadelmann-Steffen (2010), Šabović, Milosavljević and Benković (2021), Kukučková and Poláchová (2021)
	Democratic change, good governance	Cabannes and Lipietz (2018), Baiocchi (2001)
	Re-election of the party or the mayor, political affiliation of the mayor	Spada (2009), Wampler and Avritzer (2005), Klimovsky and Murray Svidronova (2021), Klun and Benčina (2021)
	Transparency of political decisions, transparency of public resources	Jacobi (1999), Carroll et al. (2016), Cabannes and Lipietz (2018)

Source: Authors' elaboration.

Not only do the models vary; there are different ways of adopting and implementing the above-mentioned models of PB; most notably PB based on bottom-up initiatives and PB implemented as a result of top-down process developed and coordinated by governments, depending on a number of factors that show that the approach may not be so simple, but can be a hybrid. Moreover, Bartocci, Grossi and Mauro (2019) point out that the traditional political rationale for the adoption of PB has lost its centrality and in some cases has been replaced by managerial or community-building rationales. Political issues have dominated the research on PB, especially in the first two decades after the very first introduction of this innovation (e.g., Cabannes, 2004; Goldfrank and Schneider, 2006; Sintomer, Herzberg and Röcke, 2008). In later developments, they still attracted the interest of many researchers (Goldfrank, 2011; Rossmann and Shanahan, 2011; Krenjova and Raudla, 2013; Holdo, 2015; Montambeault, 2016; Wampler and Touchton, 2019; etc.), but the scope and focus of international research has become not only much broader but also multidisciplinary. At this point we can mention: Im et al. (2014) who studied the relationship between citizens' preferences and resource allocation; Brun-Martos and Lapsley (2017) demonstrated the potential of participatory budgeting on the effectiveness of city governance; Shybalkina and Bifulco (2019) focused on the links between PB and public spending; Kuo, Chen and Su (2020)

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highlighted the contribution of this innovation to better urban governance while Wampler and Touchton (2019) focused on the effects of PB on public policies or programmes. Authors have also argued that the adoption of PB (in combination with PPBB) could lead to greater transparency (Jacobi, 1999; Baiocchi, 2001; Carroll et al., 2016; Cabannes and Lipietz, 2018) and greater accountability of the relevant decision makers (Spada, 2009; Wampler and Avritzer, 2005; Beuermann and Amelina, 2018; Kukučková and Bakoš, 2019). Of course, the disappointments associated with some PB initiatives inevitably lead to budgetary cuts, major rule changes or even cancellations (e.g., Soukop, Šaradín and Zapletalová, 2021). In this context, the durability of participatory budgeting has already been recognised as an important area of research (Melgar, 2014; Wampler and Goldfrank, 2021). Unsurprisingly, the uncertainty of decision-making caused by the COVID-19 pandemic has already become a topic of research topic, and more attention has begun to be paid in this context to the durability of PB budgeting under highly volatile circumstances (Bardovič and Gašparík, 2021; Baranowski, 2020; Cho, Jérôme and Maurice, 2021; Popławski, 2020).

From the perspective of our research, and based on a literature review, the most common determinants influencing the implementation and durability of PB can be grouped into three categories (table 1).

3 BACKGROUND: PROGRAMME AND PERFORMANCE-BASED BUDGETING AND PARTICIPATORY BUDGETING IN SLOVAKIA

In 2004, Slovakia, with the support of the World Bank, undertook a major reform of public finances. Part of this reform was linked to the introduction of PPBB at both state and local government level. PPBB was seen as a qualitative managerial upgrade from conventional public budgeting, leading to an increase in the information value of public budgets, and helping elected representatives as well as managers in the public sector to achieve better informed decision-making based on good quality information in order to make the most efficient use of limited resources, to improve the quality of public administration services provided to the public and, last but not least, to improve communication with the public (Hronec, 2019). PPBB was first implemented at the state government level (phased implementation between 2000 and 2004) and then its use at the local government level was enacted (since 2009); and today it is mandatory for all local government units in municipalities with a population of over 2,000 inhabitants. Since Slovakia is one of the most fragmented of European countries, more than 85% of all municipalities are below this level, and thus almost 400 local governments out of 2,890 have to fulfil this obligation. Regardless of their urban or rural character, of the population or territorial size of a municipality, every local government unit in Slovakia enjoys the same number of powers and responsibilities (Klimovský and Nemec, 2021). However, from a financial or budgetary perspective, the state of individual local governments varies considerably, and regional and district centres in particular can redistribute large amounts of funds through their local public budgets.

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The results of the implementation of PPBB at the local level in Slovakia are unsatisfactory according to most existing evaluations. Hronec (2019), for example, argues that no conditions have been created for the actual implementation of this performance enhancer. As he himself pointed out, notwithstanding the methodological guidelines developed to achieve the smooth implementation of this tool, local governments have used very different numbers of performance indicators. In addition, local governments prefer to use nominal performance indicators that do not include the capacity for mutual comparisons; ratio performance indicators that could form the basis for comparisons have rarely been used because local governments have not understood the additional managerial value of actually monitoring performance outcomes. According to Hronec (2019), the administrative and technical complexity of this budgeting system is the primary source of the PPBB's dysfunctionality. The same set of problems has been reported by several other researchers (e.g., Bajusova, 2013).

Regarding PB, the group of the first three local governments to adopt PB is the capital city, Bratislava (2011), followed by Ružomberok, a district centre, (in 2013), and Banská Bystrica, a regional centre, (in 2014). In all three cases, the PB process was started by a local initiative supported by an NGO (the Utopia civic association), and the work of volunteers (Džinić, Murray Svidroňová and Markowska-Bzducha, 2016). The local governments of both Bratislava and Ružomberok stopped the process of PB after a few years, mainly due to the negative perception of local activists that very limited resources had been allocated for PB-defined purposes. On the other hand, PB is still used in Banská Bystrica, which has the longest experience with PB in Slovakia, from 2014 to the present day.

Subsequent PB initiatives have been initiated by local activists or other NGOs, but usually in collaboration with local politicians or even local governments. The fact is that local governments have had to improvise with PB, as PB is not yet explicitly regulated by any law in Slovakia (Klimovský, 2021). Regarding the common goals of the initiators, many cases of PB adoption have rooted their importance in making the budgetary decision-making more accessible to the public and strengthening the quality of transparency of all related processes.

To date (October 2021) 60 local governments in Slovakia have experienced implementation of PB at least once (table 2). Out of this total, PB has been adopted in three district-centre local governments, all of which are also the headquarters of regional governments (there are eight regional centres in Slovakia) (Bardovič, 2021); in 28 cases, PB has been adopted by the local government of a district centre (there are 72 district centres in Slovakia); and in 29 cases, PB has been adopted by local governments in other municipalities (the majority were urban municipalities, but in some cases it was also done in rural municipalities; which together represent only one per cent of all other municipalities in Slovakia).

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Table 2

The spread of PB among local governments in Slovakia

Type of municipality	Total number	Total number with PB experience	Share of those with PB experience (%)
Regional centres	9	3	33
District centres	79	28	35
Other municipalities	2,802	29	1

Source: Authors' elaboration.

In Slovakia, PB has also been extended to the level of regional governments. Four out of eight regional governments have already experienced PB, namely the Trenčín regional government (starting in 2017), the Bratislava regional government (2018), the Trnava regional government (2019) (Klimovský and Murray Svidroňová, 2021; Novák, 2021), and more recently the Košice regional government (2021).

If we look at the experience of PB in Slovakia in terms of COFOG (Classification of the Functions of Government), the public in Slovak municipalities or towns can decide on projects in the fields of public order and safety, economic affairs, environmental protection, housing and community amenities, health, recreation, culture, religion, education, or social protection within PB. At this point it is important to stress that local governments in Slovakia do not usually use thematically determined PB years, and thematically open years are common. In relation to the total local public budgets, financial resources for PB initiatives are commonly less than one per cent of the total amount of local public budgets (Murray Svidroňová and Klimovský, 2021).

The pace of PB application in the regions is evenly spread with no further differences between regions or municipalities. Based on this observation, the spatial determinant PB diffusion could come to the fore, rather than the determinants of size and political importance. More precisely, the spread of PB in terms of spatial distribution and pace has been homogeneous, and there is no region in Slovakia that lags significantly behind in the experience with PB. On the other hand, there are noticeable differences in PB uptake between the more politically important local governments, namely those in regional and district centres (i.e., those local governments which redistribute significantly larger amounts of funds through their local public budgets) and those in other municipalities.

The spread of the gradual adoption of PB is presented in figure 1. Due to the outbreak of the COVID-19 pandemic in 2020, various local governments have decided to suspend or cancel the implementation of PB initiatives, including both pilot and well-established initiatives (Bardovič and Gašparík, 2021). According to the research results of Bardovič and Gašparík (2021), a high number of local governments decided to suspend PB initiatives even though their initial plans for its implementation had been declared at the beginning of 2020: approximately 50 regional or local governments announced the implementation of PB in January 2020

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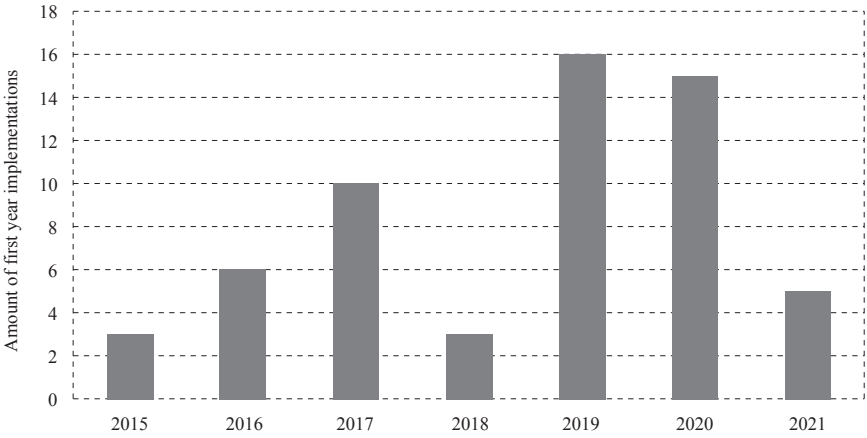
(Murray Svidroňová and Klimovský, 2022), and only 21 of them decided to continue with implementation of PB up until the project approval phase (Bardovič and Gašparík, 2021). The high level of uncertainty accompanied by inefficient or confusing measures introduced by central authorities (Klimovský et al., 2021) severely challenged local governments, and even their stability within a system of multi-level governance also faced challenges (Jüptner and Klimovský, 2021). Although the initial fears of local governments linked to any potential shortfalls in their expected revenues were not confirmed by real developments (Čajková et al., 2021; Černěnko, Neubauerová and Zubaľová, 2021); this environment of uncertain decision-making might have motivated them their decisions to postpone or cancel the PB processes.

Figure 1

Evolution of the adoption of PB initiatives in Slovakia



Source: Authors' elaboration.

4 RESEARCH DESIGN

The aim of this article is to analyse the link between PPBB and PB as local budgetary innovations, and to identify the key political determinants influencing the spread and durability of PB in Slovakia. To meet the objective, we formulated the following research questions:

1. How are the PB results (i.e., participatory budgets) integrated with the PPBB results (i.e., public budgets) at the level of local governments in Slovakia?

PPBB was implemented in Slovakia more than a decade ago to improve the quality of public budgeting and strengthen its strategic dimension. Previous models were based on strict incrementalism, with only limited attempts to plan beyond the office of political representatives to the inherent one-term nature of political representatives. However, approval of new legal provisions did not change the attitudes of local policy makers (Hronec, 2019). Unsurprisingly, the new regulations have not led to better financial management but rather to a formalistic compliance with legal requirements and the copying of budgetary documents by local

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governments without regard to their own needs. If we accept the conclusion of Hronec (2019: 206), who pointed out that staff in the finance departments of local governments often lacked the adequate training, and the staff responsible for PPBB were mostly specialised in routine accounting operations, then the previous statement should hold true especially for smaller towns or rural municipalities. Larger towns and cities, e.g., regional or some district centres usually have sufficient capacity and are able to attract educated individuals to be employed alongside properly trained staff, and are therefore more likely to use effective PPBB to improve their own financial management (Nemec et al., 2021).

The municipalities' own revenues are used for PB purposes and therefore this use of funds must be included in official budgetary documents (in particular the official local public budget). No legislation in relation to PB has led to any improvisation by local governments (Klimovský, 2021). From this perspective, it is interesting to see whether local governments have acknowledged PB as an impetus to include, for example, a new programme as well as new objectives or priorities in their official budgetary documents, or whether they at least mention it as a simple budgetary item.

2. Which of the selected critical political determinants influence the adoption and further usage of PB at local level:
   a) political affiliation of decision-makers;
   b) political experience of decision-makers;
   c) transparency of local policy-making?

The impact of the selected political determinants is measured in accordance with the determinants identified in the literature review on the following basis:

- Political affiliation
  - Was the mayor who adopted PB a candidate of a political party or an independent candidate? Did the majority in a local council that adopted PB consist of councillors affiliated with some political party or were they independents?
  - Was the mayor who adopted PB a member of a political party belonging to the then ruling national coalition? Did the majority of a local council that adopted PB consist of councillors affiliated with a political party belonging to the then ruling national coalition?

The data was collected based on the results of local elections in 2010, 2014 or from 2018 when the most recent local elections were held. Due to the rules for deciding local public budgets, the positions of mayors and local councils are balanced. More precisely, while mayors are the proposers, local councils are the approvers. Given this equilibrium, we decided to include the political affiliation of local councillors in the political determinants. We measured the affiliation of the majority of local councillors in absolute numbers and the rationale behind this is as follows: Slovakia belongs to a group of countries with a medium degree of

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party politicisation at local level (Gendzwiłł, Kjaer and Steyvers, 2022: 507). According to Klimovský (2016), the recent results of local elections showed a kind of "escape-from-party-domination" trend. In addition, few national political parties have nationwide structures with sufficient numbers of their own members forming potential local cadres that are ready to compete in subnational elections (Klimovský, 2022: 342-343). From this perspective, Slovakia is a country where political parties play only a minor role in the daily practice of local government councillors (Egner, Sweeting and Klok, 2013). Last but not least, stable government coalitions and oppositions are not so common at the local level, and mayors often seek the support of independent councillors during budget negotiations, who remain outside the government coalitions and can thus advance their particular interests. We therefore suggest that the proportion of independent councillors can be a decisive factor in the smooth adoption of the local budget.

- Political experience
  - Has the mayor who adopted PB in his municipality been re-elected?

Data were collected based on the results of the local government elections in each year (2014 or 2018) and in the previous election period (e.g., if local government introduced PB after the 2018 local elections, we checked whether the mayor was also elected in 2014; similarly, if PB was introduced after the election in 2014, we checked the results of the 2010 local elections).

- Transparency of local policy-making
  - What is the transparency rating score (conducted by Transparency International Slovakia) of those local governments that adopted PB?

Transparency International Slovakia (TIS) has selected 11 areas and 105 determinants, which include mainly information on local government powers under the law (e.g., sale and lease of property), as well as policies that, according to TIS, the local governments should have developed (e.g., ethics and conflict of interest). Access to information, public participation in local government decision-making, public procurement and the area of budgets and contracts are given the greatest weight. In most cases, the questions reflect the existence of some transparency tool (e.g., do you also use electronic auctions for sales? Yes / No), i.e., they are based on publicly available, easily measurable and objectively verifiable data. The maximum number of points that a local government could receive for all areas was 100. Rankings are only done for the 100 largest municipalities in Slovakia; therefore, some data are missing. More specifically, according to TIS, while in 2018 PB was used in 17 of the 100 largest municipalities, in 2020 the total number of local governments offering PB was 54 (Murray Svidroňová and Klimovský, 2022).

In order to gather the information about the state of PB initiatives and incorporation of their main results, i.e., participatory budgets in local public budgets, we conducted exploratory research consisting of a thorough review of the local public

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budgets of 60 local governments that have tried PB processes at least once. Their local public budgets (2018, 2019, 2020, and 2021) developed by the employment of a PPBB scheme were analysed in order to gather the information necessary to respond to questions about the incorporation of (new processes of) PB into a PPBB scheme (already running). For RQ1, for each local government, we examined whether a participatory budget was embedded as a separate item or article, or whether it was incorporated as part of the various items or articles of the respective local public budget already established through the PPBB scheme put in place years ago; expenditures on the PB process, such as the administration and management of the PB processes, were incorporated separately or together with other expenditures from the PB initiative. In addition, the amount of resources devoted to project implementation; if a distinction has been made, what resources should be spent on projects selected through PB (the so-called winning projects) and what resources should be invested in adopting or sustaining a PB initiative from the local public budget. The research sample consists of all 60 local governments that have implemented PB (table 2).

The original idea was to perform a regression analysis to create a model with political determinants influencing the introduction and durability of PB in Slovak local governments. However, none of the models were statistically significant so we decided to perform a correlation analysis.

The correlation analysis is supplemented by the views of local decision-makers and other stakeholders, obtained through the focus group method. The group consisted of ten people with specific expertise or experience in PB; two local decision-makers (local politicians), two local policy makers (local government officials responsible for adoption or further use of PB), three representatives of NGOs involved in the adoption or further use of PB, and three local activists who have been involved in the processes of adoption or further use of PB. We invited these individuals through an open call, but due to the stay-at-home policy adopted in the framework of the anti-pandemic measures, the focus group was organised as a virtual event. These experts discussed all the selected political determinants and researchers facilitated the discussion. The experts came from the following municipalities (in order to secure their anonymity, we do not specify further): Banská Bystrica, Bratislava-Nové Mesto, Hlohovec, Piešťany, Prievidza, Rožňava, Senec, and Veľký Šariš. In each of these municipalities, PB was introduced, but they dealt with the situation caused by the COVID-19 pandemic differently.

5 FINDINGS AND DISCUSSION

5.1 LINKS BETWEEN PROGRAMME PERFORMANCE-BASED BUDGETING AND PARTICIPATORY BUDGETING

According to our findings, out of the 60 local governments that have experience with PB, 44 local governments explicitly included participatory budgets in their local public budgets. More specifically, this means that participatory budgets were actually listed as one of the items, articles or programmes in the local public

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budgets. In these local governments, financial resources dedicated to PB project development or financial resources allowing administration and management of PB to be realised, or both, were specified in a separate category in the local public budgets, where it was explicitly stated that it was a budget item, article or programme for PB purposes. In other local governments, although PB was in action and financial resources were allocated to this process, including funding of the selected projects, a participatory budget was not explicitly mentioned in a local public budget. As the processes took place, a lot of funds were allocated, the information had to be merged with other activities and placed in a different category (programme) in the local public budget; at the end of the day, this is contrary to transparency and openness. In sum, this means that overall 73% of participatory budgeting initiatives were explicitly specified in the local public budgets. Those that did not create a specific budget structure for PB and translated these resources into already existing budgetary structure, were mainly local governments of the "other municipalities" category: 56% in relation to all unincorporated cases came from this type of municipality; nine other municipalities in total, meaning one third of local governments in the other municipalities did not create any specific structure for PB in their own local public budgets (table 3).

Table 3

Links between participatory budgets (as results of PB initiatives) and local public budgets (as results of the PPBB scheme)

Type of municipality	Participatory budgets not explicitly specified in local public budgets	
	Number	Share (%)
Regional centres	1	6
District centres	6	38
Other municipalities	9	56
Total	16	100

Source: Authors' elaboration.

We have detected three different modalities of incorporating participatory budgets in local public budgets. We based our examination of PPBB on the details of the specification and distribution of items, articles or programmes in local public budgets. We furthermore ascertained the depth of PPBB change in local public budgets that the adoption of PB has brought about. The categories observed are as follows:

1. resources for PB are incorporated through a different programme and a participatory budget does not figure in the local public budget;
2. resources for projects selected through PB are specified in a local public budget, but expenditures for administration and management of PB are incorporated under another programme and do not figure in the local public budget;
3. resources for projects collected through the PB and expenditure for the administration and management of the PB are included in the local public budget.

Slovakia, like many other countries in Central and Eastern Europe, uses the "Porto Allegro for Europe" ("project based") model of PB. Accordingly, the Slovak

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practice revealed has a high potential to serve as a learning tool for all other countries in the region about the factors, barriers and results of combining chosen budgetary innovations.

In some cases, only resources for winning PB projects are listed under the PB label. An illustrative example is offered by Vrakuňa, a city district in the capital, Bratislava. From the local public budget of this urban district for the year 2021 it can be learned that the local government of this city district will allow local residents to propose projects that meet their needs for public benefit and decide on the use of allocated funds in the total amount of €10,000. Therefore, the expenditure related to the administration and management of PB had to be included in another programme or article of the mentioned local public budget. Another similar example is offered by Svidník, a small district centre located in the very fragmented north-eastern area of Slovakia. The local government of Svidník has earmarked €5,000 for PB activities, with the understanding that for the purpose of PB, the local government intends to allocate a total amount of €5,000 from the local public budget for projects in 2021 (this amount should be specifically redistributed between winning projects selected through a public vote).

Regarding projects, some of the local governments have created a separate programme or subprogramme for the PB projects, where all PB projects are listed, no matter what their scope (e.g., environmental, infrastructural, educational); for example, the local government of Prievidza has all PB projects and related processes listed under the "Planning, and Management" programme and the "Strategic Planning and Projects" subprogramme. However, this approach of local governments is not so rare: in Topoľčany, all PB projects were listed under the "Social Assistance and other Social Services" programme, in Bratislava-Vrakuňa all PB projects were listed under the "General Public Services" programme, in Svidník they were listed under the "Residential Services" programme, in Lučenec (until 2020) they were listed under the "Environment for Life" programme, the local government of another city district of the capital, Bratislava-Lamač, listed them under the "Subsidies and Grants" programme, similar to the "Subsidies" programme used in Ivánka pri Dunaji and the programme called "Grant Program" used in Považská Bystrica.

Other local governments categorised projects of PB into the structure of already existing programmes and subprogrammes, created in their local public budgets before the PB pilot initiatives. This means that no new structure of programmes or subprogrammes followed an adoption of PB, and those options linked to PPBB scheme were not employed when local governments developed a proposal of their relevant local public budget. These local governments simply utilised an already existing structure into which they incorporated participatory budgets. For example, the local government of Hlohovec divided PB projects in 2021 into various programmes, namely: "Programme 4: Environment", "Programme 5: Economic and spatial development", "Programme 6: Transport and technical development",

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and "Programme 9: Cultural and monumental agility". In addition, in the 2021 local public budget of this local government, one can also find the "Programme 1: City Administration", where the financial resources for PB management and administration of polling were allocated.

There are also a minority of cases in which local governments have created separate categories in their local public budgets for only administrative and managerial expenditures related to PB; meanwhile projects have not (yet) been listed. For example, the local government in Hnúšťa indicated that it had PB administration and management under the "Internal Services" programme and in its local public budget for 2020, only the programme "Payroll and Administration" was directly linked to PB. Similarly, the local government of Nová Baňa listed these expenditures under the "Resources for Studies and Monitoring" article of its local public budget. The explanation for the missing resources for the winning projects of PB is simple: both local governments launched PB on a pilot basis in 2020, and therefore could not have known what area and budgetary programmes would be addressed by project proposers through the relevant PB processes. Nonetheless, a total amount for winning projects should have already been set in the local public budget at that stage of budgeting otherwise it could lead to misunderstanding or even dissatisfaction in the interested public.

Our results allow us to hypothesize that the general governance of PB tends to be included in the linear local management cells in general, rather than separated out in the budgeting process as a stand-alone. As noted at the outset, PB is still a rather new tool, and the absence of any statutory provisions associated with its adoption and continued use may be a challenge for those who should employ the PPBB scheme to propose a draft of a local public budget. The question is whether such resistance to openness is for a purpose, or whether it is related to a lack of experience with the transparent and open incorporation of PB in local public budgets.

In terms of the incorporation of PB in the local public budgets of first-timer adopters (i.e., those who have just adopted PB for the first time), a number of local governments have not included PB in any specific category or programme. Interestingly, while in 2018 all three first-timer adopters incorporated PB into their local public budgets, in 2019 when PB pilots boomed, only 56% of the first-timer PB adopters incorporated participatory budgets into their local public budgets. Presumably, as 2019 was a year where PB pilots were booming, some of them may have been driven by spontaneous political choice, and therefore proper incorporation lagged behind. Nevertheless, as we move towards the uncertainty of 2020 and 2021, the rate of changing local public budgets (in terms of the PPBB approach) in order to accommodate PB processes has been decreasing. Finally, in 2021, not all five PB pilots were included in their respective local public budgets; this was probably determined, among other things, by the fact that three of those five cases were neither regional nor district centres (table 4).

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Table 4

The timing of incorporation of PB in local public budgets

Year	PB first-timers	PB not specified in local public budgets	PB specified in local public budgets	Percentage of PB incorporation
2018	3		3	100
2019	16	7	9	56
2020	15	9	6	40
2021	5	5	0	0

Source: Authors' elaboration.

Based on the preliminary results of our observations, it appears that those who did not incorporate the first year of PB in their local public budgets have less incentive to incorporate it later. For example, a total of seven PB pilots were not incorporated in relevant local public budgets in 2019, and four of these remained unincorporated in 2020. In comparison, nine first-timer adopters did not create any specific structure for PB in their 2020 local public budgets, with six of them continuing without incorporation in 2021. These numbers lead us to the conclusion that the observed phenomenon is probably not related to too spontaneous an adoption of PB or beginner's mistakes, but rather to goal-directed behaviour, which opens a new and very interesting research gap.

5.2 POLITICAL FACTORS DETERMINING THE IMPLEMENTATION OF PARTICIPATORY BUDGETING

Based on the data available, we identified two political determinants influencing the success of PB (based on the political determinants) in Slovakia. Other factors were statistically insignificant (see the appendix).

Spearman´s Rho suggests a moderate correlation between the durability of PB (measured in years of PB implementation in the local governments) and the previous experience of mayors. These results can be interpreted as the continual support of mayors, both as political and executive heads of local governments, for the adoption and continued use of PB. More specifically, mayors who were in office when PB was adopted have a positive attitude towards the long-term usage of this budgetary innovation. Interestingly, due to the bipartisan dependence, one can also consider the interpretation that PB could contribute to the popularity of the mayor among voters in the relevant municipality. However, this interpretation seems too demanding and in our opinion would require a much deeper analysis. Our results (table 5) also confirm the existence of a relationship between transparency and the usage of PB.

According to the data in table 5, it is even possible to conclude that the following formula could hold: the higher the transparency score, the higher the likelihood of a long-term usage of PB. Of course, it does not show whether higher local government transparency facilitates easier adoption of PB or whether PB contributes in any significant way to higher local government transparency.

Table 5

Parametric correlation analysis of the political determinants

		Length of period of PB (years)	TIS ranking		
			2014	2016	2018
Length of period of PB (years)	Pearson correlation	1	0.317	0.450**	0.653**
	Sig. (2-tailed)		0.068	0.008	0.000
	N	53	34	34	34

*Note: Table 5 shows only determinants where a correlation was proven, the full list of determinants is in appendix. **Correlation is significant at the 0.01 level (2-tailed).*

Source: Authors' elaboration.

The above determinants were discussed by the participants of the focus group (hereafter referred to as "experts"). They stressed that there is no political party which has PB and its further dissemination on its agenda. This fact clearly distances it from the original Porto Alegre model, where the Workers' Party was the main driving force in terms of successfully adapting to reform changes in local government, including the introduction of PB (Goldfrank, 2011). For example, in the Czech Republic, which inherited a similar political and administrative culture due to a common historical development (Klimovský, Pinterič and Jüptner, 2019), there is the Pirate Party, which has adopted the further expansion of direct democracy tools, including PB, into its own official agenda (Sedmihradská, Kukučková and Bakoš, 2022). However, it differs markedly from the Workers' Party in its goals, being an anti-system rather than a left-leaning party. A kind of parallel development has also been identified by the experts in Slovakia. Instead of any party, local activists and independent candidates have played key roles. This happened, for example, in Hlohovec, where a newly elected mayor, supported by a group of independent councillors, adopted PB during his first term of office. Another dimension of this parallel development, in comparison with the Porto Alegre development, is the fact that PB was implemented in this town as an integral part of a larger participatory package, including tools such as open data, and participatory planning for the use of public space.

Unlike the case in Latin American countries or the Czech Republic, no political party in Slovakia has yet offered an explicit programme to push for PB in Slovakia. Such lack of support from a party can be seen as one of the main barriers to a faster and smoother diffusion of this budgetary innovation among local governments in Slovakia. According to the experts, this idea can be confirmed by the role of innovators in this area having been played by various independent or local activists, who were mostly supported by NGOs, and not by any political party (e.g., in Banská Bystrica, Bratislava-Nové Mesto, Rožňava, Ružomberok). In addition, the experts also point to the lack of legal provisions on PB. In their opinion, many mayors or local councillors have a kind of reserved or even distrustful attitude towards this innovation, because its adaptation to these circumstances by any local government

in Slovakia means that their decision-makers as well as administrators must improvise to some extent (e.g., Hrabinová, 2020; Klimovský, 2021). In this context, independent candidates are more open and their willingness to implement some new or innovative solutions is higher according to experts (e.g., in Veľký Šariš).

Most NGOs in Slovakia, as well as local activists, have very limited capacity. However, neither general associations of local governments nor any other larger initiative has yet contributed to the dissemination of good practice in the field of PB. In this atmosphere, the role of policy entrepreneur has surprisingly been taken on by the Office of the Government's Plenipotentiary for Civil Society Development in cooperation with some NGOs and academics from universities. This state body began to provide expert (and in some cases financial) aid to those who were considering introducing PB. Although this aid was mainly used by regional governments and secondary schools, the government body also supported some local governments. The experts concluded with the estimate that the activities of this Office can play a key role in terms of the durability of PB initiatives in the post-pandemic period. They justified their estimate by noting that most PB initiatives were either suspended or cancelled in 2020 (Bardovič and Gašparík, 2021) for three main reasons: the shortfall in revenues of local governments; too high a level of uncertainty and the existence of turbulent problems far beyond the capacity of individual local governments; and the lack of use of appropriate electronic solutions to facilitate proper public participation in the context of social distancing and stay-at-home policies. Such an extensive series of cancellations and suspensions did not happen in several other European countries, e.g., in the Czech Republic (Klimovský et al., 2021). Cho, Jérôme and Maurice (2020) even pointed to the rise of PB initiatives at the local level in France as a response to some recent trends of centralisation. In these countries, various political determinants, including political accountability to the electorate, have contributed to the continued maintenance of PB, notwithstanding the economic challenges that followed the onset of the COVID-19 pandemic. In addition, in the Czech Republic, the widespread outsourcing of effective e-solutions for PB management and administration appears to have played a similarly important positive role (Klimovský et al., 2021).

The relationship between transparency and PB has not been assessed in a coherent way by experts. Some stressed that PB contributes to overall transparency, others felt that if transparent local governments want to improve or strengthen their transparency, they must look for innovative options, and PB is one of them. This incoherence, however, confirms our quantitative findings. On the one hand, we have no answer to the questions of whether a higher level of transparency leads to a higher likelihood of adopting PB, or whether adopting PB immediately directly leads to a higher level of transparency. On the other hand, we can confirm that higher levels of transparency are associated with more durable PB initiatives. An interesting example has been given by experts on this topic: the case of PB in Ružomberok. For various reasons, the initiative itself was not very transparent and lost the trust of local citizens. It also caused some tension between the local

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government in Ružomberok and the NGO which brought this innovation there. At the end of the day, just a few years later, the PB initiative in that town was cancelled (Murray Svidroňová and Klimovský, 2022). Hlohovec offered an opposite kind of story. There, too, there was serious tension between the same NGO and local government officials (Hrabinová, 2020). However, the transparent management and administration of PB did not lead to a significant loss of citizens' trust, and after the situation calmed down, the number of citizens participating increased.

6 CONCLUSIONS

Our research answered two defined research questions. Its first analytical strand examined whether there are links between PPBB and PB – the extent to which PB is incorporated in local public budgets through a PPBB scheme. The results suggest that local governments in "other municipalities", i.e., particularly small municipalities lag behind in adopting PB and, once adopted, lag behind in incorporating PB in local public budgets through a PPBB scheme as a separate category or programme. They seem to prefer to translate PB expenditures into the existing programmes, subprogrammes, articles and items, rather than change the programme or subprogramme structure of their local public budgets and adopt PB as a separate category or programme of its own. Most local governments tend to create a separate article or item in their local public budgets for PB winning projects, but most local governments have the expenses associated with the management and administration of PB incorporated under other, pre-existing expenditure items or articles (given the fact that ABC accounting is not used by local governments in Slovakia, the chances of these overheads being recovered through the PPBB scheme are very low). However, the simple fact that in most local governments there is a link between PB and PPBB should be viewed positively.

The second research question is multidimensional and to answer it we tested three political factors with the potential ability to influence the evolution of PB in Slovakia – political affiliation or relevant decision-makers, political experience of relevant decision-makers, and transparency. Based on the available data, we identified two political determinants influencing the success of PB in Slovakia. The durability of PB (measured in terms of the number of years that PB has been used by the local governments) seems to be related to the phenomenon of incumbency, i.e., previous experience of mayors. Such results should be realistic – the continued support of mayors, as political and executive heads of local governments in the use of PB, should be a critical factor in the development of PB. Mayors who were in office when PB was adopted, have a positive attitude towards the long-term use of this budgetary innovation.

Another statistically significant determinant was the transparency of local policy-making measured by the TIS index. The analysis showed that the higher the score of transparency, the higher the likelihood of a more durable PB. The correlation does not indicate whether higher local government transparency makes it easier to adopt PB or, conversely, PB contributes to higher local government transparency.

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This article is practically a step into the unknown in the conditions of Slovakia. We would like to emphasise that it is rather the beginning of some fascinating research into this issue, which requires a more quantitative and qualitative analysis. As mentioned earlier, the missing data are a serious limitation of this article, which led to the change in methods from regression to correlation analysis. Coupled with the fact that only one focus group was conducted, the results are rather preliminary and further, more focused research is required. Firstly, more data mining might help in the collection of data on the political experience of the local councillors, which we have not included in this article. Moreover, the 2020 TIS index should be published soon, which would expand the possibilities for more comprehensive analysis. In addition, another focus group should be conducted, including citizen representatives who are actively submitting project proposals in the context of PB initiatives.

Disclosure statement

The authors declare that they have no conflict of interest.

REFERENCES

1. Abers, R., 1998. From Clientelism to Cooperation: Local Government, Participatory Policy, and Civic Organizing in Porto Alegre, Brazil. *Politics & Society*, 26(4), pp. 511-537. https://doi.org/10.1177/0032329298026004004
2. Akyel, N., Korkusuz-Polat, T. and Arslankay, S., 2012. Strategic Planning in Institutions of Higher Education: A Case Study of Sakarya University. *Procedia – Social and Behavioral Sciences,* 58(1), pp. 66-72. https://doi.org/10.1016/j.sbspro.2012.09.979.
3. Baiocchi, G. and Ganuza, E., 2014. Participatory budgeting as if emancipation mattered. *Politics and Society,* 42(1), pp. 29-50. https://doi.org/10.1177/0032329213512978
4. Baiocchi, G., 2001. Participation, activism and politics: The Porto Alegre experience and deliberative democratic theory. *Politics and Society,* 9(1), pp. 43-72. https://doi.org/10.1177/0032329201029001003
5. Bajusová, D., 2013. *Programové rozpočtovanie v kontexte New Public Management.* Bratislava: Ekonomická univerzita v Bratislave, Národohospodárska fakulta.
6. Baranowski, J., 2020. Participatory Budget and the Sars-Cov-2 Pandemic in Poland. *Transylvanian Review of Administrative Sciences,* 16 (Special Issue 2020), pp. 24-37. https://doi.org/10.24193/tras.SI2020.2
7. Bardovič, J. and Gašparík, J., 2021. Enablers of Participatory Budgeting in Slovakia During the COVID-19. Pandemic. *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, 29(1). https://doi.org/10.46585/sp29011248
8. Bardovič, J., 2021. Participácia obyvateľov na participatívnom rozpočte v krajských mestách. In: K. Duffeková, B. Feketeová and K. Lörincová, eds. *Začiatok dekády zmien? Zborník príspevkov z IX. ročníka Medzinárodnej online vedeckej konferencie študentov a mladých vedeckých pracovníkov.* Košice: Filozofická fakulta, Univerzita P. J. Šafárika v Košiciach, pp. 250-266.
9. Bartocci, L., Grossi, G. and Mauro, S. G., 2019. Towards a hybrid logic of participatory budgeting. *International Journal of Public Sector Management*, 32(1), pp. 65-79. https://doi.org/10.1108/IJPSM-06-2017-0169.
10. Beuermann, D. W. and Amelina, M., 2018. Does participatory budgeting improve decentralized public service delivery? Experimental evidence from rural Russia. *Economics of Governance,* 19(4), pp. 339-379. https://doi.org/10.1007/s10101-018-0214-3
11. Brun-Martos, M. I. and Lapsley, I., 2017. Democracy, governmentality and transparency: participatory budgeting in action. *Public Management Review*, 19(7), pp. 1006-1021. https://doi.org/10.1080/14719037.2016.1243814
12. Cabannes, Y. and Lipietz, B., 2018. Revisiting the democratic promise of participatory budgeting in light of competing political, good governance and technocratic logics. *Environment and Urbanization*, 30(1), pp. 67-84. https://doi.org/10.1177/0956247817746279

13. Cabannes, Y., 2004. Participatory Budgeting: A Significant Contribution to Participatory Democracy. *Environment and Urbanization*, 16(1), pp. 27-46. https://doi.org/10.1630/095624704323026133
14. Čajková, A., Butoracová Šindleryová, I. and Garaj, M., 2021. The COVID-19 Pandemic and Budget Shortfalls in the Local Governments in Slovakia. *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, 29(1), 1243. https://doi.org/10.46585/sp29011243.
15. Callahan, K., 2002. The utilization and effectiveness of citizen advisory committees in the budget process of local governments. *Journal of Public Budgeting, Accounting & Financial Management*, 14(2), pp. 295-319. https://doi.org/10.1108/JPBAFM-14-02-2002-B007
16. Carroll, C. [et al.], 2016. *Democratizing Tax Increment Financing Funds through Participatory Budgeting.* Chicago: University of Illinois.
17. Černěnko, T., Neubauerová, E. and Zubaľová, A., 2021. Impact of the COVID-19 Pandemic on the Budget of Slovak Local Governments: Much Cry and Little Wool?. *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, 29(1), 1249. http://doi.org/10.46585/sp29011249
18. Cho, C. H., Jérôme, T. and Maurice, J., 2021. Whatever it takes: first budgetary responses to the COVID-19 pandemic in France. *Journal of Public Budgeting, Accounting and Financial Management*, 33(1), pp. 12-23. https://doi.org/10.1108/JPBAFM-07-2020-0126
19. De Vries, M. S., Nemec, J. and Špaček, D. (eds.), 2019. *Performance-Based Budgeting in the Public Sector*. London: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-02077-4
20. De Vries, M. S., Nemec, J. and Špaček, D. (eds.), 2022. *International Trends in Participatory Budgeting: Between Trivial Pursuits and Best Practices*. Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-79930-4
21. Džinić, J., Murray Svidroňová, M. and Markowska-Bzducha, E., 2016. Participatory budgeting: a comparative study of Croatia, Poland and Slovakia. *NISPAcee Journal of Public Administration and Public Policy*, 9(1), pp. 31-56. https://doi.org/10.1515/nispa-2016-0002
22. Egner, B., Sweeting, D. and Klok, P.-J., 2013. Local Councillors in Comparative Perspective: Drawing Conclusions. In: B. Egner, D. Sweeting and P.-J. Klok, eds. *Local Councillors in Europe*. Wiesbaden: Springer VS, pp. 255-262. https://doi.org/10.1007/978-3-658-01857-3_14
23. Eymeri-Douzans, J.-M. and Pierre, J., 2011. *Administrative Reforms and Democratic Governance*. London: Routledge. https://doi.org/10.4324/9780203820339
24. Freitag, M. and Stadelmann-Steffen, I., 2010. Stumbling Block or Stepping Stone? The Influence of Direct Democracy on Individual Participation in Parliamentary Elections. *Electoral Studies*, 29(3), pp. 472-483. https://doi.org/10.1016/j.electstud.2010.04.009

25. Gendzwiłł, A., Kjaer, U. and Steyvers, K., 2022. 'Happily ever after'? Comparing local elections and voting in 40 European countries. In: A. Gendzwiłł, U. Kjaer and K. Steyvers, eds. *The Routledge Handbook of Local Elections and Voting in Europe.* London/New York: Routledge, pp. 489-531.
26. Goldfrank, B. and Schneider, A., 2006. Competitive institution building: The PT and participatory budgeting in Rio Grande do Sul. *Latin American Politics and Society,* 48(3), pp. 1-31. https://doi.org/10.1111/j.1548-2456.2006.tb00354.x
27. Goldfrank, B., 2007. Lessons from Latin America's Experience with Participatory Budgeting. In: A. Shah, ed. *Participatory Budgeting*. Washington: IBRD/The World Bank, pp. 91-126.
28. Goldfrank, B., 2011. *Deepening Local Democracy in Latin America: Participation, Decentralization, and the Left*. University Park: Pennsylvania State University Press.
29. Goldfrank, B., 2012. The World Bank and the Globalization of Participatory Budgeting. *Journal of Public Deliberation,* 8(2). https://doi.org/10.16997/jdd.143
30. Hammerschmid, G. [et al.], eds., 2016. *Public Administration Reforms in Europe: The View from the Top.* Cheltenham/Northampton: Edward Elgar. https://doi.org/10.4337/9781783475407
31. Holdo, M., 2015. Strategies of deliberation: Bourdieu and struggles over legitimate positions. *Political Studies*, 63(5), pp. 1103-1119. https://doi.org/10.1111/1467-9248.12139
32. Hrabinová, A., 2020. Transparentnosť výkonu samosprávy a otvorené dáta. In: D. Klimovský, ed. *Participatívne procesy v praxi: čítanka participatívnej tvorby verejných politík*. Bratislava: Ministerstvo vnútra SR/Úrad splnomocnenca vlády SR pre rozvoj občianskej spoločnosti, pp. 219-263.
33. Hronec, Š., 2019. Performance-Based Program Budgeting in Slovakia: A Lost Opportunity (?). In: M. De Vries, J. Nemec and D. Špaček, eds. *Performance-Based Budgeting in the Public Sector. Governance and Public Management.* Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-02077-4_10
34. Im, T. [et al.], 2014. Citizen Preference and Resource Allocation: The Case for Participatory Budgeting in Seoul. *Local Government Studies*, 40(1), pp. 102-120. https://doi.org/10.1080/03003930.2013.812963
35. Jacobi, P., 1999. Challenging Traditional Participation in Brazil: The Goals of Participatory Budgeting. *Comparative Urban Studies Occasional Papers Series*, No. 32.
36. Jüptner, P. and Klimovský, D., 2021. Vertical and horizontal intergovernmental relations during the first wave of the COVID-19 crisis: experience from the extremely fragmented CEE countries. *Local Government Studies,* 48(2), pp. 179-190. https://doi.org/10.1080/03003930.2021.1944858
37. Klimovský, D. [et al.], 2021. *A Use of Participatory Budgeting in Times of the COVID-19 Pandemic: Lessons from the Czech Republic and Slovakia.* Paper presented at the EGPA Virtual Workshop, 18 March 2021.

38. Klimovsky, D. and Murray Svidronova, M., 2021. *Political determinants of sustainable participatory budgeting in Slovakia.* Presented at IRSPM Conference 2021 – Public Management, Governance and Policy in Extraordinary Times: Challenges and Opportunities, 20-23 April 2021. Virtual. Newark: Rutgers University.
39. Klimovský, D. and Nemec, J., 2021. Local Self-Government in Slovakia. In: B. Brezovnik, I. Hoffman and J. Kostrubiec, eds. *Local Self-Government in Europe.* Maribor: Institute for Local Self-Government Maribor, pp. 355-382.
40. Klimovský, D., 2016. Experience with Managerial and Political Reform Measures at the Local Level in Slovakia: Intended and Unintended Outcomes. In: U. Sadioglu and K. Dede, eds. *Comparative Studies and Regionally-Focused Cases Examining Local Governments*. Hershey: IGI Global, pp. 135-160. https://doi.org/10.4018/978-1-5225-0320-0.ch007
41. Klimovský, D., 2021. *Participatívne rozpočtovanie: absencia zákonnej úpravy a doterajšie skúsenosti samospráv*. In: Ako zefektívniť priamu účasť obyvateľov na miestnej samospráve v podmienkach inteligentných miest a obcí. Zborník z medzinárodnej konferencie. Bratislava: Univerzita Komenského v Bratislave, Právnická fakulta.
42. Klimovský, D., 2022. Slovakia: A gradual weakening of political parties in a stable, local electoral system. In: A. Gendzwiłł, U. Kjaer and K. Steyvers, eds. *The Routledge Handbook of Local Elections and Voting in Europe.* London/New York: Routledge, pp. 337-346. https://doi.org/10.4324/9781003009672-35
43. Klimovský, D., Junjan, V. and Nemec, J., 2021. Selected Factors Determining the Adoption and Use of Participatory Budgeting in Central and Eastern Europe. *Slovak Journal of Political Sciences,* 21(2), pp. 230-255. https://doi.org/10.34135/sjps.210206
44. Klimovský, D., Pinterič, U. and Jüptner, P., 2019. Path dependence and local self-government systems: a comparison of three CEE countries. *Politics in Central Europe,* 15(2), pp. 193-218. https://doi.org/10.2478/pce-2019-0015
45. Klun, M. and Benčina, J., 2021. Predictors, Determinant Groups, and Participatory Budgeting. *Slovak Journal of Political Sciences*, 21(2), pp. 186-208. https://doi.org/10.34135/sjps.210204
46. Koprić, I., Wollmann, H. and Marcou, G. (eds.), 2018. *Evaluating Reforms of Local Public and Social Services in Europe: More Evidence for Better Results*. Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-319-61091-7
47. Krenjova, J. and Raudla, R., 2013. Participatory Budgeting at the Local Level: Challenges and Opportunities for New Democracies. *Halduskultuur*, 14(1), pp. 18-46.
48. Kuhlmann, S. and Bouckaert, G. (eds.), 2016. *Local Public Sector Reforms in Times of Crisis: National Trajectories and International Comparisons.* London: Palgrave Macmillan. https://doi.org/10.1057/978-1-137-52548-2
49. Kukučková, S. and Bakoš, E., 2019. Does participatory budgeting bolster voter turnout in elections? The case of the Czech Republic. *The NISPAcee*

Journal of Public Administration and Policy, 12(2), pp. 109-129. https://doi.org/10.2478/nispa-2019-0016

50. Kukučková, S. and Poláchová, M., 2021. The Impact of the D21 Method and Its Modification on Citizens' Participation in Participatory Budgeting. The Case of the Czech Republic. *Slovak Journal of Political Sciences*, 21(2), pp. 117-138. https://doi.org/10.34135/sjps.210201
51. Kuo, N.-L., Chen, T.-Y. and Su, T.-T., 2020. A new tool for urban governance or just rhetoric? The case of participatory budgeting in Taipei City. *Australian Journal of Social Issues*, 55(2), pp. 125-140. https://doi.org/10.1002/ajs4.110
52. Lüchmann, L. H. H., 2017. Participatory budgeting and democratic innovation: Some analytical variables. In: *Beyond Bureaucracy*. Cham: Springer, pp. 63-78. https://doi.org/10.1007/978-3-319-54142-6_5
53. Melgar, T. R., 2014. A Time of Closure? Participatory Budgeting in Porto Alegre, Brazil, after the Workers' Party Era. *Journal of Latin American Studies*, 46(1), pp. 121-149. https://doi.org/10.1017/S0022216X13001582
54. Mikuš, D., Brix, R. and Šmatlánek, D., 2021. Speifications of Participatory Budgeting in Visegrad Group States and Possible Implementations for Slovakia. *Slovak Journal of Political Sciences*, 21(2), pp. 161-185. https://doi.org/10.34135/sjps.210203
55. Montambeault, F., 2016. Participatory citizenship in the making? The multiple citizenship trajectories of participatory budgeting participants in Brazil. *Journal of Civil Society,* 12(3), pp. 282-298. https://doi.org/10.1080/17448689.2016.1213508
56. Murray Svidroňová, M. and Klimovský, D., 2022. Participatory Budgeting in Slovakia: Recent Development, Present State and Interesting Cases. In: M. S. De Vries, J. Nemec and D. Špaček, eds. *International Trends in Participatory Budgeting*. London: Palgrave Macmillan, pp. 247-269. https://doi.org/10.1007/978-3-030-79930-4_13
57. Nemec, J. [et al.], 2021. The Impact of Fiscal Rules on the Financial Management of Municipalities: A Comparative Analysis of the Czech Republic and Slovakia. In: R. Geissler, G. Hammerschmid and C. Raffer, eds. *Local Public Finance*. Cham: Springer, pp. 109-130. https://doi.org/10.1007/978-3-030-67466-3_7
58. Novák, M., 2021. Participatívne rozpočtovanie samosprávnych krajov v podmienkach Slovenskej republiky. In: A. Čajková, D. Klimovský and N. B. Mulinová, eds. *Sociálne vedy z perspektívy mladých vedeckých pracovníkov V. Zborník príspevkov z medzinárodnej vedeckej konferencie doktorandov a mladých vedeckých pracovníkov*. Trnava: FSV UCM, pp. 31-42.
59. Oliveira, O. P., 2017. *International Policy Diffusion and Participatory Budgeting.* New York: Palgrave Macmillan.
60. Pollitt, C. and Bouckaert, G., 2011. *Public Management Reform: A Comparative Analysis – New Public Management, Governance, and the Neo-Weberian State*. New York: Oxford University Press.

61. Popławski, M., 2020. COVID-19 and Direct Contact-Free Democracy – Experiences from Poland. *Przegląd Prawa Konstytucyjnego*, 58(6), pp. 603-614. https://doi.org/10.15804/ppk.2020.06.49
62. Ramesh, M., Araral, E. and Wu, X., 2010. *Reasserting the Public in Public Services: New Public Management Reforms*. London: Routledge. https://doi.org/10.4324/9780203858523
63. Röcke, A., 2014. *Framing Citizen Participation. Participatory Budgeting in France, Germany and the United Kingdom*. London: Palgrave McMillan. https://doi.org/10.1057/9781137326669
64. Rossmann, D. and Shanahan, E. A., 2011. Defining and Achieving Normative Democratic Values in Participatory Budgeting Processes. *Public Administration Review*, 72(1), pp. 56-66. https://doi.org/10.1111/j.1540-6210.2011.02480.x
65. Šabović, M. T., Milosavljević, M. and Benković, S., 2021. Citizens: Participation in Public Financial Decision-Making in Serbia. *Slovak Journal of Political Sciences*, 21(2), pp. 209-229. https://doi.org/10.34135/sjps.210205
66. Saguin, K., 2018. Why the poor do not benefit from community-driven development: Lessons from participatory budgeting. *World Development*, 112(1), pp. 220-232. https://doi.org/10.1016/j.worlddev.2018.08.009
67. Sedmihradská, L., Kukučková, S. and Bakoš, E., 2022. Project-Oriented Participatory Budgeting in the Czech Republic. In: M. S. De Vries, J. Nemec and D. Špaček, eds. *International Trends in Participatory Budgeting: Between Trivial Pursuits and Best Practices.* Cham: Palgrave Macmillan, pp. 131-147. https://doi.org/10.1007/978-3-030-79930-4_7
68. Shah, A. (ed.), 2007. *Participatory Budgeting. Public Sector Governance and Accountability.* Washington: IBRD/The World Bank.
69. Shybalkina, I. and Bifulco, R., 2019. Does participatory budgeting change the share of public funding to low income neighborhoods? *Public Budgeting and Finance*, 39(1), pp. 45-66. https://doi.org/10.1111/pbaf.12212
70. Sintomer, Y. [et al.], 2010. Learning from the South: Participatory Budgeting Worldwide – an Invitation to Global Cooperation. *Study*, No. 25.
71. Sintomer, Y., Herzberg, C. and Röcke, A., 2008. Participatory budgeting in Europe: potentials and challenges. *International Journal of Urban and Regional Research*, 32(1), pp. 164-178. https://doi.org/10.1111/j.1468-2427.2008.00777.x
72. Sintomer, Y., Röcke, A. and Herzberg, C., 2016. *Participatory Budgeting in Europe: Democracy and Public Governance*. London: Routledge. https://doi.org/10.4324/9781315599472
73. Soukop, M., Šaradín, P., and Zapletalová, M., 2021. Participatory Budgeting: Case Study of Possible Causes of Failures. *Slovak Journal of Political Sciences*, 21(2), pp. 139-160. https://doi.org/10.34135/sjps.210202
74. Spada, P., 2009. *The economic and political effects of participatory budgeting*. Paper presented at the 2009 Congress of the Latin American Studies Association, Rio de Janeiro, Brazil, June 11-14, 2009.
75. Švaljek, S., Rašić Bakarić, I. and Sumpor, M., 2019. Citizens and the city: the case for participatory budgeting in the City of Zagreb. *Public Sector Economics*, 43(1), pp. 21-48. https://doi.org/10.3326/pse.43.1.4

76. Talpin, J., 2012. Schools of democracy: *How ordinary citizens (sometimes) become competent in participatory budgeting institutions*. Colchester: ECPR Press.
77. Tanase, G. L., 2013. An overall analysis of participatory budgeting advantages and essential factors for an effective implementation in economic entities. *Journal of Eastern Europe Research in Business and Economics*, 1(1), 201920. https://doi.org/10.5171/2013.201920
78. Teivainen, T., 2010. The World Social Forum and Global Democratisation: Learning From Porto Alegre. *Third World Quarterly*, 23(4), pp. 621-632. https://doi.org/10.1080/0143659022000005300
79. USV ROS., 2021. *Národný projekt Podpora partnerstva a dialógu v oblasti participatívnej tvorby verejných politík*.
80. Wampler, B. and Avritzer, L., 2005. The spread of participatory democracy in Brazil: From radical democracy to participatory good government. *Journal of Latin American Urban Studies*, 7(1), pp. 37-52.
81. Wampler, B. and Goldfrank, B., 2021. *The Rise, Spread, and Decline of Brazil's Participatory Budgeting: The Arc of a Democratic Innovation.* London: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-90058-8
82. Wampler, B. and Touchton, M., 2019. Designing institutions to improve well-being: Participation, deliberation and institutionalisation. *European Journal of Political Research,* 58(3), pp. 915-937. https://doi.org/10.1111/1475-6765.12313
83. Wampler, B., McNulty, S. and Touchton, M., 2018. *Participatory budgeting: Spreading across the globe.* Boise/Lancaster/Miami: Boise State University/Frank Marshall College/University of Miami.

Analysed documents:

Approved programme budget of the local governments for the year 2021-2023 of municipalities:
Bratislava-Nové Mesto, Svätý Jur, Spišská Belá, Bratislava-Rusovce, Bratislava-Vajnory, Bratislava-Vrakuňa, Trstená, Nitra, Poniky, Bratislava-Lamač, Vysoké Tatry, Chorvátsky Grob, Krásno nad Kysucou, Ivanka pri Dunaji, Zálesie Veľký Šariš, MČ Košice-Západ, Modra, Biely Kostol, MČ Košice-Sídlisko KVP, Hnúšťa, Nová Baňa, Stará Turá, Jelšava, Rovinka, Hruštín, Dubnica nad Váhom, Malinovo, Svit

Approved programme budget of the local governments for the year 2020-2022:
Bratislava-Nové Mesto, Svätý Jur, Spišská Belá, Bratislava-Rusovce, Bratislava-Vajnory, Bratislava-Vrakuňa, Trstená, Nitra, Poniky, Bratislava-Lamač, Vysoké Tatry, Chorvátsky Grob, Krásno nad Kysucou, Ivanka pri Dunaji, Zálesie Veľký Šariš, MČ Košice-Západ, Modra, Biely Kostol, MČ Košice-Sídlisko KVP, Hnúšťa, Nová Baňa, Stará Turá, Jelšava, Rovinka, Hruštín, Dubnica nad Váhom, Malinovo, Svit

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Approved programme budget of the local governments for the year 2019-2021: Bratislava-Nové Mesto, Svätý Jur, Spišská Belá, Bratislava-Rusovce, Bratislava-Vajnory, Bratislava-Vrakuňa, Trstená, Nitra, Poniky, Bratislava-Lamač, Vysoké Tatry, Chorvátsky Grob, Krásno nad Kysucou, Ivanka pri Dunaji, Zálesie Veľký Šariš, MČ Košice-Západ, Modra, Biely Kostol, MČ Košice-Sídlisko KVP, Hnúšťa, Nová Baňa, Stará Turá, Jelšava, Rovinka, Hruštín, Dubnica nad Váhom, Malinovo, Svit

Approved programme budget of the local governments for the year 2018-2020: Bratislava-Nové Mesto, Svätý Jur, Spišská Belá, Bratislava-Rusovce, Bratislava-Vajnory, Bratislava-Vrakuňa, Trstená, Nitra, Poniky, Bratislava-Lamač, Vysoké Tatry, Chorvátsky Grob, Krásno nad Kysucou, Ivanka pri Dunaji, Zálesie Veľký Šariš, MČ Košice-Západ, Modra, Biely Kostol, MČ Košice-Sídlisko KVP, Hnúšťa, Nová Baňa, Stará Turá, Jelšava, Rovinka, Hruštín, Dubnica nad Váhom, Malinovo, Svit

APPENDIX

Table A1

Non-parametric correlation analysis of the political determinants

Length of period of PB (years)			Affiliation				Experience of the mayor		Implementation of PB in 2020
			of the mayor (year of introduction) - independent	of the mayor (2018) - independent	of the majority of councillors (year of introduction) - independent	of the majority of councillors (2018) - independent	In year of introduction	2018	
Length of period of PB (years)	Correlation coefficient	1,000	-0.032	0.034	-0.191	-0.101	0.035	0.453*	0.023
	Sig. (2-tailed)		0.819	0.879	0.171	0.648	0.806	0.030	0.878
	N	53	53	23	53	23	53	23	47

*Note: *Correlation is significant at the 0.05 level (2-tailed).*
Source: Authors.

Improving green budget decisions and transparency through public participation: evidence from Russia

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Abstract

Addressing climate change and protecting the environment have become the key global challenges and priorities and requires a whole-of-society approach. Many countries are increasing their commitments to meet the Paris Agreement's goals, introducing green budgeting among them. The goal of the paper is to understand how public participation in public budgeting with green objectives is being effectuated in the Russian Federation, and to look at what governments can do to facilitate it. The author explores the relevance of environmental problems for Russians, and analyses public participation in environmental policy-making with a focus on budgeting in Russia. The paper provides examples of green participatory budgeting practices of global interest, highlights the potential of participatory budgeting encouraging pro-environmental behaviour, potentially enriching the repertoire of climate-friendly actions and fostering the growing interest in green budgeting. The author concludes with recommendations on how to improve public participation in relation to greening the budget process.

Keywords: climate change, green budgeting, participatory budgeting, environment policy-making, public participation, Russia

1 INTRODUCTION

Addressing climate change and protecting the environment in an integrated manner is one of the key global challenges and priorities. Public finance management is at the centre of the implementation of government policy in all areas and sectors (Hemming, 2013: 98). Many countries are increasing their commitments to meeting the Paris Agreement's goals, and introducing environmentally responsive budgeting. This includes climate/green tagging of budget lines, assessments of the social costs of carbon, cost-benefit analysis in environmental budget policy development, climate public expenditure and institutional reviews, environment protection programs. The first term to appear for these policies was "climate-responsive budgeting", focusing mainly on reducing emissions of greenhouse gases and countering climate change. Later, to emphasise the need to integrate environmental issues into the general agenda of sustainable economic growth, the documents of the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), the Organisation for Economic Co-operation and Development (OECD), and the World Bank began to apply terms such as "green economy", "green growth", "green finance", and "green budgeting" (OECD, 2021; UNDP, 2019; UNEP, 2019; World Bank, 2021). With the launching of the Paris Collaborative on Green Budgeting by the OECD Secretary-General Angel Gurría at the One Planet Summit in Paris on 12 December 2017 the definition of "green budgeting" became unambiguous. "Environmentally responsive or green budgeting means using the tools of budgetary policy-making to help achieve environmental goals. This includes evaluating environmental impacts of budgetary and fiscal policies and assessing their coherence towards the delivery of national and international commitments. Green budgeting can also contribute to informed, evidence-based debate and discussion on sustainable growth" (OECD, 2020: 1).

The COVID-19 pandemic has been a wake-up call for governments on the vulnerability of our economic and social systems. The Russian Federation is not an exception to acceleration of the recognition that we are operating in a new context of shared vulnerabilities, risks and interests that require new models of societal and transnational innovations. "Green" technologies and responsible consumption have long been known in Russia, but until recently have not been too popular. Initiatives that appeared earlier, but were not very popular until recently, such as Environmental, Social, and Corporate Governance (ESG) criteria – a set of standards for a company's activities that characterise its involvement in solving environmental, social and managerial problems – became sharply in demand in the pandemic year.

Notably, on September 29-30, 2021, the First International Congress on Sustainable Development and Responsible Finance ECUMENE 2021 was held in Moscow with the support of the UN. The Congress was organised within the preparation for the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow on 31 October – 12 November 2021. Leading global players on the green agenda discussed common approaches to sustainable development in the context of climate change at the Congress. The participants of the Congress, in the framework of various discussions on development prospects and the problems of introducing "green" financing, emphasised that all states should prioritise reducing negative impacts on the environment and outlined the need to combine efforts, develop common principles and approaches to sustainable development. At the Plenary Session of the Congress, for the first time, the leading players from the UN, from the USA and from Russia gathered and announced the same positions.

It is widely recognised that broad public participation is a cornerstone of responsible democratic governance and a fundamental prerequisite for the achievement of sustainable development. According to the Global Initiative for Fiscal Transparency (GIFT), public participation refers to the variety of ways in which the public interacts directly with public authorities on policy design and implementation. The public includes citizens, civil society organisations (CSOs), non-governmental organisations (NGOs) and other non-state actors (GIFT, 2018: 66). Public participation in the budget process not only facilitates more effective accountability, but provides budget-makers with more complete information, helping them to anticipate and deal with any possible negative outcomes of budget policies (PEMPAL, 2020b; World Bank, 2014). Public participation in environmental policy-making draws government attention to problems that have been underestimated or even ignored. Citizens can expose the issues that governments did not notice, or are unable to solve and demand that they be included in the political agenda. Through public participation in the formulation of environmental public policies, governments might better identify, understand and tackle public interest issues that apply to a certain context (Richardson and Razzaque, 2006). Up to twenty percent of current participatory budgeting initiatives might relate to climate change, such as citizens' proposals in Mexico, Ecuador, Spain, Portugal, France, Russia, Senegal, Cameroon, Mozambique, Taiwan, Indonesia, the United Kingdom, that fall within the tangible climate adaptation projects and become part of efforts to "green" the budget cycle (Cabbannes, 2021; IOPD, 2021).

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The paper aims at an understanding of how public participation in government policy-making in relation to climate action, through fiscal policy and the use of public finance, is organised in the Russian Federation. To answer these questions, the author analyses a demand from the citizens for government policies and programmes on adaptation and mitigation in the Russian Federation, including what sources of information citizens use the most to form their opinions. The paper looks into the environmentally responsive public budget expenditure in Russia and examines what forms of public participation in environmental policy-making are the most prevalent in Russia. This paper contributes to a discussion on what public participation in the context of green budgeting, including public consultations on green outcomes, social and environmental impacts of the budget, could be built on, and how it could be facilitated by governments in order to continuously improve climate change adaptation and mitigation strategy and action. The research is based on the theory of sustainable development, and general methods of scientific cognition, methods of statistical data analysis, logical and comparative analysis are used.

2 IS CLIMATE CHANGE AND PROTECTING OF THE ENVIRONMENT PUBLICLY DEMANDED FROM THE GOVERNMENT IN RUSSIA?

Citizen activity in the field of protecting the environment and tackling climate change largely depends on how favorably the environmental situation is seen by them and what their climate and environmental concerns are. According to the surveys conducted by the All-Russian Centre for the Study of Public Opinion VCIOM (the largest sociological research centre) the great majority (93%) of Russian citizens, most often residents of rural areas (96%), believe that climate change has been taking place on the planet in recent years. More than half (57%) of them note the impact of such changes on life, 62% of rural residents. At the same time, 40% of Russians believe that the problem of global warming is far-fetched and overblown. The opposite opinion is shared by 52% of Russian citizens: they believe that global warming is a really significant problem.

Respondents associate the most acute environmental problems outside the framework of an emergency with pollution of reservoirs and their shores with garbage (73% each), industrial and sewage effluents (64%), air pollution from automobile exhaust (66%), unauthorised landfills and the removal of household garbage (58% each), see table 1.

The majority (from 62% to 76%) of respondents are not ready to pay more for goods or services, even if the funds are spent on the introduction of alternative energy sources or improving the energy efficiency of facilities. The absolute majority of respondents agreed to support the initiative to plant trees to reduce carbon dioxide emissions and would take part in such an action (94%). Two-thirds of respondents (68%) believe that the introduction of an "environmental" tax by the European Union (EU) for Russian enterprises stems from the desire "to get additional funding for the maintenance of the EU infrastructure". Only 19% of Russians, most often young people aged 18-24 (44%), explain this by the

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intention to take care of the planet's ecology. Thus, Russians consider climate change and protecting the environment increasingly as a major concern and the demand that the government solve environmental problems is also increasingly vocal; Russians' assessment of the environmental situation in the world looks about the same as in Russia. However, many people believe that environmental problems are less acute in their particular region. There are not many environmental activists; the growth of public attention to the environment is situational, usually explosive. The trigger is often an emergency situation or new construction. The younger generation is more attentive to the environment.

Table 1

The relevance of environmental problems for Russians (in percent)

Environmental problem	
Pollution of the shores of urban and surrounding reservoirs	73
Pollution of urban and surrounding reservoirs with garbage	73
Car exhaust air pollution	66
Pollution of urban and surrounding water bodies by industrial and sewage effluents	64
Problems with the removal of household garbage	58
Unauthorised landfills inside locality and in its immediate vicinity	58
Illegal deforestation	57
Soil pollution as a result of industrial enterprises	56
The presence of landfills near your locality	53
Air pollution as a result of the work of industrial enterprises, thermal power plants and the like	52
Insufficient number of green spaces within your locality or their reduction	52
Forest fires	51
Construction of harmful industries near your locality or in it itself	39
Construction of incinerators near your locality	35

Source: VCIOM, 2020a.

3 PUBLIC EXPENDITURE ON ENVIRONMENT IN RUSSIA

Integration of green budgeting, like other types of priority-based budgeting, i.e., pro-poor budgeting or gender budgeting, does not require a novel approach (Gonguet et al., 2021: 5). It does need the government's commitment and efforts to "green" the budget cycle, using the existing tools of budgetary policy making. Green budget tagging, which means tagging revenues and expenditures that impact green objectives, informs stakeholders and the general public what the government is doing to achieve climate and green priorities, such as reduction of greenhouse gases as well as other environmental objectives.

In the Russian Federation, while there is no green budget tagging in place we can examine public expenditure that makes a positive contribution to green objectives on the budget line "environmental protection". Environmental protection expenditures are the sum of expenses of enterprises (organisations, institutions), individual entrepreneurs, the state (budgets of the Russian Federation, subjects of the Russian Federation, municipalities) that have a targeted environmental purpose (collection,

purification, reduction, prevention or elimination of pollutants, pollution as such or any other types and elements of environmental degradation, which, in turn, are the result of entrepreneurial activity), carried out at the expense of all sources of financing. The total amount of environmental expenditures includes investments in fixed assets aimed at environmental protection and rational use of natural resources, as well as current environmental protection expenditures. The indicator "Environmental protection expenditures as a percentage of gross domestic product (GDP)" is the ratio of the total expenditures of the state, enterprises and organisations on environmental protection to GDP; it is calculated in current prices and expressed as a percentage. The sum of 335.7 billion roubles (around 4 billion euros) is allocated for environmental protection in the federal budget for 2021, which is 11.5% more than in 2020 (301.1 billion roubles, equal to around 3.5 billion euros). Measures in the field of environmental protection are financed through the state programs of the Russian Federation: "Environmental Protection", "Reproduction and Use of Natural Resources", "Development of Forestry", which are also partially included in the expenditures of the National Project "Ecology". Graph 1 shows current prices; millions of roubles, the growth of expenditure on environmental protection, including protection of atmospheric air and prevention of climate change, wastewater collection and treatment, waste management, protection and rehabilitation of land, surface and underground waters, conservation of biodiversity and protection of natural territories. Environmental protection expenditures in the Russian Federation, as a percentage of GDP from 2003 are presented in graph 2. From 2003-12 the share of environmental expenditures as a percentage of GDP decreased from 1.3% to 0.7%, and from 2018 increased to 0.9% by 2020. According to estimates, in order to guide Russia on the path of sustainable development, environmental protection spending should be at least the level of 2003, i.e., 1.3% of GDP (Damianova et al., 2018: 30).

Another way to examine the government budgetary policy-making are the national projects (2019-2024) – federal-scale projects on priority public investments in human well-being, adopted in Russia in 2018, and developed in three areas: "Human capital", "Comfortable living environment" and "Economic growth". The National Project "Ecology" (implementation date: October 1, 2018 – December 31, 2024) aims at:

- Elimination of unauthorised dumps in the boundaries of cities (by the end of 2023 – 120 dumps).
- Reducing aggregate emissions of dangerous pollutants in the cities participating in the project (by the end of 2023 – 7%).
- The reduction in discharges of polluted wastewater into the water bodies of the Baikal natural territory (the end of 2023 – 012,247 thousand cubic meters).
- Forest cover of territories (by the end of 2023 – 46.5%).

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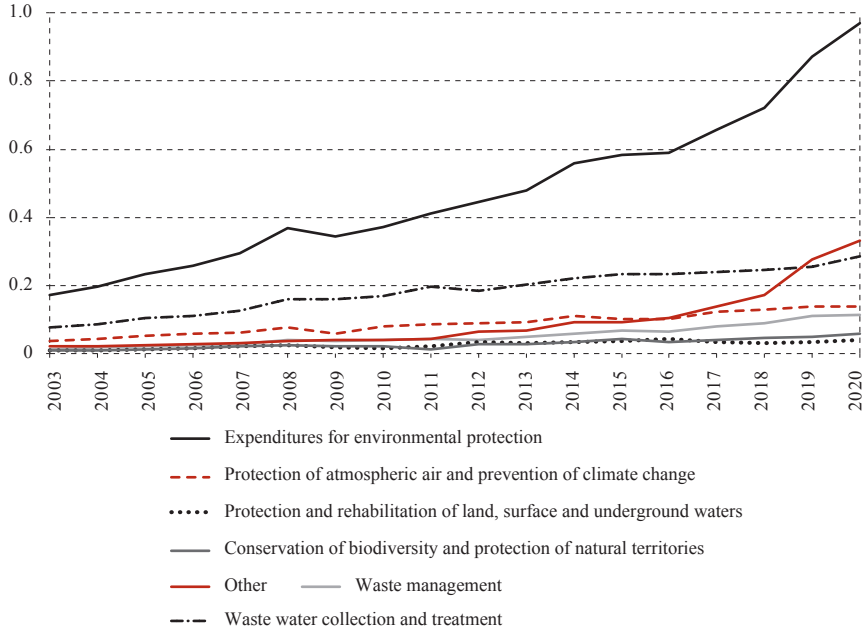
Graph 1

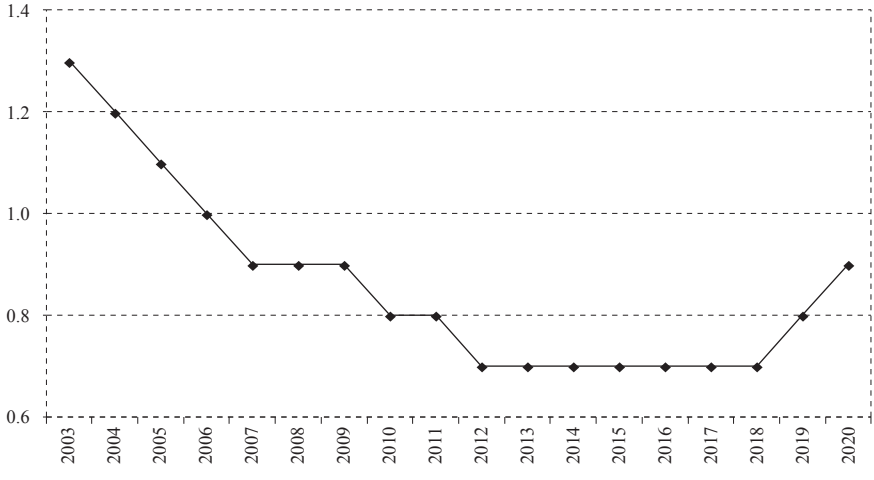
Environmental protection expenditures in the Russian Federation (in current prices; trillion of roubles)



Source: Federal State Statistics Service, 2020.

Graph 2

Environmental protection expenditures in the Russian Federation, as a percentage of GDP



Source: Federal State Statistics Service, 2020.

The national project "Ecology," like the other national projects, has a narrowly functional focus on solving burning environmental and economic problems, including the introduction of the best available technology and the creation of a management system for industrial and solid municipal waste. However, "garbage" reform is stalling badly in almost all regions, due to poor management, according to estimates (Martus, 2020).

Table 2

Expenditures for the implementation of the federal projects included in the national project "Ecology" for 2021-2023 (in million euros)

Federal projects	
Integrated solid municipal waste management system	623.5
Clean country	529.4
Infrastructure for waste management of hazard classes I-II	172.9
Clean air	367.0
Improving the Volga river	835.3
Preservation of lake Baikal	180.0
Preservation of unique water objects	84.7
Conservation of biological diversity and development of ecological tourism	40.0
Forest conservation	211.8
Implementation of the best available technologies	211.8
Total	3,256.4

Source: Official Governmental Spending Portal, 2021.

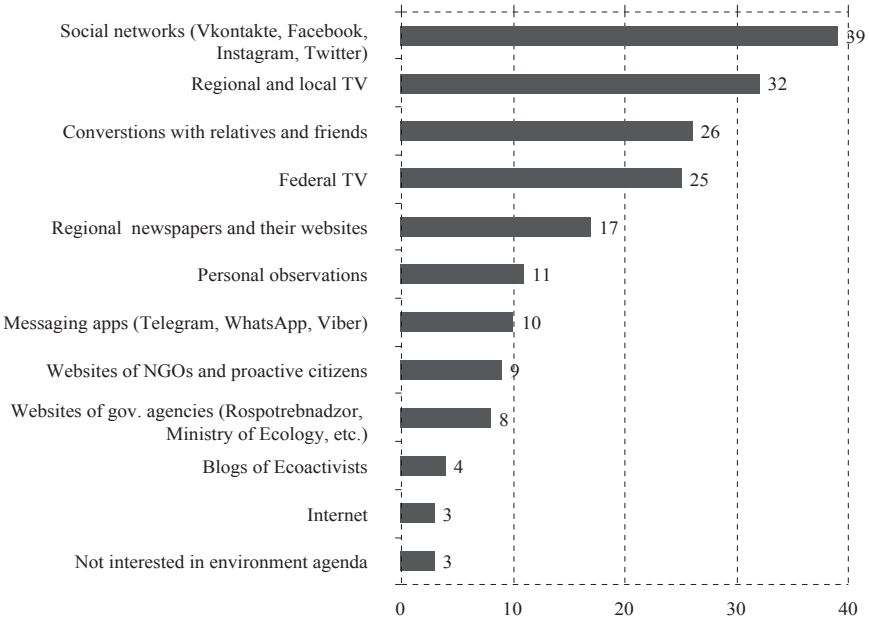
4 SOURCES OF INFORMATION FOR CITIZENS ABOUT THE ENVIRONMENTAL SITUATION IN RUSSIA

As presented in graph 3 the main sources of information about the state of the environment for Russians are social networks (39%) and regional and local television (32%), and personal observations (11%). Social networks, in which users' operational messages appear, as well as special pages and even blogs of environmentalists, have overtaken television in terms of audience coverage. One in four receives information about the state of the environment on federal television (25% of the respondents), and about the same from conversations with family and friends (26%).

It is also important to note that with advancing age, respondents more often give preference to television and newspapers. For example, 25% of respondents aged 18 to 24 and 46% over the age of 65 receive information about the state of the environment in their region on regional television, and 8% and 46%, respectively, on federal television. At the same time, the share of those who receive environmental information on television is gradually increasing from group to group. The same tendency is recorded regarding local newspapers: in the age group from 18 to 24 years old, 10% of them receive information about the environmental situation, and in the group over 65 years old – 31%.

Graph 3

Sources of information about the state of the environment for Russians (in percent)



Source: VCIOM, 2020b.

Among young people, the most popular source of information about the state of the environment in their region is social networks – they are preferred by the majority of respondents 18-24 years old (63%) and 25-34 years old (57%). Later on, the tendency gradually subsides, and in the group of 35-44 years old social networks are used as a source of information about the environment by 47% of respondents, in the group of 45-54 years old – 44%, in the group 55-64 years old – 23%, and in the group over 65 years old – 13%.

In March 2021, Russia adopted a law that determines the "information on the state of the environment" and provisions on ensuring access to the environmental information. Environmental information must be publicly available and provided free of charge. A list of environmental information, required to be placed by state agencies on the Internet on their official websites, has been drawn up. Such a list is open and is not limited to the information listed in the draft law to be posted (Federal Law of the Russian Federation No. 39-FZ of 09.03.2021).

5 PUBLIC PARTICIPATION IN THE RUSSIAN ENVIRONMENTAL POLICY MAKING

The involvement of citizens and CSO in environmental policy making is widely recognised as an important way to improve the effectiveness and quality of environmental policies, and is a principle of good governance. Two main institutionalised forms of public participation in Russian environmental policy making should

be mentioned: (i) Environmental (expert, advisory, public) councils; and (ii) the Public Chamber of the Russian Federation. There are many environmental (expert, advisory, public) types of collegiate consultative bodies within different central and regional government bodies in place. They consist of experts-practitioners and experts, nominated by the environmental NGOs.

For example, the Public Council under the Ministry of Natural Resources and Environment of the Russian Federation, that is formed in accordance with Federal Law No. 212-FZ of July 21, 2014 "On the Basics of Public Control in the Russian Federation", (this Federal Law establishes legal grounds for organization and realization of public control over the functioning of state bodies) and the Resolution of the Government of the Russian Federation of August 2, 2005 No. 481 on the procedure for the formation of public councils under federal ministries and federal agencies subordinate to these federal ministries. The key objective of this Public Council is to consider drafts of socially significant normative legal acts and other documents developed by the Ministry of Natural Resources of Russia. Thirty-four members of this council are selected on a competitive basis, and are approved by the Minister of Natural Resources and Environment of the Russian Federation in agreement with the Council of the Public Chamber.

Another example at central level is the Public Council under the Federal Service for Supervision of Natural Resources ("Rosprirodnadzor"), which consists of 12 NGOs and 4 business associations. The Public Council discusses the concept of extended producer responsibility and aspects of its administration, ensuring that the owners of industrial infrastructure facilities fulfil their obligations in order to eliminate the consequences of negative environmental impacts.

Standard provision for the activity of the public councils under the federal executive bodies was approved by the decision of the Public Chamber of the Russian Federation No. 55 dated July 5, 2018. It provides for universal requirements for candidates for public councils, as well as for public associations and other NGOs that have the right to nominate candidates. In accordance with this, standard universal requirements are imposed on candidates, as well as on public associations and other NGOs that have the right to nominate candidates. Unified rules of conduct for members are established in the Code of Ethics for members of the Public Council.

In turn, the Public Chamber holds various round tables and various discussions, sometimes on environmental topics, which are then widely discussed in mass media.

Analysis of the state of the environmental (expert, advisory, public) councils permits the claim that the quality of public participation is impaired by the insufficient or disproportionately low representation in public councils of existing environmental NGOs and CSOs. This derives from, firstly, a lack of formalisation of civil society structures, low efficiency of existing civil society institutions, their

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small number; unwillingness of the authorities to consider the public sector as an equal partner in solving urgent problems; uneven development of public institutions and the NGO sector in different regions, etc. Moreover, the discussion of environmental impacts of budgetary and fiscal policies and assessing their coherence towards the delivery of national and international commitments is still not in the focus of the environmental (expert, advisory, public) councils and/or the Public Chamber of the Russian Federation. The Public Chamber could pay more attention to environmental issues, climate change and green budgeting.

6 GREEN PARTICIPATORY BUDGETING

Green participatory budgeting implies allocating money specifically towards projects, proposed and selected by citizens, focused on green objectives, i.e., environment protection, reducing greenhouse gas emissions and making neighbourhoods more resilient to the effects of climate change. The participatory budgeting procedure usually starts with a proposed list of budget priorities being discussed and submitted by citizens (Wampler, 2007), and in some countries it is framed by the thematic area determined by the government, such as the fight against unemployment, or participatory budgeting focused on environmental issues in Cameroon, housing for children and youth in Brazil, fighting loneliness and fostering good-neighborliness with refugees in Denmark, while in Senegal they might be gender-themed (Oficina, 2019). Meanwhile, around twenty percent of the projects within the participatory budgeting programme in 11 cities examined by Yves Cabannes were related to climate change. They fall within climate adaptation, climate mitigation, or mixed adaptation and mitigation projects. Soe examples of tangible climate adaptation participatory budgeting projects can be seen in Agueda, Portugal, which faces problems of fires in summer and floods in winter; in Arzgir, Stavropol Kraj, Russia, located in an extremely arid zone prone to wildfires; in Semarang, Indonesia, which is exposed to tidal floods, sea level rise, flash flooding, high winds. The climate mitigation projects include, for example, greening urban space with community gardens in Metz, France; support for local food chains in Cuenca, Ecuador. The mix of projects on adaptation and mitigation, exemplified by Bordeaux in France, Dalifort-Foirail in Senegal, New Taipei city in Taiwan, San Pedro Garcia in Mexico, etc. (Cabannes, 2021). Giovanni Allegretti and Janette Hartz-Karp illustrated the theme with a broad array of participatory budgeting examples, from Porto Alegre and Belo Horizonte in Brazil to cities in Portugal, Italy, Canada and Australia, that have addressed sustainability challenges, enabling greater sustainability in local territories through reducing the ecological footprint, making land and energy savings, protecting biodiversity and socio-diversity, while also addressing the socio-economic dimensions of sustainability (Allegretti and Hartz-Karp, 2017).

Participatory budgeting practices remain the most rapidly developing forms of public participation in the budget decision-making process in many countries, including Russia. The first participatory budgeting experiment in Russia was launched in the Stavropol region in 2007 within the Local Initiatives Support

Program of the World Bank. According to the Russian Ministry of Finance, 290 participatory budgeting mechanisms of various scales were implemented in 73 out of 85 Russian regions in 2020 (MoF Russia, 2021: 8). Every year, the regions and municipalities launch new practices, original mechanisms appear, and regional laws are adopted to consolidate the legal framework for participatory budgeting. In 2020 115 participatory budgeting practices were implemented at the regional level, and 175 at local level. The year 2020 will be remembered for unprecedentedly restrictive measures related to the Covid-19 pandemic, which inevitably adversely influenced the implementation of participatory budgeting programs: in some cases the deadlines for the implementation of programs were postponed, budget allocation limits were cut somewhere, in some regions the management processes of practices were automated, the forms of information dissemination and training were changed, in some cases the procedures for citizens' participation were partially or completely transferred to an online format. But for the most part, the pandemic did not interfere with the process of implementing already existing practices of participatory budgeting. With very rare exceptions, the implementation of all planned activities was continued even in the conditions of the imposed restrictive measures. According to the Report on the Best Practices for the Development of Initiative Budgeting in the Subjects of the Russian Federation and Municipalities, in 2020 the total amount of funding for initiative projects amounted to 31.8 billion roubles, which is around 400 million euro (2019 – 24.1 billion RUB; +32%). According to a provisional estimate, this amounted to around 0.6% of the total expenditures of local budgets in 2020 (MoF Russia, 2021: 12). This total amount includes 16.8 billion roubles from regional budgets (2019 – 13.1 billion RUB; +28.2%). At the same time, co-financing from the population and legal entities decreased to 2.0 billion roubles (2019 – 2.2 billion roubles; -9.1%).

The participatory budgeting development in Russia has received exposure thanks to a number of favourable factors. The interregional multilateral program "Transparent Budget", which was coordinated by the NGO Humanitarian and Political Science Centre "Strategy", worked in more than 15 Russian regions, as well as in Kazakhstan and Georgia, and made significant efforts to develop public participation in the budget process from 1998 to 2010 (Vinogradova, 2003). The Budget Transparency and Public Participation Survey, one of the first of its kind in the world, was conducted in Russian regions as a pilot, prior to the Open Budget Survey of the International Budget Partnership. A similar survey was conducted at the same time by the Institute for Democracy in South Africa (IDASA) in several countries of the African continent. From 2007 to 2016, the World Bank's Local Initiatives Support Program was implemented in eight Russian regions with the support of regional authorities, and over 10 thousand participatory budgeting projects were implemented. In 2015, the Ministry of Finance of Russia became interested in the effects of participatory budgeting and created the Centre for Initiative Budgeting at the Financial Research Institute of the Ministry of Finance of Russia. In 2018, the practice of participatory budgeting was reflected

in the national document of strategic planning for the medium-term period "The main directions of activity of the Government of the Russian Federation for the period up to 2024". The document provides that by 2024, 50% of the subjects of the federation should develop and approve regional strategies for the development of participatory budgeting. In 2020, amendments were made to the Budget Code of the Russian Federation and the Federal Law "On General Principles of the Organisation of Local Self-Government" in order to include the practice of participatory budgeting in the budget process of local self-government (PEMPAL, 2020a).

Government bodies have not yet proposed green thematic areas for the participatory budgeting initiatives in Russia (MoF Russia, 2021). Russian citizens' priorities, demonstrated through their participatory budgeting initiatives, remain mainly in the field of improvement of local social services, including the construction and repair of local cultural and sports facilities; and the development of local socio-economic infrastructure, including roads, bridges, and water and gas supply systems. However, people more often propose projects in the field of provision of rehabilitation and/or development of systems for the protection of natural resources and the environment, including wastewater treatment plants and waste disposal, soil conservation measures, illegal dumps elimination, separate waste collection, garbage removal and disposal.

Examples from different countries, such as Portugal, UK, Indonesia and France (Cabannes, 2020; Oficina, 2021; Epting, 2020; Falanga, Verheij and Bina, 2021; Maksymiuk and Kimic, 2016) demonstrate that green participatory budgeting has huge public awareness power, helps forming pro-environmental behaviour, including climate-friendly actions. It involves the individual citizens, NGOs and community groups into the budget decision-making to help achieve environmental goals, and offers effective strategies of climate change adaptation and mitigation, and serves as an early warning system for climate change. Thus, there is a potential for the participatory budgeting tool to contribute to the development of the market of green goods and services, including consumer goods, as well as the production of equipment and eco-technologies for the green economy and mainstream climate-sensitive policies.

7 CONCLUSIONS AND RECOMMENDATIONS

Russians increasingly consider climate change and protecting the environment as a major concern. Russia uses public participation instruments in determining its environmental policies. These instruments include public (advisory, expert) councils within the relevant government bodies, the Public Chamber of the Russian Federation and participatory budgeting at the local level. The scale of financial sources allocated by participatory budgeting, i.e., the amount of money under the control of the people as part of the participatory budgeting, is around 0.6% of all expenditures of local governments, which demonstrates the minor scale of the impact likely to be expected.

The paper confirms that citizens can play an important role by exposing issues that government did not notice, and demanding that they be included in the agenda related to green budgeting through public participation instruments (Allegretti and Hartz-Karp, 2017; Cabannes, 2021), and that participatory budgeting is a tool that can crowdsource ideas and project proposals for climate change adaptation and mitigation and contribute to the development of the market of green goods, services, and technologies for the green economy.

The paper outlines the challenges in organisation of public participation. A lack of formalisation of civil society structures, low efficiency of existing civil society institutions, their small number; unwillingness of the authorities to consider the public sector as an equal partner in solving urgent problems; the uneven development of public institutions and the NGO sector in different regions hampers the development of truly meaningful public participation in relation to green budgeting. While many countries set green economy and climate change adaptation thematic areas for participatory budgeting initiatives, such as France, Portugal, Spain, Senegal, Taiwan and Indonesia, such areas have not been prioritised for participatory budgeting in Russia.

Limitations of the study are lack of specialised literature on participatory instruments of green budgeting and publicly available information on the functioning of the presented forms of public participation in Russia. Government bodies place on their websites no reports on discussions that have taken place and no reports on how the public's input has been incorporated in the future efforts to "green" the budget cycle. That impedes understanding of how public participation actually happens. This indicates the future research direction: to study effectiveness of the public/advisory/expert councils as participatory instruments of green budgeting accountability. Despite the limitations this paper is an attempt to overview and to analyse the public participation forms in relation to greening the budget process, and add to the discussion some recommendations on how governments can facilitate it in order to continuously improve the climate change adaptation and mitigation strategy and action with the means of budget policies.

The following recommendations are prepared based on the results of research and are addressed to the Government of Russia. They might also be relevant to other countries, similar to Russia in legal, administrative, political traditions and features of environmental policy and the budget process.

1. The government should start green budget tagging. It will present to the public whether a government is making budgetary decisions that contribute to the reduction of greenhouse gases and other environmental objectives.
2. The government should include a green agenda in its communication to the public and improve visibility of climate change for citizens. The use of communication channels, such as local television for citizens older than 65 years and social media for younger generations is most effective in Russia.

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3. Government should improve representation in public/expert/advisory councils. This includes recognising NGOs and CSOs as important stakeholders, promotion of the development of environmental NGOs, including enabling them to access more diverse funding sources.
4. The work plans of public/expert/advisory councils within the government bodies need to include discussion on green budget policies and monitoring of green budget decisions implementation.
5. Government could design green participatory budgeting at national level and facilitate it at subnational level.

Disclosure statement

There are no conflicts of interest to disclose.

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REFERENCES

1. Allegretti, G. and Hartz-Karp, J., 2017. Participatory Budgeting: A Methodological Approach to Address Sustainability Challenges. In: J. Hartz-Karp and D. Marinova, eds. *Methods for Sustainability Research*. Cheltenham, UK: Edward Elgar. https://doi.org/10.4337/9781786432735.00024
2. Cabannes, Y., 2021. Contributions of Participatory Budgeting to Climate Change Adaptation and Mitigation. Current Local Practices Around the World and Lessons from the Field. *Environment and Urbanization*, 33(2). https://doi.org/10.1177/09562478211021710
3. Damianova, A. J. [et al.], 2018. *Russia Green Finance: Unlocking Opportunities for Green Investments*. Washington, D.C.: World Bank Group.
4. Epting, S., 2020. Participatory Budgeting for Environmental Justice. *Ethics, Policy & Environment*, 23(1), pp. 22-36. https://dcoi.org/10.1080/21550085.2020.1746003
5. Falanga, R., Verheij, J. and Bina, O., 2021. Green(er) Cities and Their Citizens: Insights from the Participatory Budget of Lisbon. *Sustainability*, 13(15), 8243. https://doi.org/10.3390/su13158243
6. Federal Law of the Russian Federation No. 39-FZ of 09.03.2021. *"On Amendments to the Federal Law "On Environmental Protection" and Certain Legislative Acts of the Russian Federation*".
7. Federal State Statistics Service, 2020. *Environmental protection in Russia. Statistical Collection*.
8. General Provisions and Competencies of the Public Council under the Ministry of Natural Resources and Ecology of the Russian Federation.
9. GIFT, 2018. *The High-Level Principles on Fiscal Transparency, Participation & Accountability*. GIFT Global Initiative.
10. Gonguet, F. [et al.], 2021. Climate-Sensitive Management of Public Finances – Green PFM. *IMF Staff Climate Note* 2021/002.
11. Hemming, R., 2013. The Macroeconomic Framework for Managing Public Finances. In: R. Allen, R. Hemming and B. Potter, eds. *The International Handbook of Public Financial Management*. London: Palgrave Macmillan.
12. IOPD, 2021. *Webinar on participatory budgeting and ecological transition*. Event Report. International Observatory on Participatory Democracy.
13. Maksymiuk, G. and Kimic, K., 2016. *'Green Projects' in Participatory Budgets Inclusive Initiatives for Creating City's Top Quality Public Spaces*. Warsaw: Warsaw University of Life Sciences - SGGW.
14. Martus, E., 2020. Municipal Solid Waste Management in Russia: Protest, Policy, and Politics. *Russian Analytical Digest,* No. 261.
15. MoF Russia, 2021. *Report on the Best Practices of the Development of Initiative Budgeting in the Subjects of the Russian Federation*. Ministry of Finance of the Russian Federation.
16. OECD, 2020. *Collaborative on Green Budgeting.* Paris: OECD.
17. OECD, 2021. *Green Budget Tagging: Introductory Guidance & Principles*. Paris: OECD. https://doi.org/10.1787/fe7bfcc4-en

18. Official Governmental Spending Portal, 2021. *National Project "Ecology" for 2021-2023*.
19. Oficina, 2021. *Participatory Budgeting World ATLAS 2020-2021*. Cascais: Oficina.
20. PEMPAL, 2020a. *Mechanisms for the National Ministries of Finance of the PEMPAL Countries to Design Participatory Budgeting Initiatives at National Level and Facilitate Participatory Budgeting at Subnational Level*. Moscow: BLTWG Knowledge Product.
21. PEMPAL, 2020b. *Public Participation in Fiscal Policy and the Budget Process. BLTWG Knowledge Product*. Moscow: BLTWG Knowledge Product.
22. Richardson, B. J. and Razzaque, J., 2006. Public Participation in Environmental Decision Making (June 1, 2006). *Environmental Law for Sustainability*, pp. 165-194.
23. Rosprirodnadzor, 2021. *Membership of the Public Council under the Federal Service for Supervision of Natural Resources (Rosprirodnadzor) of the Russian Federation*.
24. UNDP, 2019. *Knowing What You Spend – A Guidance Note for Governments to Track Climate Finance in Their Budgets*. New York: UNDP.
25. UNEP, 2019. *Environmental Rule of Law: First Global Report*. Nairobi: UNEP. https://doi.org/10.1017/s1466046605250056
26. VCIOM, 2020a. Climate Change and How to Deal With it. *Analytical Review*, September 30.
27. VCIOM, 2020b. Environmental Agenda: Ten Months Before the State Duma Elections. *Analytical Report*.
28. Vinogradova, T. I., 2003. Glava 3. Prozrachnyj byudzhet [Chapter 3 "Transparent budget"]. In: A. Avtonomov, ed. *Social'nye tekhnologii mezhsektornogo vzaimodejstviya v sovremennoj Rossii: Uchebnik*.
29. Wampler, B., 2007. A Guide to Participatory Budgeting. In: A. Shah, ed. *Participatory Budgeting Public Sector Governance and Accountability*. Washington, DC: World Bank Publications, pp. 21-54.
30. World Bank, 2014. *Strategic Framework for Mainstreaming Citizen Engagement in World Bank Group Operations*. Washington, DC: World Bank.
31. World Bank. 2021. *Climate Change Budget Tagging: A Review of International Experience. Equitable Growth, Finance and Institutions Insight*. Washington, DC: World Bank.

Relationship between rule of law and tax revenues: dynamic panel data analysis

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Abstract

Tax revenue has been declining in most countries recently. Therefore, to better understand the reasons behind this, some studies focus on supply factors, while few studies focus on demand factors. In this context, this study aims to analyse the impact of rule of law on tax revenues in 59 countries by using the panel data method over the period 2002-2018 considering the level of economic development. This study is different from previous studies in several respects. Firstly, it uses a different and more comprehensive index to measure rule of law. Secondly, we focus on the economic level of countries, which is a crucial factor for measuring efficiency of the rule of law. The results show that the effect of rule of law on tax revenues varies based on the level of economic development of the countries.

Keywords: rule of law, tax revenues, economic development, dynamic panel data analysis

1 INTRODUCTION

Tax revenues account for the biggest share in public revenues in many countries with different levels of development. Taxes, which were first collected for fiscal purposes, are used for economic, social, cultural, and political purposes due to developing and changing conditions and reached an average of 50-70% of public revenues in the budgets of many states. As stated by Syadullah (2015), tax revenue depends on many factors, such as political stability, corruption, GDP per capita and market openness. Rule of law is another important factor that affects tax revenue since it has a significant role in providing tax compliance. Moreover, it also meets the need for states with various institutional and structural characteristics to create more transparent, open, specific, fair, and equal regulations in this area.

Taxes are commonly considered to be an efficient public revenue to meet public expenditures. Failure in the optimal provision of public goods and services prevents Pareto-efficient resource allocation (Rosen and Gayer, 2010). Therefore, it is critical to collect sufficient tax income to support public expenditure. However, the quantity and level of tax revenue have been declining in most countries. To better understand the reasons for this decline, most studies focus on supply factors that affect tax revenue rather than demand factors. Few studies focus on demand factors in terms of governance factors, such as corruption, democracy, and political stability. More importantly, the interaction effect of governance and economic development on tax revenue has not been adequately investigated. Therefore, this study aims to fill this gap by investigating the interaction effect of governance factors and economic development on tax revenue in 59 countries using the panel data method. Namely, this study contributes to the literature by investigating whether the effect of the rule of law on tax revenue changes depending on the economic development of a country.

This study is organized as follows. Section 2 explains the theoretical relationship between tax revenue and rule of law. Section 3 reviews the literature. Section 4

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provides detailed information, such as descriptive and summary statistics of the variables and explains the methodology of the study. Section 5 presents the results obtained from dynamic panel data estimation. Section 6 summarizes the conclusion and discusses the results obtained.

2 THE RELATIONSHIP BETWEEN TAX REVENUES, RULE OF LAW AND THE LEVEL OF ECONOMIC DEVELOPMENT

The actual and legal power of the states in the field of taxation based on the sovereign right is called the taxation power (LLI, 2022). "Magna Carta Libertatum", which is one of the first constitutional arrangements in the legal field, aimed to restrict the powers of the king in the field of taxation and was an important step towards the idea of "No taxation without representation" (Passant, 2017). The developments in the democratization process resulted in more detailed regulations in the field of taxation as well when the states, especially developed ones, started to take active roles in issues such as political rights, citizenship awareness, balancing income distribution, employment problem, ensuring horizontal and vertical equality, and economic development (Esping- Andersen, 2013).

Regulations in the field of taxation expanded the scope of the purposes and principles of taxation. The principle of taxation is related to the rule-of-law principle. Bingham (2007) associates the rule of law with eight basic principles: accessibility, predictability, the application of laws, the equality of laws, protection of human rights, adjudicative procedures in legal disputes, limitations of the power exercised by rulers, the justice of judicial procedures provided by the state and compliance with the obligations under international law. The definition of rule of law in the "Rule of Law Index" created by The World Justice Project focuses on accountable government, good laws, good process, and achieving justice issues (Botero and Ponce, 2010).

Considering the rule of law as an ideal of modern political ethics, it is also important in determining the principles of the market economy as well as democracy and human rights (Waldron, 2008). It is possible for the political decision-making mechanism to use its sovereign power in the field of economy through its institutions and to shape the economy. Looking from a wider perspective, it is clear that law, economy, and politics are interrelated concepts. The popularization of the rule of law concept and the fact that the rules of law became valid for both the rulers and the ruled resulted in the states intervening in the market not only in the financial field but also in the social and economic fields.

Although the states in need of more revenues to meet the increasing public goods and services have historically turned to generate revenues from various sources, the fact that taxes, the most important public financing source, are based on laws is a requirement of the rule-of-law principle. Within this context, the effect of the rule of law concept on tax revenues is considered to be an area to be focused on. The taxable economic potential in a country is called tax capacity, and the tax capacity varies from country to country (Boukbech, Bousselhamia and Ezzahid,

2018). The aim of the states is to collect tax revenues as close to/equal to their tax capacity as possible. Various economic, political, socio-psychological, demographic, structural, and institutional factors affect the tax capacities of countries, such as income per capita, income distribution, confidence in public administration, income, tax rate, source of tax, the structure of tax systems, tax ethics, the composition of public expenditures, level of economic development, tax awareness, etc. (Arbex and Mattos, 2020). The examination of the aforementioned factors shows that taxes, which are one of the instruments of fiscal policy, are also intertwined with economic policy.

Research shows that levels of development have an especially significant effect on the tax structure of countries (Luong, Nguyen and Nguyen, 2020). In welfare states, which rank higher in terms of economic development, tax revenues have a larger share in the gross domestic product (GDP) compared to less developed countries. In other words, since the countries with a high level of economic development are able to develop and change their governance structures to fit the changing conditions, they can finance most of their public expenditures with tax revenues (Bird and Zolt, 2008). On the other hand, the ineffectiveness of the tax administration and the inability to implement tax reforms, corruption (Brondolo et al., 2008), and politically motivated institutional factors (Ajaz and Ahmad, 2010) in developing countries are the main reasons for their inability to collect sufficient tax revenues. Within this context, tax policies, together with the economic development and growth targets of the countries, shape the economic structure, and the economic structure shapes the tax policies. Including the differences in the level of economic development into the analyses in the studies conducted in the relevant field will contribute to reaching more accurate results (Stoilova, 2017).

3 LITERATURE REVIEW

The increasing difference between the total tax revenues expected to be collected in line with the regulations on tax liabilities and the actual tax revenues led societies to reconsider their public policies in line with the welfare targets they want to reach (Weber, Fooken and Benedikt, 2014). Within this context, since taxation has many social, economic, administrative, financial, political, and legal dimensions, multidimensional research is required in the field.

When analysing economic, administrative, structural, institutional, etc. factors that have an effect on the collection of tax revenues, the point of focus is generally the share of tax revenues in GDP (Tanzi, 1992; Teera and Hudson, 2004; Gupta, 2007; Profeta and Scabrosetti, 2010).

Studies emphasizing the economic and administrative factors that have an effect on collecting tax revenues generally focus on income, tax rate, tax control, tax penalties, tax administration, and the structure of tax systems (Clotfelter, 1983; Alm and Torgler, 2006; Durham, Manly and Ritsema, 2014; Kogler, Mittone and

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Kirchler, 2016). However, recent studies also include structural and institutional factors in taxation-related analyses as well as economic and managerial factors. Using theoretical analysis, Dell'Anno (2009) has revealed how citizens are affected by political factors while fulfilling their tax liabilities. Garcia and von Haldenwang (2016) attributed value to the relationship between political regimes and tax revenues, while Baskaran and Bigsten (2013) attributed value to the relationship between democracy and tax revenues. The examination of the studies in the field reveals that the studies that analyse institutional and political factors generally focus on issues such as corruption, political stability, and democracy, while the rule of law issue has been examined in a limited number of studies. However, since the rule of law is the principle on which many political and institutional factors are based, it is important to analyse its relationship with tax revenues.

Bird, Martínez-Vásquez and Torgler (2004) found a positive relationship between the rule of law and tax revenues using data from 1990-1999 from 110 developing countries. Similarly, Simbachawene (2018) focused on the determinants of tax revenues in Tanzania using data from the 1999-2015 period and concluded that the rule of law positively affected tax revenues. Syadullah (2015) analysed the effects of administrative factors, such as political stability, the efficiency of the government, the quality of regulations, the power of law on tax revenues in Southeast Asian Nations (ASEAN – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam) and showed that there was a positive relationship between the rule of law and tax revenues. The study conducted by Torgler (2003) and based on the "World Values Survey (WVS)" data suggested that if the perception of the citizens regarding the functioning of the political process was based on facts such as confidence, justice and equality, this would increase the willingness of the citizens to pay taxes as well as increase tax revenues. Frey and Torgler (2007) and Schneider (2011) both observed that confidence in the legal order would have a positive effect on the collection of tax revenues.

There are also studies in the literature that show a negative relationship between tax revenues and the rule of law. The study conducted by Nnyanzi, Babyenda and Bale (2016) analysing the 1980-2014 period in East Africa and the study conducted by Ashraf and Sarwar (2016) using the data from 50 developing countries in the period 1996-2013 determined a negative relationship between the rule of law and tax revenues.

Since there is no generally accepted opinion in the literature about the relationship between the rule of law and tax revenues, various factors need to be included in the analysis. Within this context, it is generally accepted that the levels of development of analysed countries may cause the analysis results to differ. Tanzi (1992) and Von Haldenwang and Ivanyna (2012) emphasized the importance of economic development in collecting tax revenues. Luong, Nguyen and Nguyen (2020) examined the relationship between the rule of law, economic growth, and informality in 18 transition economy countries between 2002-2015. Using the data of the International Monetary Fund (IMF), they revealed that the rule of law reduced informality, that if

the rules of law are prepared with due care, this may control the informal economy, and that the effectiveness of the rule of law encourages economic growth.

4 DATA SET AND ECONOMETRIC METHOD

4.1 DATA SET

The analysis in this study has been carried out using annual data for the 2002-2018 period from 59 countries[1] with different levels of democracy and economic development. The rule of law and other economic indicators have been obtained from the World Bank database. General information regarding the data is provided in table 1. The dependent variable is tax revenue percentage of GDP while the key independent variable is the Rule of Law Index. It is used as an indicator of confidence in the rules applied in the country and the perception of the extent of compliance with these rules. The index takes values between 0 and 100, and within this context, when the index value approaches 0 in a country, this means that such a country does not apply the rule of law, that there is no confidence in the law and no compliance with the rules of law; when the index value approaches 100, this means that the confidence in the legal rules and the perception of the implementation of legal rules is increased.

The control variables of the study are other variables that affect tax revenues, such as the shares of imports and the three main sectors of the economy (agriculture, industry, and service) in GDP. GDP Per Capita Income is another crucial variable in terms of examining the differences in the levels of economic development of countries.

Table 1

Descriptive definition of variables

Variables	Symbol
Tax Revenue (GDP %)	TR
Rule of Law	RL
Import (GDP %)	ImGDP
GDP Per Capita	GDPPC
Agriculture Sector (GDP %)	Agri
Industry (GDP %)	Ind
Service (GDP %)	Ser

Note: All with annual frequency, in 2002-2018 period, source World Bank.
Source: Authors' preparation.

Table 2 presents the summary statistics of variables. The mean shows the central tendency, while the standard deviation and the minimum and maximum values are used as the measures of central distribution. The observed sample consists of a total of 1,003 observations.

[1] Australia, Austria, Belgium, Cyprus, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Luxemburg, Netherlands, Norway, Portugal, Singapore, Slovenia, Spain, Sweden, Switzerland, United Kingdom, Argentina, Belarus, Bhutan, Brazil, Bulgaria, Burkina, Cambodia, Costa Rica, Cote d'Ivoire, El Salvador, Estonia, Georgia, Guatemala, Jamaica, Jordan, Latvia, Lebanon, Lithuania, Croatia, Mauritius, Moldova, Morocco, Nicaragua, Peru, Philippines, Poland, Romania, Russia, Slovakia, South Africa, Sri Lanka, Thailand, Ukraine, Zambia.

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TABLE 2

Summary statistics for 1,003 observations

Variables	Mean	Std. deviation	Minimum	Maximum
Tax Revenue (GDP %)	18.67	5.75	7.03	48.56
Rule of Law	64.50	26.81	4	100
Import (GDP %)	50.90	27.81	11.25	208.33
GDP Per Capita	22,675.04	23,677.72	474.94	111,968.3
Agriculture Sector (GDP %)	5.90	6.24	0.0284	34.55
Industry (GDP %)	25.23	5.93	9.88	45.09
Service (GDP %)	59.02	8.25	35.02	79.33

Source: Authors' calculation.

4.2 ECONOMETRIC METHOD

Before conducting the econometric analysis of the study, we performed a cross-sectional dependency analysis by employing Breusch-Pagan's (1980) LM and Pesaran CD tests. The null hypothesis of the tests suggests that there is no cross-section dependence. Breusch-Pagan (1980) LM test statistics have been calculated as shown in equation (1).

$$\lambda_{LM} = \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \hat{p}_{ij}^2 \tag{1}$$

$\hat{p}_{ij}^2$: refers to the number of correlations between the residues of i and j units and is calculated by using the formula in equation 2,

$$\hat{p}_{ij} = \hat{p}_{ij} = \frac{\sum_{t=1}^{T} \hat{\varepsilon}_{it} \hat{\varepsilon}_{jt}}{\left(\sum_{t=1}^{T} \hat{\varepsilon}_{it}\right)^{1/2} \left(\sum_{t=1}^{T} \hat{\varepsilon}_{jt}\right)^{1/2}} \tag{2}$$

where ε shows the ordinary least squares (OLS) estimate of u_{it}. The LM test statistic is distributed with d(d=N(N-1)/2 degrees of freedom x^2.

Breusch-Pagan LM test can be applied in cases where N is lower. However, when N is higher, consistent results may not be obtained. Therefore, Pesaran CD test was developed as an alternative to Breusch-Pagan (1980) LM test to obtain consistent results in cases where N is higher. The Pesaran CD test statistic is calculated by using the formula $CD = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \hat{p}_{ij}\right)$.

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5 EMPIRICAL FINDINGS

The results of Breusch-Pagan's (1980) LM and Pesaran CD tests are provided in table 3. Based on the probability values of the tests, the null hypothesis claiming that "there is no cross-sectional dependency between variables" is rejected.

Table 3

Cross-sectional dependency test results

Variables/tests	Breusch-Pagan LM	Pesaran CD
TR	5711.564 (0.000)	14.786 (0.000)
RL	5557.867 (0.000)	3.59 (0.0003)
ImGDP	9028.183 (0.000)	44.392 (0.000)
GDPPC	17723.44 (0.000)	110.6822 (0.000)
Agri	9371.135 (0.000)	63.469 (0.000)
Service	9979.556 (0.000)	51.36084 (0.000)
Indp	9439.447 (0.000)	42.49648 (0.000)

Source: Authors' calculation.

Since there is cross-sectional dependency between the units as presented in table 3, the lm-Pesaran-Shin unit root test, which takes the cross-sectional dependency into account, was used in the stationarity analysis of the variables. The results of the test are provided in table 4. Based on the probability values, the null hypothesis of a unit root is rejected. In other words, the variables were found to be stationary in their level.

Table 4

The results of the Im-Pesaran-Shin unit root test with probability zero

Variables	Test statistic value
TR	-4.11287
RL	-5.38299
ImGDP	-8.42850
GDPPC	-5.28732
Agri	-10.3820
Service	-5.27322
Indp	-5.82446

Source: Authors' calculation.

The model shown in equation (3) is used to estimate the relationship between tax revenues and the rule of law. Since the model shown in equation (3) contains one lagged dependent variable, using the static panel data analysis method in such models causes inconsistent results and may lead to endogeneity problems. Considering this, Arellano Bond GMM dynamic panel data analysis, which gives consistent and unbiased results even in case of an endogeneity problem, was preferred.

$$Y_{it} = +Y_{it-1} + \theta X_{it} + \beta RL_{it} + \varepsilon_{it} \quad (3)$$

In equation (3), Y_{it} shows the tax revenues, $Y_{it\text{-}1}$ shows the lagged value of the tax revenues, RL is the Rule of Law Index, X_{it} denotes the control variables affecting the tax revenues, and ε_{it} is the error term.

The results of the basic model provided in equation (3) are shown in the first column of table 5. All of the variables of interest and control variables in the column were found to be statistically significant at the 1% level. However, although the Rule of Law Index (RL), which is the main variable of interest, was found to be 1% significant, contrary to the theoretical expectation, it was found to be negative.

Table 5

Dynamic panel data estimation results

Dependent variable: TR_{it}			
Independent variables	**(1)**	**(2)**	**(3)**
$TR_{it\text{-}1}$	0.4472*** (0.004713)	0.4083*** (0.003110)	0.4273*** (0.003154)
RL_{it}	-0.0409*** (0.006580)	-0.0786*** (0.005999)	-0.076729*** (0.007228)
$ImGDP_{it}$	0.0672*** (0.002716)	0.0650*** (0.002504)	0.0666*** (0.001732)
$Agri_{it}$	-0.296*** (0.017728)	-0.3291*** (0.019130)	-0.3376*** (0.013551)
$Service_{it}$	-0.4495*** (0.013394)	-0.4807*** (0.02472)	-0.4505 (0.021178)
$Indp_{it}$	-.0.3197*** (0.011396)	-0.3538*** (0.01706)	-0.3311*** (0.015736)
$RL_{it} \times KUK_{it}$		0.2133*** (0.014250)	
$RL_{it} \times GDPPC_{it}$			3.84E-06*** (3.97E-07)
$GDPPC_{it}$			-0.000374*** (3.44E-05)
Sargan Test	53.23329 (0.42)	54.3208 (0.38)	54.30157 (1.000)
AR(1)	(0.044)	(0.045)	(0.0038)
AR (2)	(0.777)	(0.842)	0.2255

*Note: *** shows that the variables are statistically significant at the 1% significance level. The instrumental variables used in the model based on the probability values of the Sargan Test are valid. Furthermore, contrary to the expectations, there is no autocorrelation problem in the model according to the AR (2) probability value.*

Source: Authors' calculation.

Considering the variables in the analysis, the reason for this may be the fact that countries have different structural, socio-cultural, institutional, political, and economic characteristics, considering that it may be caused by the different economic development levels of countries. Therefore, after adding the dummy variable into

the basic model in equation (3) to control for the economic development of the countries, we get the model shown in equation (4).

$$Y_{it} = \varnothing X_{it} + \beta_1 Y_{it-1} + \beta_2 RL_{it} + \beta_3 \left(RL_{it} \times Z_{it} \right) + Z_{it} + \varepsilon_{it} \tag{4}$$

Equation (4) shows the interaction of the levels of economic development of the countries with the Rule of Law Index by adding an independent variable in the equation, which was obtained by multiplying RL_{it} and Z_{it} variables. Z_{it} represents the variable that reflects the rule of law and levels of economic development. Within this context, the coefficient β_2 in equation (4) shows the effect of the Rule of Law Index on tax revenues of individual countries and the coefficient β_3 shows the effect of the rule of law and levels of development of the countries on tax revenues. The statistically significant coefficient β_3 means that the effect of the Rule of Law Index on tax revenues differs based on the levels of economic development of the countries.

Within this context, a dummy variable was created by attributing 1 to countries with per capita income over $20,000 and 0 to other countries for the variable Z_{it}, and the estimation was performed by including it in the model with RL_{it} expressing the Rule of Law Index ($RL_{it} \times KUK_{it}$). The results of the estimation are provided in the second column of table 5. The column shows that the value obtained by multiplying the two variables was found to be 1% statistically significant. In other words, the effect of the rule of law on tax revenues differs based on the level of economic development of the countries. Since it is thought that the effect of the rule of law on tax revenues differs based on the level of economic development of the countries, equation (4) was re-modelled and equation (5) was created by including the GDP per capita income level, which is one of the important macroeconomic indicators in examining the interaction between the level of economic development and rule of law, expressed in the analysis as the Z_{it} variable above.

$$Y_{it} = \varnothing X_{it} + \beta_1 Y_{it\text{-}1} + \beta_2 RL_{it} + \beta_3 (RL_{it} \times GDPPC_{it}) + \beta_4 GDPPC_{it} + \varepsilon_{it} \tag{5}$$

As presented in the third column of table 5, the coefficient estimations in RL_{it} and $RL_{it} \times GDPPC_{it}$ rows ($\hat{\beta}_2 = -0.076729$ and $\hat{\beta}_3 = 3.84E-06$) are found to be 1% statistically significant. This result confirms the finding obtained in Equation 4, suggesting that the effect of the rule of law on tax revenues varies based on the levels of economic development of the countries. Within this context, the total derivative representation of the rule of law effect on tax revenues that takes the level of economic development into account is expressed in equation (6).

$$\partial Y_{it} / \partial RL_{it} = -0.076729 + (3.84E-06) GDPPC_{it} \tag{6}$$

When equation (6) is equated to zero, the average threshold value of real GDP per capita – which determines the direction of the relationship between the rule of law and tax revenues – was found to be $GDPPC_{it}^{*} \approx$ $20,000. In other words, while the

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rule of law increases tax revenues in countries with a real GDP per capita higher than approximately $20,000, tax revenues decrease as the rule of law increases in countries with lower income levels. The classification of countries based on this threshold value is provided in table 6.

Table 6
Classification of countries according to threshold value

Countries =>20,000 $	Australia, Austria, Belgium, Cyprus, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Luxemburg, Netherlands, Norway, Portugal, Singapore, Slovenia, Spain, Sweden, Switzerland, United Kingdom
Countries < 20,000 $	Argentina, Belarus, Bhutan, Brazil, Bulgaria, Burkina, Cambodia, Costa Rica, Cote d'Ivoire, El Salvador, Estonia, Georgia, Guatemala, Jamaica, Jordan, Latvia, Lebanon, Lithuania, Croatia, Mauritius, Moldova, Morocco, Nicaragua, Peru, Philippines, Poland, Romania, Russia, Slovakia, South Africa, Sri Lanka, Thailand, Ukraine, Zambia

Source: Authors' preparation.

With the threshold value expressed in equation (4) being approximately $20,000, the countries that constitute the sample of the study are classified into two groups in table 6: the ones whose real GDP per capita is higher than $20,000 and the ones whose real GDP per capita is below this threshold. The relationship between the rule of law and tax revenues is positive in countries with a per capita income of $20,000 or higher. In other words, as the level of economic development of the countries increases, so does the effect of the rule of law on tax revenues. In countries with a GDP per capita income lower than $20,000, this effect is mitigating.

6 CONCLUSION AND DISCUSSION

The examination of the basic economic approaches shows that tax regulations with varying and diversifying amounts, purpose, and application methods from Mercantilism to today's modern approaches, are among the issues that many countries at different welfare levels especially focus on. Within the framework of the modern fiscal approach, taxes rank first among public finance sources when they are proportioned to GDP. In this sense, the collection of taxes in full is important for the efficient execution of public services.

The regulations on taxes, which are one of the most important fiscal policy instruments used by states to intervene with the market, must be determined on the basis of laws and the rule-of-law principle must also be adopted in the field of taxation. The rule of law, which is a multilateral concept, emphasizes democracy, legality, and human rights and requires the rules of law to apply to both the public and private fields.

Within this context, the study investigates the effect of the rule of law on tax revenues using dynamic panel data analysis based on the data from a sample of

59 countries during the 2002-2018 period. The first findings in the study show a negative effect of the rule-of-law principle on tax revenues. However, this result is not compatible with theoretical expectations since the economic condition of countries, such as their economic development level, plays a crucial role in collecting tax revenues. Therefore, the effect of the rule of law on tax revenues was tested by adding the differences in the level of economic development to the model as a dummy variable. The value obtained by multiplying the dummy variable and the rule-of-law principle was found to be statistically significant. In other words, the effect of the rule of law on tax revenues varies based on the levels of economic development of the countries. In the next step, the dummy variable was replaced with the multiplicative variable of real income per capita and the Rule of Law Index as a real macroeconomic variable, and the estimation was performed. The results obtained showed that the rule of law positively affects tax revenues in developed economies with a per capita income of over $20,000, and has a negative effect in countries with per capita income below $20,000. This result is consistent with the argument linking the level of taxation with democracy. The degree of distribution of income shapes the preferences of democracy; therefore, level of income promotes democracy and rule of law. Rule of law and democracy are closely related as rule of law is possible only in democratic countries. This leads to an increase in tax revenues. In other words, the effect of rule of law on tax revenue depends on the economic condition of countries' income inequality. Therefore, countries which have high per capita income are more likely to increase their tax revenue. As stated by Jin Yi (2012), higher economic development has a positive impact on the probability of democratic survival. Furthermore, it prevents democratic regimes from reverting to partial democracies or autocratic regimes.

Within this context, the level of economic development of the countries as well as the rule of law both play an important role in increasing the share of tax revenues in national income. For example, in developing countries, corruption, tax evasion (Worlu and Nkoru, 2012), avoidance of taxes, fairness problems in the legal system, lack of confidence in the state, and lack of transparent and accountable tax systems prevent the expansion of the tax base and leads to collecting insufficient tax revenues. On the other hand, in welfare states, the achievement of political stability, the effectiveness of governments, the adoption of transparent, fair, and equitable management systems that are based on laws enable the development of tax policies and collecting sufficient tax revenues.

The findings of the study in general show that the inclusion of the levels of development of the countries in the analysis within the scope of the relationship between tax revenues and the rule-of-law principle has significant effects on the analysis results. The results of the study support the findings reported by Bird, Martínez-Vásquez and Torgler (2004), Syadullah (2015), and Nnyanzi, Babyenda and Bale (2016). For example, Nnyanzi, Babyenda and Bale (2016) investigated the relationship between economic integration and tax revenue in an East Africa community. They focused on the effect of some economic and governance factors

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on tax revenue, and they found a negative relationship between rule of law and tax revenue. This result confirms our findings since GDP per capita in the observed East Africa community is under the threshold value that we found ($20,000). As stated earlier, our findings suggest that below this threshold value, the coefficient of rule of law turns out to be negative. On the other hand, our findings do not support the results obtained by Ashraf and Sarwar (2016) since they use income tax and sales taxes as dependent variable; but when they use overall revenue as a dependent variable, their results confirm our findings.

Our findings also support two important statements that explain why rule of law affects tax revenue positively in developed countries, as argued by Bergman (2010) and Butkiewicz and Yanıkkaya (2006). Bergman (2010) stated that countries with rule of law have higher level of tax compliance since norms and rules are widely embraced in these countries. Butkiewicz and Yanıkkaya (2006) claimed that developed countries have two characteristics: democracy and maintenance of the rule of law.

Our research has two limitations. Firstly, this study focuses on the 2002-2018 period due to lack of available data. A greater sample could lead to higher generalization of our results. Secondly, we use only GDP per capita as an indicator of economic development. Other economic factors, such as savings, GDP growth, and capacity use rate may be used as an indicator of economic development.

Future research may focus on the static relationship between rule of law and tax revenue. For example, they may use the static panel threshold method to estimate this relationship. Moreover, future research should study the interaction between economic development and other governance factors such as corruption, democracy, and political stability.

Disclosure statement

No potential conflict of interest was reported by the authors.

REFERENCES

1. Ajaz, T. and Ahmad, E., 2010. The effect of corruption and governance on tax revenues. *The Pakistan Development Review,* 49(4), pp. 405-417. https://doi.org/10.30541/v49i4iipp.405-417
2. Alm, J. and Torgler, B., 2006. Cultural differences and tax morale in the United States and in Europe. *Journal of Economic Psychology,* 27, pp. 224-246. https://doi.org/10.1016/j.joep.2005.09.002
3. Arbex, M. and Mattos, E., 2020. Limited tax capacity and the optimal taxation of firms. *University of Windsor Department of Economics Working Paper,* No. 539.
4. Ashraf, M. and Sarwar, S., 2016. Institutional determinants of tax buoyancy in developing nations. *Journal of Emerging Economies and Islamic Research,* 4(1), pp. 62-73. https://doi.org/10.24191/jeeir.v4i1.9079
5. Baskaran, T. and Bigsten, A., 2013. Fiscal capacity and the quality of government in sub-Saharan Africa. *World Development,* 45, pp. 92-107. https://doi.org/10.1016/j.worlddev.2012.09.018
6. Bergman, M., 2010. *Tax evasion and the rule of law in Latin America: the political culture of cheating and compliance in Argentina and Chile*. Penn State Press. https://doi.org/10.1515/9780271058818
7. Bingham, L., 2007. The Rule of Law. *The Cambridge Law Journal,* 66(1), pp. 67-85.
8. Bird, R. M. and Zolt, E. M., 2008. Technology and taxation in developing countries: from hand to mouse. *National Tax Journal*, pp. 791-821. https://doi.org/10.17310/ntj.2008.4s.02
9. Bird, R., Martínez-Vásquez, M. J. and Torgler, B., 2004. Societal institutions and tax effort in developing countries. *Georgia State University, Working Paper,* No. 04-06.
10. Botero, J. C. and Ponce, A., 2010. *Rule of Law Index*. Washington: The World Justice Project.
11. Boukbech, R., Bousselhamia, A. and Ezzahid, E., 2018. Determinants of tax revenues: Evidence from a sample of lower middle income countries. *Munich Personal RePEc Archive MPRA Paper,* No. 90268. https://doi.org/10.11114/aef.v6i1.3280
12. Breusch, T. S. and Pagan, A. R., 1980. The lagrange multiplier test and its applications to model specification in econometrics. *The Review of Economic Studies,* 47(1), pp. 239-253. https://doi.org/10.2307/2297111
13. Brondolo, J. [et al.], 2008. Tax administration reform and fiscal adjustment: the case of Indonesia (2001-07). *IMF Working Paper,* WP/08/129.
14. Butkiewicz, J. L. and Yanıkkaya, H., 2006. Institutional quality and economic growth: Maintenance of the rule of law or democratic institutions, or both?. *Economic Modelling,* 23(4), pp. 648-661. https://doi.org/10.1016/j.econmod.2006.03.004
15. Clotfelter, C. T., 1983. Tax evasion and tax rates. *Review of Economics and Statistics,* 65(3), pp. 363-373. https://doi.org/10.2307/1924181

16. Dell'Anno, R., 2009. Tax evasion, tax morale and policy maker's effectiveness. *The Journal of Socio-Economics*, 38, pp. 988-997. https://doi.org/10.1016/j.socec.2009.06.005
17. Durham, Y., Manly, T. S. and Ritsema, C., 2014. The effects of income source, context, and income level on tax compliance decisions in a dynamic experiment. *Journal of Economic Psychology,* 40, pp. 220-233. https://doi.org/10.1016/j.joep.2012.09.012
18. Esping-Andersen, G., 2013. Altın çağ sonrası? küresel bir ekonomide refah devletleri ikilemi. In: A. Buğra and Ç. Keyder, eds. *Sosyal Politika Yazıları*, pp. 53-101.
19. Frey, B. S. and Torgler, B., 2007. Tax morale and conditional cooperation. *Journal of Comparative Economics,* 35(1), pp. 136-159. https://doi.org/10.1016/j.jce.2006.10.006
20. Garcia, M. M. and Von Haldenwang, C., 2016. Do democracies tax more? Political regime type and taxation. *Journal of International Development,* 28(4), pp. 485-506. https://doi.org/10.1002/jid.3078
21. Gupta, A. S., 2007. Determinants of tax revenue efforts in developing countries. *IMF Working Paper,* WP/07/084. https://doi.org/10.5089/9781451867480.001
22. IMF, 2020. *World Economic Outlook, April 2020: The Great Lockdown*. Washington: International Monetary Fund.
23. Jin Yi, D., 2012. No taxation, no democracy? Taxation, income inequality, and democracy. *Journal of Economic Policy Reform,* 15(2), pp. 71-92. https://doi.org/10.1080/17487870.2012.672252
24. Kogler, C., Mittone, L. and Kirchler, E., 2016. Delayed feedback on tax audits affects compliance and fairness perceptions. *Journal of Economic Behavior & Organization*, 124 (C), pp. 81-87. https://doi.org/10.1016/j.jebo.2015.10.014
25. LLI, 2022. *Taxing power*. Ithaca: Legal Information Institute.
26. Luong, T. T., Nguyen, T. M. and Nguyen, T. A., 2020. Rule of law, economic growth and shadow economy in transition countries. *Journal of Asian Finance, Economics and Business,* 7(4), pp. 145-154. https://doi.org/10.13106/jafeb.2020.vol7.no4.145
27. Nnyanzi, J. B., Babyenda, P. and Bale, J. M., 2016. Regional economic integration and tax revenue: East African community. *Journal of Economic Integration,* 31(4), pp. 932-967. https://doi.org/10.11130/jei.2016.31.4.932
28. Passant, J., 2017. Taxation and the American revolution. Australasian Accounting, *Business and Finance Journal,* 11(3), pp. 20-29. https://doi.org/10.14453/aabfj.v11i3.3
29. Pesaran, M. H., 2004. General diagnostic tests for cross section dependence in panel. *IZA Discussion Paper*, No: 1240.
30. Profeta, P. and Scabrosetti, S., 2010. *The political economy of taxation: Lessons from developing countries*. Cheltenham, UK: Edward Elgar Publishing.
31. Rosen, H. and Gayer, T., 2010. *Public finance.* Singapore: McGraw-Hill International Edition.

32. Schneider, F., 2011. *Handbook on the shadow economy*. Cheltenham: Edward Elgar Publishing.
33. Simbachawene, M. S., 2018. Improving tax revenue performance in Tanzania: Does potential tax determinants matters? *Journal of Finance and Economics,* 6(3), pp. 96-102. https://doi.org/10.12691/jfe-6-3-3
34. Stoilova, D., 2017. Tax structure and economic growth: Evidence from the European Union. *Contaduría y Administración,* 62, pp. 1041-1057. https://doi.org/10.1016/j.cya.2017.04.006
35. Syadullah, M., 2015. Governance and tax revenue in Asean countries. *Journal of Social and Development Sciences*, 6(2), pp. 76-88. https://doi.org/10.22610/jsds.v6i2.845
36. Tanzi, V., 1992. Structural factors and tax revenue in developing countries: A decade of evidence. In: I. Goldin and L. A. Winters, eds. *Open economies: Structural adjustment and agriculture*, pp. 267-281. Cambridge: Cambridge University Press. https://doi.org/10.1017/cbo9780511628559.023
37. Teera, J. M. and Hudson, J., 2004. Tax performance: A comparative study. *Journal of International Development Policy Review,* 16, pp. 785-802. https://doi.org/10.1002/jid.1113
38. Torgler, B., 2003. *Tax Morale, Theory and Empirical Analysis of Tax Compliance*. Ph.D. dissertation. Basel: University of Basel.
39. Von Haldenwang, C. and Ivanyna, M., 2012. A comparative view on the tax performance of developing countries: Regional patterns, non-tax revenue and governance. *Economics: The Open-Access, Open-Assessment E-Journal,* 6, pp. 2012-2032. https://doi.org/10.5018/economics-ejournal.ja.2012-32
40. Waldron, J., 2008. The concept and the rule of law. *Georgia Law Review,* 43(1).
41. Weber, T. O., Fooken, J. and Benedikt, H., 2014. Behavioural economics and taxation. *Taxation Papers Working Paper,* No. 41.
42. Worlu, C. N. and Nkoro, E., 2012. Tax revenue and economic development in Nigeria: A macroeconometric approach. *Academic Journal of Interdisciplinary Studies*, 1(2), pp. 211-223.

Externalities in the rent-seeking strategies of lobbying and bribery

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Abstract

Studies investigating the relationship between lobbying and bribery are limited and contradictory. Some studies regard lobbying and bribery as substitutes while others consider them complementary strategies. Using congestion games this study attempts to clarify the externalities present in these rent-seeking strategies which generate complementarities between them. Lobbying cost-sharing and cooperation through business associations and congestion in benefits from competitive bribery are important sources of externalities. The theoretical model is then investigated empirically. The results indicate that lobbying and bribery are complementary strategies. However, as countries grow, lobbying will be used more intensely. The results also show that there is a positive externality in collective lobbying so that firms that cooperate can save on lobbying costs. There are also externalities in competitive bribery. The results show that the effects of social and legal punishments of bribery are considerable but become less severe as corruption becomes more widespread.

Keywords: lobbying, bribery, congestion games

1 INTRODUCTION

All government decisions, policies, laws, and regulations produce distributional effects. Economic agents have preferences for particular decision outcomes and, therefore, seek to influence them. This is known in the literature as rent-seeking and may be achieved either by lobbying rule makers or bribing rule enforcers, two primary rent-seeking methods. Each year 1 in 4 people pays a bribe for public services (Transparency International, 2020a) overly US$1.75 trillion worldwide (Transparency International, 2020b). Lobbying is also widespread. According to the Center for Responsive Politics, lobbying groups or individuals independently of, and not coordinated with, candidates' committees (outside spending) expended more than USD 2.9 billion in 2020 which in real terms was 12 times more than in 2010.[1]

Despite the extensive literature on rent-seeking few studies have comparatively analyzed both lobbying and bribery. These two means of influencing government decisions and rent seeking till now have either been studied separately or viewed as being the same (Goldberg, 2017; Harstad and Svensson, 2011) although it is clear that they differ and have different economic effects. Harstad and Svensson (2011) theorized substitutability between lobbying and bribery, noting that as economies grow and political or legal institutions develop, lobbying eventually replaces bribery. Campos and Giovannoni (2007) and Bennedsen, Feldmann and Lassen (2009) also provide empirical evidence supporting such substitutability. To illustrate this, figure 1 shows the prevalence of lobbying and bribery among countries for 2018. The figure is a three-dimensional plot representing a proxy for corruption on the vertical axis versus lobbying. The proxy for corruption is the

[1] USD 205.4 million in 2010.

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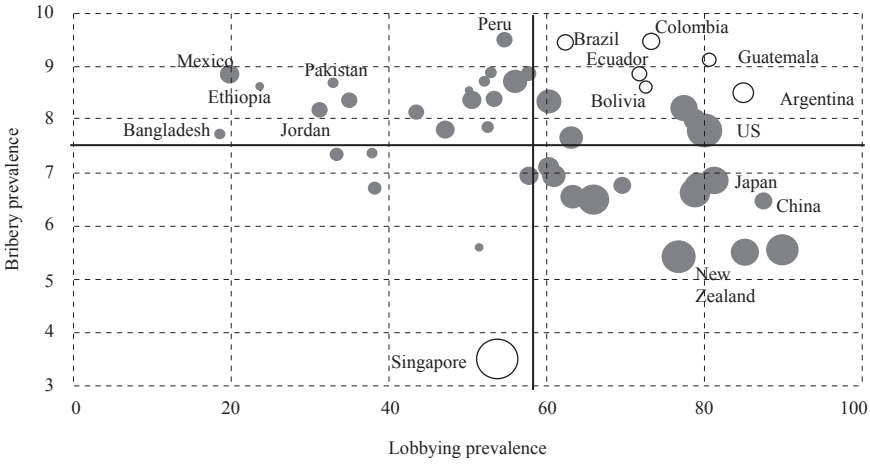
average score for responses on how individuals perceive the level of corruption in their country (on a range of 0 = no corruption to 10 = abundant corruption). The lobbying measure is the percentage of those who have contacted their governments as a form of political action and social activism. Data for both variables are from the Wave 7 of the World Values Survey. The real per capita income of countries (in PPP-adjusted 2017 US dollars) are indicated by the size of the bubbles.

Substitutability between lobbying and bribery can be seen in the group of countries scattered in regions II and IV. Corruption rather than lobbying is more prevalent in region II countries such as Peru, Pakistan, Mexico, Ethiopia, and Jordan where bribery takes place instead of lobbying. In region IV, on the other hand, countries like Germany, US, Canada, Australia, and New Zealand are characterized by lobbying, which is more frequently for rent-seeking. According to the literature, countries in region II and IV employ only one of the rent-seeking strategies. In addition, it can be seen that lobbying is more frequent in high income countries than bribery which is more prevalent in low GDP-per capita countries. On the contrary, the concept of substitutability between lobbying and bribery does not seem to apply in regions I and III countries. This different group comprises countries like Singapore, which does not use either of the two rent-seeking strategies, or Argentina, Guatemala, and Colombia where the use of both strategies is extremely common. In these groups of countries lobbying and bribery are not substituted. This is also in accordance with Damania et al. (2004), Beckmann and Carsten (2009), Yu and Yu (2011), Kiselev (2013), Gokcekus and Sonan (2017), and Cerqueti, Coppier and Piga (2021) who consider lobbying and bribery complementary strategies.

Figure 1

Global prevalence of lobbying and bribery, 2018



Source: Author's estimates.

The failure adequately to explain the relationship between lobbying and bribery is due to the focus on the rent-seeking determinants of individual firms and due to the attempt to explain countrywide differences of their prevalence by using the characteristics of firms and ignoring social and cultural factors. This is clearly visible in the pioneering study on the relationship between lobbying and bribery by Harstad and Svensson (2011). They assume that the substitutability of successful lobbying makes bribery redundant. This study moreover assumes that firms with higher levels of capital are more powerful in bargaining with politicians and yet more vulnerable when encountering venal bureaucrats. As a result, lobbying firms invest more, which, by giving them more bargaining power, reinforces their lobbying activity. On the other hand, firms with low levels of capital prefer to bribe and invest less in order to be less defenseless. These different paths produce two extreme equilibria in which firms characterized by high levels of capital employ lobbying while those that have fallen into the bribery trap suffer from low levels of capital. They state that their "model … predicts an evolution where firms bribe at low levels of development but lobby in richer societies" (Harstad and Svensson, 2011). This conclusion is a simple extension of a single individual-firm's behavior in a country, whereas it is clear that in groups of industries or a society the numerous cooperation or free-riding opportunities may lead to different conclusions about the relationship between lobbying and bribery. For example, using a game theatrical model, Cerqueti and Coppier (2018) show that while lobbying and bribery are substitutes at the level of the firm, they can coexist at a macro level.

The main contention of this study is that rent-seeking externalities generate complementarities between lobbying and bribery and, therefore, a detailed analysis may shed light on previous vague and contradictory results about the relationship between the two strategies in rent-seeking. To fill the gap, this study presents a theoretical model showing externalities in rent-seeking which arise from the strategic choices of firms. The effect of these externalities and nonlinearities are then estimated empirically. The rest of the paper is organized as follows. Section 2 reviews the literature. Section 3 highlights the advantage of congestion games in modeling externalities and proposes a theoretical model to explain the rent-seeking behavior of firms, section 4 tests the theoretical results empirically, and section 5 presents the conclusion.

2 LITERATURE REVIEW

The literature on rent-seeking has its roots in the influential work of Tullock (1967). He argues that public policies that result in deadweight losses, like protectionist policies in international economics, do not come into existence spontaneously but that beneficiaries of inefficient policies have personal incentives to influence the generation and disbursement of income created by political decisions. Accordingly, the resources used in persuasion and such rent-seeking activities should be counted as a cost to society beyond the deadweight losses represented by Harberger's triangles. This concept was further theorized by Buchanan, Tullock and Tollison (1980). Studies at that time modelled rent-seeking mainly as an

all-pay-contest success function in which the highest effort (expenditure or bid) wins. Grossman and Helpman (1994) used the rent-seeking concept to show that international trade restriction policies have been a significant source of rents. They describe a policy maker who stands ready to accept offers for "sale of protection" to industry interests. Stratmann (2005), on the other hand, in his review of the literature, states that the assumption that interest groups buy policy favors with their campaign contributions is not without ambiguity. There is an endogeneity problem, and ordinary least square generally overestimates the effect of campaign contributions on policy decisions. Moreover, "recent research shows that campaign contributions have not had much of an effect on legislative voting behavior" (Stratmann, 2005). In this regard, it is important to thoroughly consider campaign contributions and lobbying activities.

In an alternative approach to rent-seeking, Congleton (1984) considers the case where the rent might be shared by members of successful rent-seeking teams. Indeed, rent-seeking often involves groups and collective action issues as noted by Olson (1965). More interesting is when the contested rent provides a public-good benefit to a group. In this case, as Upsprung (1990) shows, free-riding incentives through substitution effects between own-spending and spending by others reduce a group's total rent-seeking effort. Van Long and Vousden (1987) explore another case in which the prize is enhanced by the total effort of rent seekers. They show that in cases where individual efforts produce both positive (larger prize) and negative (reduced probability of winning) externalities, individual investments increase. Other studies since then that have focused on externalities in rent-seeking and lobbying contests include those by Neretina (2019), Dickson, Mackenzie and Sekeris (2018), Ihori (2013), Govorun (2013), Godwin, López and Seldon (2004), Sun and Ng (1999), Lee and Kang (1998), and Chung (1996).

This paper, however, explores the relationship between lobbying and bribery and the effect of externalities that are present in these two rent-seeking strategies. To date, as noted in the introduction, studies that jointly examine the relationship between lobbying and bribery are few and obscure. Some studies consider lobbying and bribery to be substitutes (Yu and Lee, 2021; Thede and Gustafson, 2017; Yim, Lu and Choi, 2017; Campos and Giovannoni, 2007, 2008, 2017; Harstad and Svensson, 2011; and Bennedsen, Feldmann and Lassen, 2009) while others focus on their complementarities (Cerqueti, Coppier and Piga, 2021; Cerqueti and Coppier, 2018; Gokcekus and Sonan, 2017; Kiselev, 2013; Yu and Yu, 2011; Beckmann and Cartsen, 2009; Damania et al., 2004). The literature has mainly ignored the externalities involved in lobbying and bribery, whereas it is clear that in groups such as industries or a society, many cooperation or free-riding opportunities exist that may lead to different conclusions about the relationship between the two activities.

To understand externalities in rent-seeking, consider a queue as example. Individuals staying in a queue have three strategies available to them. The first is to comply with the rules and spend time in the queue, second, to lobby with rule

makers for an alternative to remove the requirement for staying in line, or, third, to bribe bureaucrats and move forward by taking the place of others. In the case of lobbying, there are two positive externalities. One is to save on costs as more firms cooperate in lobbying for a change. Lobbying is a form of collective action, and its benefits are non-excludable because, by removing the queue, all firms regardless of their participation in the lobbying will benefit. Moreover, to lobby, individuals need to build links with rule-makers and negotiate, which is costly. The high cost of linkages with rule-makers and the fact that the benefits of lobbying are non-excludable force individuals to pursue it in groups. The second source of externality arises from the fact that collective lobbying increases the chances of success. Numerous studies consider lobbying as a cooperative and collective action. Despite its necessity and significant advantages, however, there are factors preventing cooperation. The term "free-riding" first introduced by Olson (1965) is known as the main impediment. He stressed that because of the non-exclusion feature of public goods, rational individuals will have the incentive to free-ride on the efforts of others. In their study of lobbying over common pool resource regulations, Freeman and Anderson (2017) emphasize that the non-participation of other firms makes lobbying more costly. They show that lobbying is a public good and free-riding on it may lead to insufficient lobbying and inefficient regulations. In exploring the second positive externality existing in the lobbying efforts of firms, Weiler and Reißman (2019) show that the more intensely lobby groups cooperate, the more they make use of both insider and outsider lobbying tactics.

There are also different sources of externalities involved in bribery. As in the example of the queue, individuals may pay a bribe and move forward but the exemption they get through bribery is worth less as more people do the same. Competition forces bribers to increase their corrupt payments (Diaby and Sylwester, 2015; Songchoo and Suriya, 2012). Baumann and Friehe (2016) state that, "With respect to the number of firms in the industry, our framework yields the prediction that more intense competition will reduce crime." In other words, there are negative externalities and bribery due to congestion.

Although these important factors and externalities in lobbying and bribery are studied separately, they have been neglected in studies that consider both strategies at the same time. The few existing studies on the relationship between lobbying and bribery have attempted to explain it using individual behavior whereas individual factors cannot explain the positive and negative externalities in rent-seeking that can be crucial determinants of the relationship.

One of the difficulties in studying externalities is dealing with non-linear relationships and modelling them. However, this should no longer be an obstacle as there are now various extremely efficacious theoretical game frameworks, such as congestion games, that can model non-linear payoffs and externalities. In a congestion model, players use several facilities (resource or alternatives), and the costs or benefits associated with each facility are possibly, among others, determined by the number of users of that same facility (Blumrosen and Dobzinski, 2007; Voorneveld et al., 1999).

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Congestion games have been applied in economics wherever externalities are the focus of the study. "Congestion models can be used to model … local public goods, where it is common to speak about 'anonymous crowding' to describe the negative externality arising from the presence of more than one user of the same facility" (Voorneveld et al., 1999). Another example of the application of congestion games in economics is to compute the price of anarchy by measuring how the efficiency of a system degrades due to the selfish behavior of its agents in the worst case. The price of anarchy is the comparison of the costs between two equilibria, i.e., the optimal one, and the bad equilibrium where externalities have led to some form of inefficiency. Since taxation is the classic solution to externalities, this price of anarchy can be used to compute optimal taxes. Brown and Marden (2016), Christodoulou and Gairing (2015), and Bilò and Vinci (2019) are among those who have studied this area. Other studies apply congestion games to model the positive externalities presented by cooperation and cost-sharing among atomic players. Gairing, Kollias and Kotsialou (2020) explore the existence and efficiency of cost-sharing equilibria.

Such advantages of congestion game models make them extremely useful for the purpose of this paper in studying the externalities of lobbying and bribery. After a short introduction to congestion games, the following section presents the theoretical model used in this study.

3 MODELING EXTERNALITIES IN RENT-SEEKING

The benefits and costs of collective lobbying and bribery depend on the cooperation or competition between individual rent-seeking agents. In this case, the equilibrium levels of lobbying efforts, campaign contributions, bribe payments, etc., are determined by the state of the population and pervasiveness of these qualities. The dynamics of the population and an imitation of these qualities can best be modelled by evolutionary games. This is because they involve bounded rationality, meaning that agents to some extent copy and follow each other and, as a result, their strategic decisions depend on the state of the population. To illustrate this, assume a fixed payoff matrix π whose arrays a_{ij} show the payoff of agent i being matched with other agents, j, of different types in the strategy-set S. The probability of different types or strategies matching each other depends on the state of population or the prevalence of strategies. Thus, $F_i(X)$, the expected payoff of agent i playing the game with the fixed payoff matrix Π among members of a population with the state $X = [x_1\ x_z \ldots\ x_n]$ is as follows (equation 1) with the arrays x_j indicating the prevalence of strategy or type of j in population.

$$\pi = \begin{bmatrix} a_{11} & a_{12} \ldots & a_{1n} \\ a_{21} & a_{22} \ldots & a_{2n} \\ \vdots & & \\ a_{n1} & a_{n2} \ldots & a_{nn} \end{bmatrix}$$

$$\Pi_i(X) = \pi_i X' = \sum_{j \in S} a_{ij} x_j \qquad (1)$$

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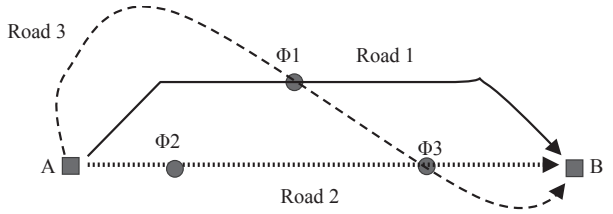
The Matrix $\Pi(X) = \pi X$ indicates the expected payoff of all the population members which is clearly linear in respect to the state of the population. This linearity is a restriction, and, indeed, may not seem reasonable especially in economics and the modelling of externalities. Evolutionary games are based on the major assumption that the payoff matrix π is fixed and independent of the population's state. This assumption has its roots in the fact that evolutionary game theory is based on random matching games. Random matching is the first stage of population games in which the population is divided into independent identical groups whose members are randomly matched. The payoffs are determined at the end based on randomly matched identical groups. Then, at the second stage, which is purely biological, the payoffs of different species are compared and the equilibrium state of the population determined. The first stage of the game played between random species is independent of the second stage and the state of the population. This independency makes the payoff matrix fixed and unrelated to the population state. In reality, however, payoffs are themselves contingent upon the population state. Interactions in which each agent's payoff is determined directly by all agents' behavior, a situation labeled the "playing the field" by Smith (1982), seems to be the rule rather than exemption. According to Hammerstein and Selten (1994), "One often meets situations in which the members of a population are not involved in pairwise conflicts but in a global competition among all members. Such situations are often described as a "playing the field." Focusing only on matching in normal form games is quite restrictive. The payoff matrix can itself be a function of the state of the population. The payoff of agent *i* being matched with agent *j* may depend on the population of *i* and *j* types or even agents from other types. This is what we know as externalities.

However, the dependence of the payoff matrix on the population state leads to a non-linear expected payoffs matrix. Sandholm (2010) states that, "One might expect that moving from linear to non-linear payoffs would lead to intractable models, but it does not." Some games, like congestion in highway networks which consider the game among all population members, are capable of modeling both linear and non-linear payoffs. As a short introduction of congestion games, suppose there are three ways of going from point A to B each of them entailing a cost that is an increasing function of the number of cars on the road. In other words, these roads are rivalrous public goods that would be congested at some point. Since each car imposes a negative externality on others, each utilizer minimizes costs by choosing the least crowded road from A to B (see figure 2).

Figure 2

An example of a road congestion game



Source: Author.

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The three ways may be interpreted as three strategies, $S = \{Road1, Road2, Road3\}$. These strategies use facilities $\varnothing = \{\varphi 1, \varphi 2, \varphi 3\}$, for which some are common. Consider, in addition, $X^{\varnothing} = \{x^{\varphi 1}, x^{\varphi 2}, x^{\varphi 3}\}$ as the utilization level of the facilities. The cost of road usage, due to assumed negative externalities, is an increasing function of the utilization level or state of the population. For example, as shown in equation 2, the cost of using road 3 is $C\ \{x^{\varphi 1} + x^{\varphi 3}\}$ which depends on the utilization level of the first and third facilities, shared respectively with road 1 and 2. The payoff corresponding to this strategy, $\Pi_{Road3}(X)$, in this case is negative and solely determined by the cost of using road 3. The optimal choice between these three roads could then be obtained by minimizing the corresponding costs of the strategies.

$$\begin{bmatrix} \pi_{Road1}(X) = -C\left(x^{\varphi 1}\right) \\ \pi_{Road2}(X) = -C(x^{\varphi 2} + x^{\varphi 3}) \\ \pi_{Road3}(X) = -C(x^{\varphi 1} + x^{\varphi 3}) \end{bmatrix} \tag{2}$$

The benefits of different strategies now, in contrast to linear evolutionary games, could be a non-linear function of the utilization level and state of population. This is an important point for the purpose of this study, which focuses on externalities in lobbying and bribery. Previous studies on these rent-seeking strategies neglected the element of externalities which could critically have an effect on their relationship.

To model externalities in rent-seeking, consider lobbying, compliance, or bribery as the three strategies available to firms for which compliance with the rules is costly. Firms may lobby governments for a change in the rules, avoid them through bribery, or do nothing and comply with them. In the case of lobbying, there is only one alternative rule which is in the interest of all firms.[2] Although this study's focus is on the relationship between lobbying and bribery, compliance is added to the strategy set because there are countries where neither of the two rent-seeking strategies are prevalent. In other countries too, compliance strategy could be considered as a fallback position for firms. In this regard, $S = \{L, C, B\}$ represents the set of pure strategies for lobbying, compliance, and bribery, respectively.

Six facilities are commonly or exclusively used under the three strategies, namely lobbying negotiations with government (LN), linkage cost sharing (LCS), rule breaking through bribery (RBB), the social costs of corruption (SCC), social and legal penalties imposed on bribers (PB), and punishment of free-riding (FRP). The total payoffs for the three strategies are shown in equation 3 which will be discussed in more detail. Here, instead of C indicating the facilities-usage cost, the term π is used for the benefits provided by the facilities.

[2] Although in the real world rival industries compete with each other, this study concentrates on firms within an industry having common interests where the issue relates only to cooperation in lobbying or acting individually.

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$$\begin{cases} \Pi(L) = \pi(LN) + \pi(LCS) + \pi(SCC) \\ \Pi(C) = \pi(LN) + \pi(SCC) + \pi(FRP) \\ \Pi(B) = \pi(LN) + \pi(FRP) + \pi(RBB) + \pi(PB) \end{cases} \tag{3}$$

In lobbying negotiations (LN) with the government the benefits are non-exclusive and all firms, regardless of their cooperation, enjoy the rule changes produced by the successful lobbying. Here, others would free-ride on this facility provided by lobbyists. As shown in equation 3, all the three strategies utilize the benefits of this facility. Standardizing the corresponding costs of the current and alternative rules respectively as one and zero, the benefits of this facility may be shown as equation 4. Since the gains of a rule change are durable, it is discounted by parameter δ. The benefits of LN and rule change, $\pi(LN)$, depend positively on the population of lobbyists x^L, which is indicative of a larger and more powerful coalition. In fact, the chance of success in lobbying is not exogenous but increases with the population of lobbyists.

$$\pi(LN) = \left(\frac{1}{1-\delta}\right)x^L \tag{4}$$

In the example of the queue, if firms cooperate in lobbying and set new rules that do not require having to be in a queue anymore, all firms will commonly benefit from a non-excludable non-rival ease. But this benefit doesn't come without cost. Lobbying firms are required to link with governments to negotiate.

The second facility used by lobbying firms is the linkage cost sharing (LCS). Linking to, bargaining with, and persuading governments are costly, and firms can save on them through sharing. The costs of this facility would be incurred solely by the lobbying firms as others free-ride on it. Assuming the fixed linkage cost or contribution demanded by government is C, the benefits of LCS could be shown as equation 5. If all firms cooperate in lobbying, x^L=1, the costs of linking could be negligible.

$$\pi(LCS) = -C(1 - x^L) \tag{5}$$

The third facility is the social cost of corruption (SCC). The prevalence of bribery and corruption also entails some costs to society as a whole. In the queue example, bribing bureaucrats is harmful to society because bribers steal projects or take the place of others. Since bribers achieve a better position at the cost of a worse position for non-bribers, this harm could be considered as the opposite of what bribers get from rule breaking, which is equal to one because the corresponding cost of the current rule is standardized to one. shown in equation 6, the SCC increases as bribers grow in number.

$$\pi(SCC) = -x^B \tag{6}$$

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The payoff for lobbying is the sum of benefits obtained through these three facilities. Equation 7 shows the payoff for the lobbying strategy and is a non-linear function of the state of the population and incorporates several positive and negative externalities. Lobbyists share the benefits of lobbying negotiations (LN) and rule change with the whole of the society but exclusively incur its linkage costs. The benefits of linkage cost sharing or LCS is limited to the size of their coalition. They also suffer from the social cost of corruption (SCC).

$$\Pi(L) = \pi(LN) + \pi(LCS) + \pi(SCC) = \frac{x^L}{1-\delta} - C\left(1 - x^L\right) - x^B \tag{7}$$

Firms compare the payoff of lobbying with that of other strategies. Another strategy is compliance which could be considered as the fallback position. The payoff for compliance is the sum of benefits of three facilities. The first is the benefit of LN with government which is provided by lobbying firms but having compliers free-riding on it. The second is the social cost of corruption (SCC). As stated, this is the harm or losing the place in the queue example, incurred as a result of venal conduct. Compliers and lobbyists commonly suffer from corruption. Another cost that compliers experience is the retribution or punishment *d* inflicted by lobbying firms for their free-riding behavior. Free-riders not only refuse to contribute to the costs of lobbying, but also decrease the chance of success by preventing the formation of a stronger coalition. Direct or indirect[3] punishments which decrease payoffs for free-riders act as a stabilization mechanism for the lobbying coalition. Nonetheless, these punishments for free-riding may be shared as well by compliers and bribers. Alternatively, it can be said that this punishment, as shown by equation 8, would not be very effective when the lobbying coalition is weak.

$$\pi(FRP) = -\mathrm{d}x^L \tag{8}$$

In sum, the payoff for the compliance strategy could be shown by equation 9. The payoff is again a non-linear function of the state of the population and incorporates several positive and negative externalities.

$$\Pi(C) = \pi(LN) + \pi(FRP) + \pi(SCC) = \frac{x^L}{1-\delta} - dx^L - x^B \tag{9}$$

The third strategy is bribing bureaucrats to breach existing rules. The payoffs for bribery consist of the benefits or costs of four facilities. First, bribers like compliers incur no costs and economically enjoy the fruits of lobbying negotiations (LN). However, for their free riding behavior bribers, like compliers, are also punished (FRP) by lobbying firms. In contrast to compliers, however, bribers are not passive. While bribers free-ride on lobbying efforts to change rules, they proactively try to bypass the costly current rules through bribery. Breaching the rule facility provided by bribers (RBB) is specific and benefits only the bribers. Because the corresponding costs

[3] Indirect punishment, known as selective incentive mechanism in the literature. For example, a trade union is able to create selective incentives by providing some excludable goods like insurance exclusively to its members. Withholding these goods from non-members is a form of punishment for non-cooperators.

of current rules are standardized to one, the benefits of breaking them is equal to one. However, two points need noting. First is that the benefits of the rule breaking facility (RBB) decreases with the population size of lobbyists because its benefits, breaking the rule, is advantageous only in case of lobbying failure. If lobbyists succeed in changing the rule, then the current rule-breaking through bribery is worthless. The second point is the fact that the benefits of bribery are due to congestion. The rent corresponding to rule breaking, $\pi(RBB)$, diminishes as the number of firms bribing increases. In other words, competition among bribers eliminates their rent. Therefore, the benefit of breaking the current rule is a negative function of the briber population. If a smaller number complies with the rule, getting an exemption is less profitable. In the queue example, if there is an increase in the number of firms offering bribes to secure a better position the rent will vanish earlier. Bribery also entails an explicit cost which is the money paid to bureaucrats, B. The benefits of the rule-breaking-through-bribery (RBB) facility is shown by equation 10.

$$\pi(RBB) = (1 - x^L)(1 - x^B) - B \tag{10}$$

However, due to its illegal nature and societal harm bribery is subject to social and legal sanctions, shown by *f*. Nonetheless, when bribery is common, it is less likely to be detected and, even then, is not deemed a disgraceful act. Thus, it can be said that bribers may share the costs of the social and legal punishments of their venal conduct. Equation 11 identifies the corresponding social and legal benefits or costs of penalties imposed on bribers (PB).

$$\pi(PB) = -f(1 - x^B) \tag{11}$$

The total payoff for bribery is shown in equation 12 which is again a non-linear function of the state of the population and incorporates several positive and negative externalities.

$$\begin{aligned}\Pi(B) &= \pi(LN) + \pi(FRP) + \pi(RBB) + \pi(PB) \\ &= \frac{x^L}{1-\delta} + (1 - x^L)(1 - x^B) - f(1 - x^B) - dx^L - B\end{aligned} \tag{12}$$

Equation 13 again presents the payoff for the three strategies. Lobbyists utilize the benefits of lobbying negotiations (LN), which is the direct benefit of their lobbying efforts, and contribute their share of linkage costs (LCS). They also suffer from the social costs of corruption (SCC). While lobbyists negotiate with rule makers, their projects, or their place in the queue, may be usurped by bribers. This harm is not experienced only by lobbyists but also by compliers. Compliers, in addition, incur the retribution of lobbying firms for their non-cooperative behavior (FRP) although they benefit from a change in the rule as they free-ride on other firms' lobbying efforts. Bribers, on the other hand, not only similarly free-ride on lobbying efforts and endure retribution, they also proactively breach costly existing rules by bribing bureaucrats (RBB) although such conduct is illegal and subject to social and legal punishment (PB) if detected.

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$$\begin{cases} \Pi(L) = \dfrac{x^L}{1-\delta} - C\left(1-x^L\right) - x^B \\ \Pi(B) = \dfrac{x^L}{1-\delta} + \left(1-x^L\right)\left(1-x^B\right) - f\left(1-x^B\right) - dx^L - B \\ \Pi(C) = \dfrac{x^L}{1-\delta} - dx^L - x^B \end{cases} \tag{13}$$

To understand the spread and proliferation of different strategies in a population, evolutionary dynamics are again commonly used, each player being pre-programmed to adopt a pure strategy but able to "review" it and switch to another type. A revision protocol $\rho_{ij}(\Pi, x)$ taking the payoffs and state of population as inputs, describes how frequently, agents who play strategy $i \in S$, switch to strategy $j \in S$ after receiving a revision opportunity. The game and the revision protocols together define a stochastic evolutionary process. There are various different protocols such as best response dynamics, excess payoff, projection dynamics, or replicator dynamics. In some protocols, agents are extremely rational and their decisions depend only on the payoff structure of the game. In others, agents copy and follow each other and, thus, their decisions depend only on the state of the population. The level of information-demanding, positive correlation (incentive consistency requiring that whenever a population is not at rest, the system grows according to payoffs), and Nash stationarity are some criteria that should be considered in selecting the different types of dynamics.[4]

The focus of this study, however, is not the dynamics itself but the way that the spread of strategies and number of agents taking different strategies affect the payoffs of their own and alternative strategies. These effects are the externalities existing in rent-seeking. The payoffs matrix Π is clearly a non-linear function of the state of the population and incorporates these externalities, in contrast to evolutionary games where the payoff matrix is fixed and independent of the population.

To analyze the externalities in more detail, we can start with lobbying strategy. In the case of collective lobbying, it was stated that there are two positive externalities. One is to save on costs as more firms cooperate in lobbying collectively for a change. The other externality arises from the fact that collective lobbying has a higher chance of success. These potential externalities are comprehensible when looking at the slope of the lobbying payoffs in respect to the population of lobbyists. In addition, an increase in the briber population has a negative effect on lobbyists due to the social costs of corruption. These effects are shown in equation 14.

$$\begin{bmatrix} \dfrac{\partial \pi(L)}{\partial x^L} \\ \dfrac{\partial \pi(L)}{\partial x^B} \end{bmatrix} = \begin{bmatrix} C + \dfrac{1}{1-\delta} \\ -1 \end{bmatrix} \tag{14}$$

[4] Sandhom (2010) has a thorough explanation of deterministic dynamics and their properties.

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The fixed lobbying payoff slope in respect to lobbying population consists of two parts. The first is the positive externality generated through cost sharing. Linkage costs have a negative effect on lobbying payoffs, but can be seen to become less severe as the population of lobbyists increases. The second part indicates the other source of externality. Lobbyists, in case of cooperation in a larger coalition, have a higher chance to succeed and benefit from a rule change.

Corollary 1: *The slope of the lobbying payoff in respect to the lobbying population is fixed and, thus, linear. Two positive externalities are observed in collective lobbying. The first is cost sharing through which the linkage cost becomes less burdensome as the number of lobbyists increases. The second derives from the fact that larger lobbying coalitions enjoy higher chances of success. In addition, the slope of the lobbying payoff in respect to the population of bribers and the prevalence of corruption is negative.*

There are also some sources of externalities among bribers. The first is a positive externality similar to the linkage cost sharing of lobbyists. It was stated that paying bribes is illegal and, if detected would be subject to legal and social penalties, as shown by f in the model. However, it is known that the social indignities and stigmas attached to bribery are not that serious when the act is prevalent. In other words, the social punishments for bribery become less severe the higher the number of bribers in a society. This may also be the case for legal punishments as the probability of detection is influenced by how pervasive corruption is in society. This can be seen in the first order derivative of the payoffs for bribery in respect to the population of bribers.

As shown in equation 15, there is also a negative externality among bribers due to congestion. The gains from rule breaking become less worthwhile as bribers become more numerous. In other words, their gain, $(1-x^L)(1-x^B)$, would completely vanish if the whole population starts bribing, $x^B=1$. Bribery payoffs are also affected by the pervasiveness of the lobbying cooperation in the population. As seen from the first order derivative of payoffs for bribery in respect to the population of lobbying firms, bribers benefit from a change in the rules provided by lobbying firms but they would also be punished by them for their non-cooperative behavior. The final effect could be positive or negative and depend on other parameters.

$$\begin{bmatrix} \dfrac{\partial \pi(B)}{\partial x^L} \\ \dfrac{\partial \pi(B)}{\partial x^B} \end{bmatrix} = \begin{bmatrix} \dfrac{1}{1-\delta} - \left(1-x^B\right) - d \\ f-(1-x^L) \end{bmatrix} \tag{15}$$

Corollary 2: *Positive and negative externalities exist among bribers themselves. The positive externality is where the social and legal punishments they incur would be less severe when the number of bribers increase in society. Negative externality arises due to congestion. Competition in bribery and a larger number of bribers*

decreases rent, and the corresponding compliance exemption becomes less worthwhile. In addition, the payoffs for bribery will be affected positively or negatively by the population of lobbying firms depending on the size of the parameters involved.

4 EMPIRICAL ANALYSIS

As mentioned in the introduction lobbying and bribery are generally considered to be substitute strategies although some studies dispute this. The main conjecture of this study is that the vague and contradictory results on this issue are due to the excessive focus by previous studies on individual-firm determinants of rent-seeking. However, a more detailed analysis of the opportunities for cooperation or other externalities may shed light on the relationship between lobbying and the bribery strategies of rent-seeking. The theoretical model presented in the previous section helps in providing explicit corollaries of the externalities that exist in lobbying and bribery activities. This section provides an empirical test of these corollaries and investigates the relationship between lobbying and bribery in different countries. The primary sources used in the estimations are the Wave 7 data from the World Values Survey (2018).[5,6] The structural equations for bribery and lobbying are as follows:

$$\begin{aligned} Bribery = {} & \alpha_0 + \alpha_1 Lobbying + \alpha_2 \log(GDP) + \alpha_3 Economic\ Instability \\ & + \alpha_4 Press\ Confidence + \alpha_5 Judiciary\ Confidence \\ & + \alpha_6 Social\ disapproval \\ & + \alpha_7 (Social\ disapproval \times Bribery\ Prevalence) \\ & + \alpha_8 (Social\ disapproval \times Judicary\ Confidence) \end{aligned} \tag{16}$$

$$\begin{aligned} Lobbying = {} & \beta_0 + \beta_1 Bribery + \beta_2 \log(GDP) + \beta_3 Economic\ Instability \\ & + \beta_4 Gov.\ Expenditures + \beta_5 Linkage\ Cost \\ & + \beta_6 Business\ Cooperation \\ & + \beta_7 (Business\ Cooperation \times Linkage\ cost) \end{aligned} \tag{17}$$

The two dependent variables are bribery and lobbying. Bribery, as mentioned in the introduction, is the average score across all answers in a country to the question "How would you place your views on corruption (i.e., when people pay a bribe, give a gift, or do a favor to other people in order to get the things or services they need done or the services they need) in your country" (in a range from 0 = no corruption to 10 = abundant corruption). As also stated, lobbying measures relate to individuals

[5] The reason for using the Word Values Survey (2018) is that there is a direct question about lobbying in its Wave 7 questionnaire. Information about lobbying activities is limited and, as far as I know, is not available in other worldwide databases. Although BEEPS's older version of countrywide standardized questionnaire core2 for 2002 to 2005 asked enterprises about their lobbying activities, its newer core4 version for 2006 to 2019 unfortunately lacks it.

[6] The Word Values Survey (WVS) is biased toward countries outside the European Union. The 46 countries surveyed by WVS (2018) used in this study for estimation are: 7 in South America (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, and Peru), 5 in North America (Canada, Guatemala, Mexico, Nicaragua, and the United States), 7 in Europe (Cyprus, Germany, Greece, Romania, Russia, Serbia, and Ukraine), 21 in Asia (Bangladesh, Myanmar, China, Hong Kong, Indonesia, Iran, Iraq, Japan, Kazakhstan, Jordan, South Korea, Kyrgyzstan, Lebanon, Malaysia, Pakistan, Philippine, Singapore, Tajikistan, Thailand, Vietnam, and Turkey), 4 in Africa (Ethiopia, Nigeria, Tunisia, and Zimbabwe), and 2 in Oceania (Australia and New Zealand). European Union countries are covered by the European Values Survey (EVS) which, unfortunately, does not report on lobbying activities.

in a country who have contacted government officials in response to the question "Whether you have done (score = 1) 'contacting a government official' as a form of political action and social activism, whether you might do it (score = 2), or would never under any circumstances do it (score = 3)". Although this is a direct question, since lobbying is legal there isn't much to worry about the possibility of false reports. In addition, this variable offers a better measure of lobbying than the proxies used in some studies such as participation in business associations. Data on both variables are reported by World Values Survey. The equations for bribery and lobbying affect each other either as substitutes or complements and should probably be determined simultaneously, as will be discussed later.

The two equations also include some control variables. The first variable common to both equations and shown as GDP is the real GDP per capita (in PPP-adjusted 2017 US dollars) of countries as reported in the World Bank's World Development Indicators. This variable is important because, according to the literature, lobbying is more common in rich, developed countries while bribery is more widespread in developing states. In other words, it is expected that, ceteris paribus, GDP has a negative impact on the prevalence of bribery and a positive effect on lobbying.

Economic instability is another explanatory variable used in the bribery and lobbying equations. According to the literature, stability in policy-making increases lobbying while in unstable and uncertain situations firms prefer to bribe and bypass the rules instead (Bennedsen, Feldmann and Lassen, 2009; Campos and Giovannoni, 2008). The reason is that when governments have a short expected life or when regulations are unpredictable, investing in costly negotiations and lobbying is not justifiable and, as a result, temporary and short-term rent-seeking strategies like bribery are preferred. Therefore, it can be expected that economic instability has a positive effect on bribery while negatively impacting lobbying. The data source is again the World Values Survey. It is the percentage of people who believe "a stable economy" is the most important issue for their country.[7] Higher scores indicate economic instability and widespread concerns over it.

In the bribery equation, the other independent variables are the confidence people have in the courts and the media. Public confidence in the courts and judicial systems reflects the severity of legal punishment and, thus, is expected to affect bribery negatively. Public confidence in the press represents the reliability and trustworthiness of journalism and reporting. The vast amount of literature supporting the influential effect of the press in the fight against corruption (Hamada, Abdel-Salam and Elkilany, 2019; Jha and Sarangi, 2017; Themudo, 2013) shows that these variables have a negative effect on the prevalence of bribery in rent-seeking. Data on these variables are collected from World Values Survey database. They represent the average scores to the question on the amount of confidence individuals have in the courts and the press, respectively. The answers range from 1 (great

[7] The actual question is, "In your opinion, which one of these is most important? A stable economy, progress toward a less impersonal and more humane society, progress toward a society in which ideas count more than money, or the fight against crime?"

deal of confidence) to 4 (no confidence at all). The variables are then adjusted such that higher scores indicate higher public confidence.

Social disapproval of bribery is the next explanatory variable in the bribery equation. It is the average score across all answers on whether individuals think bribery can always be justified, never be justified, or something in between on a range of one to ten. This variable is obtained from World Values Survey (2018). The variable is adjusted in such a way that higher scores indicate more severe disapproval of bribery. Social disapproval of bribery is interpreted as higher social punishment and, therefore, should have a negative effect on bribery.

This variable is also incorporated into the model on the interaction with the prevalence of bribery. The interacted variable between social disapproval and bribery prevalence is incorporated to test Corollary 2 that the prevalence of bribery makes social disapproval less effective in curbing corruption. In fact, the positive coefficient of this interaction variable demonstrates that social punishments and the negative effect of social disapproval becomes less severe when the number of bribers increases in society. A similar interaction effect is incorporated into the model to measure how the impact of confidence in judicial systems and legal punishment are affected by the number of bribers.

In the lobbying equation, the variables on GDP per capita and economic instability are common with the bribery equation. As stated, lobbying is expected to be more prevalent in countries with high levels of GDP per capita and stable economies. Lobbying can be considered as a firm's attempt to protect itself against any potential loss. In unstable and uncertain situations, firms prefer to bribe and bypass rules instead of investing in lobbying to change them. Government expenditure is another explanatory variable and is represented by the ratio of government expenditures to the corresponding country's GDP for 2018. Data are from the World Bank's World Development Indicators. This variable reflects the general assertion by economists that rent-seeking is the direct result of government intervention in markets whereby a bigger government creates more opportunities for rent-seeking and lobbying. Therefore, a positive relationship between government size and lobbying is to be expected.

Two other variables that can influence lobbying prevalence and its externalities are lobbying linkage costs and business cooperation among lobbying firms. As discussed in the previous section, the strategy in which lobbying firms link with government can be costly though they can economize on this through sharing. To measure linkage costs, an index of democratic governance of countries is considered. Democracy is an inclusive political system in which all groups can participate and all voices are heard. Therefore, public perceptions of democracy represent the openness of government to the voice of their citizens and businesses. Data are collected from World Values Survey. The responses of individuals to how democratically their country is governed is scaled on a range of 1 (not at all democratic) to 10 (completely democratic). The data are then adjusted so that higher scores indicate weak democracies and a higher cost of linkages with government. This variable, as discussed, is expected to have a negative effect on lobbying.

Nevertheless, as noted, lobbying firms can share linkage costs and their cooperation leads to stronger coalitions and a higher prevalence of lobbying. The percentage of firms that are a member of some professional organization is considered a measure of cooperation. Data are again from the World Values Survey. The business cooperation variable is incorporated in the estimation itself and in interaction with the linkage cost. The interaction between cooperation and linkage costs is important because it could be expected that when establishing links is particularly difficult, cooperation will seem to be more necessary and effective. In fact, this shows the positive externalities in lobbying through linkages cost sharing as mentioned in Corollary 1. Apart from this interaction effect, cooperation still is expected to have a positive effect on lobbying as it also makes lobbying firms stronger in their negotiations with government.

The preliminary data on the variables are presented in table 1. A point to be noted here is that the variables, despite having a limited range, are not multi-level or discrete choices as they are average scores across all answers to the corresponding questions in a country.

Table 1
Preliminary statistics of variables

	Min	Mean	Max	Range
Lobbying	18.39	58.76	89.76	0-100
Bribery	35.24	76.84	95.07	1-100
GDP per capita (PPP-adjusted 2017 US dollars)	2,103.5	22,551.6	97,801	
Confidence in the judiciary	1.533	2.548	3.246	1-4
Confidence in the press	0.81	1.317	1.893	1-4
Economic instability	30.03	53.27	75.24	0-100
Social disapproval of bribery	6.78	9.01	9.82	1-10
Government expenditures	5.6	14.68	20.77	0-100
Linkage costs	2.02	3.88	6.3	1-10
Business cooperation	3.7	22.29	54	0-100

Source: Author's calculations.

To test the negative externality that exists due to congestion and competition in bribery as presented in Corollary 2, bribery will be entered in regression in different functional forms. In econometrics, although the equations must be linear in their parameters, it is possible to incorporate non-linear functional forms. Logarithmic forms are one means of estimating non-linear exponential equations. To model a curve with a decreasing slope, a semi-log model of a relevant predictor is suitable and would be tested empirically.

However, we need to check for endogeneity before going to estimation. A Durbin-Wu-Hausman test is used to test whether bribery and lobbying must be estimated simultaneously or not. The test is conducted by regressing the reduced form

equations, i.e., regressions where the endogenous variables are written solely in terms of exogenous variables. The residuals of the reduced form equations are then, as the second step, included in the original structural model. The null hypothesis $\mu=0$, where μ is the coefficient of residuals, would be tested. If the residuals are significantly different from zero it can be concluded that the two variables are endogenous and must be determined simultaneously. The residuals of both structural equations were highly insignificant at P-values of 0.958 and 0.982 for the bribery and lobbying structural equation, respectively. These results show that bribery and lobbying are independent of each other and thus do not require an instrumental variable or simultaneous estimation. Therefore, the ordinary least square (OLS) method is used for estimation. Table 2 summarizes the results.

The bribery equation is estimated in two models. Model 1 is a level-level linear model while Model 2 estimates a logarithmic equation. Comparing the second model with the first shows that the logarithmic relationship fits better for the bribery equation as the significance of several variables is clearly improved. The economic instability variable is also dropped from the estimation in Model 2. Economic instability is expected to positively affect bribery while having a negative effect on lobbying. This is because economic instability and regulatory uncertainty discourages firms from lobbying. Its effects on bribery and lobbying are not significant although they have the expected signs. This variable is dropped from the second bribery model because of its lack of significance and consequent improvement in the adjusted R-square. Two models are also estimated for the lobbying equation. Again, economic instability is dropped from the second model because of its insignificance, which has also improved its adjusted R-squares. Another difference is that the interaction effects of business cooperation and linkage costs are incorporated into the second model's lobbying equation. This interaction term is not only significant but its incorporation in the model also increases the significance of other variables and the regression where the adjusted R-square and the results of the F-test are improved. The Model results 2 are discussed in what follows.

The discussion begins by addressing the main interest of this study which is the relationship between lobbying and bribery and the externalities of these two main rent-seeking strategies. As the results show, bribery has no impact on lobbying while the latter has a positive effect on bribery. This effect is expected because bribery is an individualistic rent-seeking strategy while lobbying is a collective action whose benefits in seeking a change to the rules are not excludable. In other words, the positive effect of lobbying on bribery are based on the fact that bribers benefit from the positive externalities provided by lobbying firms. In game theory, the decisions of players are either strategic complements or substitutes depending on whether they mutually reinforce or offset one another. As such, it can be said that bribery and lobbying work as two complementary strategies. Since the estimated relationship is logarithmic, the coefficient has a percentage interpretation. A ten percent increase in lobbying raises the prevalence of bribery by 0.6 percent. This result matches earlier studies emphasizing the positive relationship between lobbying and bribery.

Table 2
Estimations of corruption and lobbying

	Model 1		Model 2	
	Bribery	**Lobby**	**LN (Bribery)**	**Lobby**
Lobbying	0.0001 (0.005)		0.0006 (0.0002)***	
Bribery		0.18 (0.25)		0.14 (0.24)
LN (GDP per capita)	0.021 (0.14)	8.32 (3.23)**	-0.0097 (0.0044)**	8.2 (3.01)***
Economic Instability	0.01 (0.009)	-0.084 (0.24)		
Confidence in the Judicial System	-4.3 (1.7)**		-0.26 (0.054)***	
Confidence in the Press	0.13 (0.38)		-0.021 (0.012)*	
Social Disapproval of bribery	-6.8 (0.51)***		-0.053 (0.016)***	
Interaction (Social Disapproval × Bribery)	0.094 (0.006)***		0.00056 (0.0002)***	
Interaction (Confidence in the Judiciary × Bribery)	0.043 (0.02)**		0.0035 (0.0006)***	
Gov. Expenditures		1.81 (0.62)***		2.31 (0.63)***
Linkage Costs		-2.41 (2.83)		-9.76 (4.57)**
Business Cooperation		0.28 (17.1)		-0.923 (0.63)

	Model 1		Model 2	
	Bribery	**Lobby**	**LN (Bribery)**	**Lobby**
Interaction (Business Cooperation ∗ Linkage Cost)				0.34 (0.17)**
Constant	75.46 (2.24)***	-54.15 (39.6)	4.49 (0.067)***	-35.04 (38.9)
R-Square Adjusted	0.998	0.299	0.99	0.361
F-test statistic	2616.9	4.2	647.34	5.24
F-test P-value	0.000	0.002	0.000	0.000

*Standard deviations are reported in parentheses. Statistical significance of coefficients are shown by asterisk; *** (significant at 1%), ** (significant at 5%) and * (significant at 10%).*

Source: Author's estimations.

Factors generating this relationship are the externalities existing in cooperative lobbying and competitive bribery. To illustrate and discuss the effect of these externalities, however, it is first necessary to discuss the important control variables. According to the literature, the GDP of countries is the key factor for the substitute relationship between lobbying and bribery. As expected, the income level of countries have a positive effect on lobbying whereas it decreases the prevalence of bribery. The variable used here is the natural logarithm of GDP per capita in PPP-adjusted 2017 US dollars. The results show that a ten percent increase in GDP per capita, decreases the prevalence of bribery by almost 0.1 percent. The impact of GDP on lobbying is also significant where a similar increase in GDP per capita increases the lobbying prevalence score (the percentage of firms in a country which have contacted a government official) by 0.82 percent.[8] This result, in accordance with the literature theorizing the substitute strategy between lobbying and bribery, confirms that lobbying is more commonly used in rich and developed countries while bribery is more widespread in poor and developing countries. Nevertheless, GDP cannot fully explain the worldwide differences in the prevalence of lobbying. This effect, for example, predicts that the prevalence of lobbying in China, which has a per-capita GDP that is 344% larger than that of Bangladesh, should be 28.2 percent higher. But in fact lobbying prevalence scores in China and Bangladesh are 87.35 and 18.39 respectively. In other words, GDP per capita explains only 40 percent of the differences in lobbying prevalence between China and Bangladesh.

In the bribery equation, there are three other control variables. Confidence in the judicial system, social disapproval of bribery, and confidence in the press are expected to have negative effects on bribery and corruption. Confidence in the judicial system is used as a proxy for severity of legal penalties and the probability of the detection of illegal acts like bribery. Its effect is highly significant. A single point increase in such confidence (on a range of 1 to 4) decreases the bribery prevalence score by 26 percent. A one-point increase in confidence in the judiciary corresponds to an increase in the rank of, for example, Peru which rates lowest with a score of 1.533, to the 45th percentile in its worldwide distribution. The effect of confidence in the press, although significant, is weaker. A single point increase (on a range of 1 to 4) decreases bribery by 2.1 percent. The one-point increase corresponds to a rise in the rank of, for example, Greece with the lowest confidence at 0.813 to the 90th percentile in its worldwide distribution. The negative effect of social disapproval on bribery is also confirmed in both models and is extremely robust. A single point increase in the social disapproval of bribery (on a range of 1 to 10), decreases the prevalence of bribery by 5.3 percent. This effect confirms that social punishments render bribery unprofitable.

There are numerous grounds, however, to believe that the impact of legal and social punishments is contingent upon the prevalence of bribery. As stated in Corollary 2

[8] In linear-log equations, a 1 percent change in X has an effect of size $\beta/100$ on Y. Therefore, a ten percent change in per capita GDP increases the lobbying score by 0.82 points.

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in the previous section, as the number of bribers increase, the social and legal punishments become less severe. The interaction between social disapproval and the prevalence of bribery is positive and significant. The positive coefficient shows that corrupt backgrounds or the prevalence of bribery reduce the negative effects of social punishment. This is similar to the interaction term between confidence in the judiciary as a proxy for legal punishments or the government's seriousness in its fight against corruption and the prevalence of bribery in the corresponding country. These results confirm the existence of a positive externality in cost sharing among bribers. The final effects of the social disapproval of bribery and confidence in the judiciary depends on these externalities or interaction variables.

$$\frac{\Delta\ Corruption}{\Delta\ Social\ Disapproval} = -0.053 + 0.00056 \times \text{Background in bribery} \qquad (18)$$

$$\frac{\Delta\ Corruption}{\Delta\ Judiciary\ Confidence} = -0.26 + 0.0035 \times \text{Background in bribery} \qquad (19)$$

The impact of the prevalence of bribery on social disapproval is significant. Since the interaction effect has an opposite sign, it can be concluded that the prevalence of bribery lessens the negative effects of social disapproval. This means that the effect of social disapproval on bribery in countries with corrupt cultures and prevalent bribery is weaker; for example, the final effect of social disapproval in Peru with a bribery score of 95.07 (on a range of 1 to 100) is zero. The same applies to legal punishment. The effect of bribery's prevalence on the impact of confidence in the judiciary is also significant. Since the interaction term has an opposite sign, it can be concluded that the prevalence of bribery reduces the negative effect of confidence in the judiciary. This means that the effect of confidence in the judiciary and the legal penalties for bribery in countries with corrupt cultures and prevalent bribery is weaker; for example, the prevalence of bribery in Peru completely neutralizes the negative effect of legal punishments on corruption. These results confirm Corollary 2.

In the lobbying equation, government expenditure is another control variable used besides GDP to explain the prevalence of lobbying. This variable reflects the general assertion by economists that rent-seeking is a direct result of government intervention in markets. Bigger governments create more opportunities for rent-seeking and lobbying. According to the results, if the ratio of government expenditures relative to GDP increases by ten percentage points, lobbying becomes more prevalent by 23.1 percentage points. To see how large this impact is, consider that the ten percentage point increase corresponds to a rise in the rank of, for example, Nigeria with the lowest score (government expenditure at 5.6 percent of its GDP) to the 55th percentile in its worldwide distribution. As another example, the ten percentage points are almost equal to the difference between China (government expenditure at 16.53 percent of GDP) and Bangladesh (6.36 percent) and, hence, government expenditure explains 33 percent of the difference between the two countries in the prevalence of lobbying.

Investigations on the externalities existing in collective lobbying should focus on the effects of linkage costs and business cooperation. The variable "linkage cost" is significant and, as expected, decreases lobbying prevalence. High scores of this variable show that linking and negotiations with government are difficult and rule-makers do not listen to business. According to the results, a single score increase in linkage costs (on a range of 1 to 10) decreases lobbying prevalence by 9.76 percentage points. Its deterrence, however, depends on cooperation between lobbying firms. As stated, since lobbying for a change in the rule is a non-excludable non-rival public good, there are various possibilities for cooperation among firms such as sharing the costs of lobbying.

Although cooperation is incorporated into the model, the estimated coefficient is not significant, meaning that it does not have a direct effect on lobbying. To see whether the effect of cooperation is indirect and contingent upon linkage costs, the interaction variable is added to the estimation. This variable is significant and its opposite sign to the negative coefficient of linkage costs shows that, as stated in Corollary 1, business cooperation makes linkage costs less of an impediment. The final effects of linkage costs on lobbying are shown in equation 20. In countries with high levels of business cooperation, lobbying linkage costs are not prohibitive; for example, for the United States which has the highest score of 54 percent membership in professional organizations, the final effects of linkage costs would be completely neutralized. This shows that by reducing the negative effects of linkage costs, business cooperation indirectly increases lobbying. This is another externality that exists in collective lobbying.

$$\frac{\Delta\ Lobbying}{\Delta\ Linkage\ cost} = -\ 9.76 + 0.34 \times \text{Business Cooperation} \tag{20}$$

5 CONCLUSION

Economic agents have the incentive to influence government. Two rent-seeking strategies available to them are lobbying or linking to rule-makers in order for them to set favorable rules, and bribing to circumvent rules by paying off rule-enforcers. Unfortunately, few studies have considered the two strategies together in analyzing the choices of firms between the two strategies. They, moreover, focus mainly on the individual characteristics of firms such as their size, capital endowment, or ownership to explain their behavior. This unidimensional focus has not been able to comprehensively explain the relationship between lobbying and bribery. This study thus attempts to fill that gap by focusing on the externalities present in rent-seeking.

This study first tries to shed light on these externalities and their effects in a theoretical model through the application of congestion games. Various kinds of externalities were explored and stated in theoretical corollaries. The first positive externality existing in collective lobbying is that firms share and save on lobbying costs. The linkage costs become less burdensome as the number of lobbyists

increases. Other sources of externality may still exist in lobbying such as lobbyists benefitting from the higher possibility of success in negotiations with governments by cooperating as group. The same is true for bribery. Firms may offer bribes and take the position of others, as in a queue, for example, but the exemptions they enjoy through this become less worthwhile as more firms do the same. In other words, the rent obtained from competitive bribery is due to congestion. The other externality is that the stigma attached to bribery would be less severe if it is more prevalent.

The final section of this paper addresses the empirical testing of the presented theoretical results and proposed externalities. The results show that as countries develop, lobbying strategies will be used more intensely than bribery. GDP levels have a positive effect on lobbying but decrease corruption. A ten percent increase in GDP per capita decreases the prevalence of bribery by almost 0.1 percent but increases that of lobbying (the percentage of firms which have contacted government officials) by 0.82 percentage points. This effect is in accordance with the literature theorizing GDP as the source of substitutability between lobbying and bribery. This study, however, adds rent-seeking externalities into the model and shows that lobbying and bribery somehow reinforce each other. According to the results, an increase of ten percentage points in lobbying makes bribery more prevalent by 0.6 percent. This complementary effect has been extrapolated in some studies especially for developing countries.

In the case of bribery, the results show that public confidence in the judicial system and press as indices that reflect their commitment to the fight against corruption have significantly influential effects. A single point increase in confidence in the press decreases bribery by 2.1 percent. On the other hand, a similar increase in confidence in the courts decreases bribery prevalence by 26 percent which, though much stronger in magnitude, becomes less severe as the number of bribers increases owing to the positive externality of cost sharing among bribers. In fact, there are many reasons to believe that the impact of legal and social penalties is contingent upon the prevalence of bribery. To test this, an interaction term between it and confidence in the judicial system is added to the estimation. According to the results, this interaction term is significant and has an opposite sign, which shows that the prevalence of bribery reduces the negative effects of confidence in the judiciary. The prevalence of bribery, as in the case of Peru, completely neutralizes the negative effects of legal penalties on corruption.

This applies also to social punishments for bribery. The negative effect of social disapproval on bribery is also confirmed empirically. A one-point increase in social disapproval of bribery decreases its prevalence by 5.3 percentage points. The significance and opposite sign of the interaction term between social disapproval and the corresponding country's prevalence of bribery, however, shows that a corruptive environment or the pervasiveness of bribery reduces the negative

effects of social punishments. For example, the final impact of social disapproval in Peru which has a bribery-prevalence score of 95.07 is zero.

Similar externalities exist in the case of collective lobbying. Firstly, the results show that government expenditure has a positive effect on the prevalence of lobbying. This variable underscores the general point by economists that rent-seeking is a direct result of government intervention in markets. The larger the government, the greater the opportunities for rent-seeking and lobbying. As shown by the results, a ten percent increase in the ratio of government expenditures to GDP makes lobbying more prevalent by 23.1 percentage points. Lobbying, however, has some costs. The impeding effects of linkage costs were also confirmed. According to the results, a one-point increase in linkage costs decreases the prevalence of lobbying by 9.76 percentage points. Its deterrence, however, depends on the level of cooperation among lobbying firms. The effect of cooperation on lobbying is indirect through its alleviation of the difficulties involved in linking with the government. Whenever and wherever linking to governments is a challenge, cooperation among firms such as through membership in professional organizations, can help make it less of an impediment.

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REFERENCES

1. Baumann, F. and Friehe, T., 2016. Competitive Pressure and Corporate Crime. *The B.E. Journal of Economic Analysis & Policy,*16(2), pp. 664-687. https://doi.org/10.1515/bejeap-2015-0064
2. Beckmann, K. and Carsten, G., 2009. Lobbying and corruption as substitute forms of rent-seeking. In: W. Schafer, A. Schneider and T. Thomas, eds. *Markets and politics: insights from a political economy perspective*. Metropolis-Verl, pp. 115-133.
3. Bennedsen, M., Feldmann, S. E. and Lassen, D. D., 2009. Strong Firms Lobby, Weak Firms Bribe: A survey-based analysis of the demand for influence and corruption. *EPRU Working Paper Series*, 2009-08. https://doi.org/10.2139/ssrn.1503028
4. Bilò, V. and Vinci, C., 2019. Dynamic Taxes for Polynomial Congestion Games. *ACM Transactions on Economics and Computation,* 7(3), pp. 1-36. https://doi.org/10.1145/3355946
5. Blumrosen, L. and Dobzinski, S., 2007. Welfare Maximization in Congestion Games. *IEEE Journal on Selected Areas in Communications,* 25(6), pp. 1224-1236. https://doi.org/10.1109/JSAC.2007.070816
6. Brown, P. N. and Marden, J. R., 2016. The Robustness of Marginal-Cost Taxes in Affine Congestion Games. *IEEE Transactions on Automatic Control,* 62(8), pp. 3999-4004. https://doi.org/10.1109/TAC.2016.2619674
7. Buchanan, J., Tullock, G. and Tollison, R., 1980. *Toward a Theory of the Rent-Seeking Society*. Texas a & M University Economics Series.
8. Campos, N. F. and Giovannoni, F., 2007. Lobbying, Corruption and Political Influence. *Public Choice*, 131(1), pp. 1-21. https://doi.org/10.1007/s11127-006-9102-4
9. Campos, N. F. and Giovannoni, F., 2008. Lobbying, Corruption and Other Banes. *IZA Discussion Papers,* No. 3693. https://doi.org/10.2139/ssrn.1267355
10. Campos, N. F. and Giovannoni, F., 2017. Political institutions, lobbying and corruption. *Journal of Institutional Economics,* 13(4), pp. 917-939. https://doi.org/10.1017/S1744137417000108
11. Cerqueti, R. and Coppier, R., 2018. A game for exploring political and bureaucratic corruption. *IMA Journal of Management Mathematics,* 29(2), pp. 151-173. https://doi.org/10.1093/imaman/dpw017
12. Cerqueti, R., Coppier, R. and Piga, G., 2021. Bribes, Lobbying and Industrial Structure. *Italian Economic Journal,* (7), pp. 439-460. https://doi.org/10.1007/s40797-021-00150-7
13. Christodoulou, G. and Gairing, M., 2015. Price of Stability in Polynomial Congestion Games. *ACM Transactions on Economics and Computation,* 4(2), pp. 1-17. https://doi.org/10.1145/2841229
14. Chung, T. Y., 1996. Rent-seeking contest when the prize increases with aggregate efforts. *Public Choice,* 87, pp. 55-66. https://doi.org/10.1007/BF00151729
15. Congleton, R. D., 1984. Committees and rent-seeking effort. *Journal of Public* Economics 25, pp. 197-209. https://doi.org/10.1016/0047-2727(84)90051-3

16. Damania, R., Fredriksson, P. G. and Mani, M., 2004. The Persistence of Corruption and Regulatory Compliance Failures: Theory and Evidence. *Public Choice*, 121(3), 363-390.
17. Diaby, A. and Sylwester, K., 2015. Corruption and Market Competition: Evidence from Post-Communist Countries. *World Development,* 66, pp. 487-499. https://doi.org/10.1016/j.worlddev.2014.09.003
18. Dickson, A., Mackenzie, I. A. and Sekeris, P. G., 2018. Rent-seeking incentives in share contests. *Journal of Public Economics,* 166, pp. 53-62. https://doi.org/10.1016/j.jpubeco.2018.08.004
19. Freeman, M. A. and Anderson, C. M., 2017. Competitive Lobbying over Common Pool Resource Regulations. *Ecological Economics,* 134, pp. 123-129. https://doi.org/10.1016/j.ecolecon.2016.12.031
20. Gairing, M., Kollias, K. and Kotsialou, G., 2020. Existence and Efficiency of Equilibria for Cost-Sharing in Generalized Weighted Congestion Games. *ACM Transactions on Economics and Computation,* 8(2), pp. 1-28. https://doi.org/10.1145/3391434
21. Godwin, R. K., López, E. and Seldon, B. J., 2003. *Firm Lobbying for Private vs. Collective Rents.* Presented at the Latin American Econometric Society Conference.
22. Gokcekus, O. and Sonan, S., 2017. Political contributions and corruption in the United States. *Journal of Economic Policy Reform,* 20(4), pp. 360-372. https://doi.org/10.1080/17487870.2016.1258312
23. Goldberg, F., 2017. Corruption and lobbying: conceptual differentiation and gray areas. *Crime, Law and Social Change,* 70, pp. 197-215.
24. Govorun, A., 2013. The Choice of Lobbying Strategy: Direct Contacts with Officials or Mediation via Business Associations. *Higher School of Economics Research Paper,* No. WP BRP 24/EC/2013. https://doi.org/10.2139/ssrn.2213829
25. Grossman, G. M. and Helpman, E., 1994. Protection for sale. *American Economic Review,* 84(4), pp. 833-850.
26. Hamada, B. I., Abdel-Salam, AS. G. and Elkilany, E. A., 2019. Press freedom and corruption: An examination of the relationship. *Global Media and Communication,* 15(3), pp. 303-321. https://doi.org/10.1177/1742766519871676
27. Hammerstein, P. and Selten, R., 1994. Game theory and evolutionary biology. In: R. J. Aumann and S. Hart, eds. *Handbook of game theory*, vol. 2, pp. 929-993. https://doi.org/10.1016/S1574-0005(05)80060-8
28. Harstad, B. and Svensson, J., 2011. Bribes, Lobbying, and Development. *American political science review*, 105(1), pp. 46-63. https://doi.org/10.1017/S0003055410000523
29. Ihori, T., 2013. Conflicting Interest Groups, Contentious Public Goods, and Cooperation. *Singapore Management University (SMU) Working paper*.
30. Jha, C. K. and Sarangi, S., 2017. Does social media reduce corruption? *Information Economics and Policy,* 39, pp. 60-71. https://doi.org/10.1016/j.infoecopol.2017.04.001

31. Kiselev, E., 2013. Lobbying, Corruption, and Regulatory Constraints: An Analysis of Eastern European Business Associations. *MPRA Working Paper,* No. 51936. https://doi.org/10.2139/ssrn.2292514
32. Lee, S. and Kang, J. H., 1998. Collective contests with externalities. *European Journal of Political Economy,* 14(4), pp. 727-738. https://doi.org/10.1016/S0176-2680(98)00034-2
33. Neretina, E., 2019. Lobbying Externalities and Competition. *University of Southern California working paper*. http://dx.doi.org/10.2139/ssrn.3297712
34. Olson, M., 1965. *The logic of collective action: public goods and the theory of groups*. Harvard University Press.
35. Sandholm, W. H., 2010. *Population games and evolutionary dynamics*. Cambridge: MIT press.
36. Smith, J. M., 1982. *Evolution and the theory of games*. Cambridge University Press.
37. Songchoo, T. and Suriya, K., 2012. Competition to commit crime: An economic experiment on illegal logging using behavioral game theory. *The Empirical Econometrics and Quantitative Economics Letters,* 1(1), pp. 75-90.
38. Stratmann, T., 2005. Some Talk: Money in Politics. A (partial) review of the literature. *Public Choice,* 124(1), pp. 135-156. https://doi.org/10.1007/s11127-005-4750-3
39. Sun, G. Z. and Ng, Y. K., 1999. The Effect of Number and Size of Interest Groups on Social Rent Dissipation. *Public Choice,* 101(3-4), pp. 251-265. https://doi.org/10.1023/A:1018324020637
40. Transparency International, 2020a. *Global corruption barometer: citizens' voices from around the world*.
41. Transparency International, 2020b. *Corruption statistics.*
42. Thede, S. and Guftafson, N., 2017. Bending the rules, breaking the rules: How corruption and lobbying affect the investment market selection of Swedish firms. *The World Economy,* 40(7), pp. 1266-1290. https://doi.org/10.1111/twec.12488
43. Themudo, N. S., 2013. Reassessing the Impact of Civil Society: Nonprofit Sector, Press Freedom, and Corruption. *Governance,* 26(1), pp. 63-89. https://doi.org/10.1111/j.1468-0491.2012.01602.x
44. Tullock, G., 1967. The Welfare Costs of Tariffs, Monopolies, and Theft. *Economic Inquiry,* 5(3). https://doi.org/10.1111/j.1465-7295.1967.tb01923.x
45. Ursprung, H. W., 1990. Public goods, rent dissipation, and candidate competition. *Economics and Politics,* 2(2), pp. 115-132. https://doi.org/10.1111/j.1468-0343.1990.tb00026.x
46. Van Long, N. and Vousden, N., 1987. Risk-averse rent seeking with shared rents. *Economic Journal,* 97, pp. 971-985. https://doi.org/10.2307/2233083
47. Voonerveld, M. [et al.], 1999. Congestion Games and Potentials Reconsidered. *CentER Discussion Paper*, vol. 1999-98.
48. Weiler, F. and Reißman, J., 2019. Interest group coalitions: how the intensity of cooperation affects the choice of lobbying strategies. *Interest Groups & Advocacy*, 8, pp. 91-119. https://doi.org/10.1057/s41309-019-00047-y

49. World Bank, 2000. *World Business Environment Survey*. Washington: The World Bank.

50. World Values Survey, 2018. *Official data file v.20090901*. World Values Survey Association.

51. Yim, H. R., Lu, J. and Choi, S., 2017. Different role of lobbying and bribery on the firm performance in emerging markets. *Multinational Business Review,* 25(3), pp. 222-238. https://doi.org/10.1108/MBR-07-2017-0050

52. Yu, F. and Yu, X., 2011. Corporate lobbying and fraud detection. *The Journal of Financial and Quantitative Analysis*, 46(6), pp. 1865-1891. https://doi.org/10.1017/S0022109011000457

53. Yu, J. and Lee, S. H., 2021. Bending the Rules or Changing Them? MNE Responses to Institutional Challenges in Transition Economies. *Business & Society,* 60(3), pp. 727-763. https://doi.org/10.1177/0007650319843805

EU Socio-Economic Governance in Central and Eastern Europe – The European Semester and National Employment Policies

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Employment has a crucial role in any society because it significantly determines the material and social position of a person during his or her working life as well as during his or her retirement. However, according to the subsidiarity principle, employment and social policy lie within the area of responsibility of each state government. Nevertheless, the European Commission (EC) is fully aware of the importance of successful employment policy and has therefore prepared Country Specific Recommendations with the intention of improving the design and implementation of employment measures. Recently the well-known publisher Routledge of London published a book on this topic titled *The European Semester and National Employment Policies,* written by Mario Munta from the Faculty of Political Science of Zagreb University.

The introductory chapter consists of two parts. In the first part, the author summarizes the discussion on the role of the European Semester (ES) in fostering structural reforms and defines the scope and focus of his work. The reader is informed about the complex topics and research questions this book seeks to address. The second part of the chapter provides the most important information about the ES, stressing the development of coordination of employment in the EU. Discussion of the influence of the ES and its mechanisms, conditions and policy changes is provided in the second chapter. The main objective of the study is to describe and explain the extent to which and under what conditions, EU employment coordination in the context of the ES has influenced changes in national employment policies in four selected countries – Croatia, Hungary, Slovakia and Slovenia – between 2011 and 2018. Munta analyses the importance of three pathways of influence: external pressure, mutual learning and creative appropriation, as factors which facilitate or impede needed policy changes. In a very rich literature review, the author provides an overview of a number of studies and researches into the meaning and function of the ES, noting that the ES often pays more attention to economic goals, while the social dimension and labour market policies are somewhat neglected. In opinions about the ES, there are two opposing camps that can be conditionally called *optimists* and *pessimists*. Optimists argue that the absence of legally binding decisions and sanctions is a prerequisite for the necessary flexibility in employment policy, open debate, experimentation and learning processes. On the other hand, pessimists see the existing soft policy coordination as producing a mere paper tiger and/or symbolic actions without real results.

The third chapter examines the situation of cold-hot relations between Croatia and the EU and the importance of the EU on Croatian employment policy. Generally, particularly after accession to the EU, there has been a decline in the willingness of decision-makers and citizens to make significant reforms. If changes and improvements were made, they were usually partial and short-lived, and due to stakeholder pressures and/or lack of financial resources and patience, they were most often abandoned or not implemented. Therefore, similar European Commission proposals for the necessary changes in Croatia were mostly repeated from year to year, and progress was mostly weak or non-existent. Nevertheless, the

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implementation process of the ES has had a generally beneficial effect on policy-making and has forced political elites to improve their strategic thinking. As a result, certain improvements can be seen in the implementation of an active employment policy and better targeting of measures in the social welfare system to the most disadvantaged people.

The interesting case of Hungary is presented in the fourth chapter. The country shows open Euroscepticism and constantly criticizes the EC, but without any remorse has used large European funds. Prime Minister Viktor Orbán has become the embodiment of a charismatic leader, and the legitimacy of his party and the government's political model rests on his personal authority, which strongly opposes liberal values, the rule of law and Western politics. The Orbán regime has managed to convince the public that the government will not consent to coercion from Brussels on what to do and that it intends to strongly oppose supranational encroachments on Hungarian sovereign rights and other attempts to influence Hungarian policy-making from outside. However, when the EC threatened to be a little sharper in its withholding of funds, the Hungarian attitude very quickly changed. The primary focus of attention in Hungarian employment policy was on public works and the reduction of long-term unemployment. Still, after persistently rejecting the European Commission's request for 5 years, the government agreed to pay more attention to other active employment policy measures and since 2016 has allocated more funds for educational and training programmes. The author concludes that the direct impact of the ES on substantial changes in Hungarian employment policy was very limited.

Citizens in Slovakia have very positive attitudes towards the EU, seeing it as a safe haven for a small vulnerable country striving for economic growth, political stability and improved living standards. As a country that was very quickly accepted into the EU and the Schengen system, and which was the only one of the Visegrad Group to adopt the euro, Slovakia can be considered a good student. However, eurozone crises and difficulties in accepting refugees have shown that Slovakia's support for the EU and its values is quite selective and depends on strategic assessments and domestic political interests. Slovakia generally aspires to be a constructive member of the EU and remains committed to deeper EU integration and economic coordination. The European Commission praises Slovakia for its fiscal consolidation efforts, but labour market policies have for a longer period remained a serious problem. Employment policies in Slovakia were mostly oriented towards activation, the obligation of unemployed persons to search for jobs and accept offers, and to job subsidies, while only limited financial resources were spent on programs to improve employability, especially in hard-to-employ groups and the long-term unemployed. The situation has improved, but still insufficient attention has been directed towards the improvement of employees' knowledge and skills.

The sixth chapter is dedicated to the Slovenian gradualist approach to social and economic changes. Despite the opinion of the local political elite that they did not

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need foreign organisational and financial support, Slovenia experienced serious economic crises. They were mostly related to excessive public spending and significant budget deficits, but they have been largely overcome. Possible resistance to the rather drastic steps of fiscal consolidation has been significantly mitigated by measures to help preserve jobs in order to prevent mass layoffs, increase the minimum wage, and negotiate labour market and pension reforms.

In Slovenia, there has been a significant increase in awareness of the importance of systematic analysis of measures and of evidence-based policy-making and evaluations encouraged by the preparation of documents for the ES. As for many other countries, for Slovenia the EC repeated the same recommendation from year to year. The European Commission's primary complaints were about the insufficient attention to keeping the elderly in the world of work and about early retirement. However, Slovenia has been quite active in helping older people to stay in the labour market, but the government failed to persuade the unions to accept the decision to automatically adjust the retirement age to life expectancy, so this was abandoned. Of course, there are still serious and legitimate concerns about the long-term fiscal stability of the pension system, as well as the appropriate level of pensions.

The next chapter is a synthesis and comparison of the findings from the analyses of the situations in the particular countries and an attempt to connect them with theoretical assumptions. The author provides some general conclusions regarding the development of the ES, he reviews the importance of external pressures, mutual learning and creative appropriation. He also assesses the extent to which the observed member states have complied with or resisted the European Commission's recommendations contained in the ES. From a theoretical point of view, it can be expected that a combination of hard (mandatory) measures and soft instruments, such as recommendations and advice, can be more effective than just soft provisions.

All four observed countries have, to a greater or lesser degree, experienced external pressures from the EC, but their content has ranged from controversial issues of the (too) high redistribution in the pension system and labour market reform in Slovenia, to more technical and organizational provisions for monitoring NEET (not employed, nor in education and training) youth in Croatia. Although this type of pressure seems to have been quite effective, the deeper analysis is not so optimistic and the level of change prompted was actually quite limited. The extent and effects of the change largely depended on the assessment of domestic politicians and other stakeholders of how much it would really cost them financially, especially given the inflow of European funds, but also what consequences it would have on their political rating.

In the concluding chapter, the author explains to what extent and under which conditions the ES influenced changes in the employment policy in the four selected

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countries of Central and Eastern Europe. Although policy makers consider the ES to be an important instrument in their decision-making on public policies, the author concludes that it is quite difficult to find concrete examples of significant positive changes and their real effects.

This book is a really valuable and comprehensive analysis of the impact of the ES on labour market changes in the four countries. The author very skilfully informs readers about the context, determinants, possibilities and limitations of the ES, as well as about some seemingly hidden factors that significantly determine its operation. The book is a real source of valuable information for all those who want to get acquainted with the implementation of public policies, and with its inherent interest and analytical approach, it can serve as a model for similar publications.

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