Crisis Politics and Clientelism: A Panel Data Analysis of Eastern and South-Eastern European Fiscal Responses to the 2008 Crisis

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Submitted to

Central European University

Department of Economics and Business

In partial fulfillment of the requirements for the degree of Master of Arts in

Economic Policy in Global Markets

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Vienna, Austria

2025

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For bibliographic and reference purposes, this thesis should be referred to as: Bazhenova, A. (2025). *Crisis Politics and Clientelism: A Panel Data Analysis of Eastern and South-Eastern European Fiscal Responses to the 2008 Crisis*. MA thesis, Department of Economics and Business, Central European University, Vienna.

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I, the undersigned, Bazhenova Anna, candidate for the MA degree in Economic Policy in Global Markets declare herewith that the present thesis titled "*Crisis Politics and Clientelism: A Panel Data Analysis of Eastern and South-Eastern European Fiscal Responses to the 2008 Crisis*" is exclusively my own work, based on my research and only such external information as properly credited in notes and bibliography.

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Vienna, 10 June 2025 Anna Bazhenova

Abstract

This thesis examines how political clientelism shapes Eastern and South-Eastern European governments' fiscal responses to the 2008 global financial crisis. I construct a panel for twelve post-communist countries covering 2006–2016, merging the Clientelism Index with public-sector wage, subsidy, and deficit, and including additional control variables. Guided by institutional and behavioral theory, I test four hypotheses: that higher clientelism increases baseline wage and subsidy shares; that clientelist regimes protect these channels during crises; that clientelism drives larger deficits under stress; and that crises amplify clientelism's short-term spending bias. I estimate random-effects models with Driscoll–Kraay standard errors and GMM model to address dynamic endogeneity. The results show that clientelism determines the composition (not the size) of stimulus. High-clientelist states preserve or raise wage bills during the crisis, medium-clientelist regimes expand targeted transfers, and low-clientelist countries record the largest headline deficits. A composite short-termism index supports these patterns. The findings imply that enforceable wage-bill caps, regular subsidy inventories with rolling reviews, and credible external oversight are key to lasting fiscal resilience.

Acknowledgements

I want to express my deepest gratitude to my supervisor, Marc Kaufmann. His support, useful advice, and willingness to read my lengthy chapters have been invaluable.

I am also very grateful to Tatiana Voronova for her constant motivation and, above all, her endless supply of coffee.

My sincere thanks go to Nikita Sidorov, who generously reviewed early drafts of this thesis and provided numerous constructive comments.

Finally, I acknowledge my own perseverance and resolve. Completing this thesis has tested my patience and determination, and I am proud to have navigated this journey successfully.

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1 Introduction

When the 2008 global financial crisis (hereafter GFC) hit Eastern Europe, governments reacted very differently. Latvia cut public-sector wages by at least 15% and kept them low for years, while Hungary, after securing a €20 billion IMF-EU-World Bank loan, agreed to a one-year wage freeze and a reduced 13th-month bonus for low-paid staff instead of making cuts (Glassner and Watt, 2010). Why could some leaders protect patronage channels so quickly, whereas others introduced painful austerity measures?

The answer partially lies in the region's post-1990 political landscape. The collapse of communism created formal democracies but left weak institutions. That was a fertile ground for patron-client exchanges (Grzymala-Busse, 2008). Many post-communist states inherited informal "favor networks" and carried them into the new democratic context (Sotiropoulos, 2023). This network - often known as clientelism - refers to an exchange where a certain group of voters get specific favors from politicians in return for their support (Kitschelt and Wilkinson, 2007, p. 7). Political elites exchanged favors, jobs, and rents to build support during the unstable transition, from Romania's centrally steered municipal transfers (Gherghina and Volintiru, 2023a; Chiru, 2025) and Ukraine's "electoral clientelism" with constant funding of vote-buying (Yuriychuk and Antoniuk, 2021) to Viktor Orbán's channelling of contracts to business allies in Hungary (Szanyi, 2022). Such practices blurred programmatic policymaking and developed short-termism: clientelist elites rewarded insiders and postponed costly reforms, eroding transparency and public trust. Additional grants, investment projects, and other resource transfers were going to politically loyal municipalities.

Clientelism in Eastern and South-Eastern Europe (hereafter EE/SEE) operates across multiple levels of governance, in national elections and in local government. Research by Gherghina and

Volintiru (2023a) showed that in Hungary and Romania central governments disproportionately channel funds to local governments which were controlled by their own party. Although case studies document these patterns, there is still a lack of systematic evidence on whether clientelism shaped governments' fiscal choices when a GFC hit. Most cross-country work focuses on Latin America or Southern Europe, leaving EE/SEE under-explored.

This thesis fills that gap by asking:

What is the relationship between the level of political clientelism and governments' fiscal policy response during the GFC in Eastern and South Eastern Europe?

Guided by the literature, it tests four hypotheses:

H1: More clientelism, more wage / subsidy spending in normal years.

H2: During the GFC, clientelist countries preserved or raised those items the most.

H3: Higher clientelism, larger deficits during the GFC.

H4: Crisis strengthens clientelism's short-term spending bias.

By combining panel data for 12 EE/SEE countries (2006-2016) with random-effects models, dynamic GMM and different robustness checks, the study offers the region-wide test of these claims. It links each hypothesis to a different theoretical perspective. Institutional theory, which focuses on how long-standing clientelist networks influence state behaviour, explains H1, H2, and H3. Countries with stronger clientelism tend to spend more on public wages and targeted transfers in normal times, protect these items during crises, and run larger fiscal deficits as a result. Behavioural theory, which highlights how voters respond to loss and focus on immediate benefits, supports H4 by suggesting that crises make clientelist governments even more likely to favour short-term, visible spending. Together, these perspectives show how political survival

strategies can reshape economic policy under pressure.

The results show three clear associations. First, higher clientelism is positively linked to larger public-sector wages and targeted subsidies, confirming H1 and H2. Second, clientelism shows no positive link with bigger deficits. Instead, the biggest deficit emerges in low-clientelist states, contradicting H3. Third, the 2008 GFC intensified short-term fiscal shifts most strongly in low-clientelist countries, contradicting H4 as well. Dynamic GMM estimates and other robustness checks also show all of these associations.

The thesis is constructed as following. Section 2 reviews the clientelism literature, difference in crisis fiscal responses as well as showing the unanswered questions this study covers. Section 3 develops the theoretical framework and derives hypotheses about clientelism and fiscal choices during the 2008 GFC. Section 4 details data and methods. Section 5 presents the results and hypothesis verdicts. Section 6 concludes with implications for policy and future research

2 Literature Review

The main goal of my work is to identify the relationship between clientelism and the economic policies adopted by EE/SEE countries during the 2008 GFC. Accordingly, the following sections are dedicated to 2.1) the concept of clientelism, its main characteristics, and types, 2.2) the effect of clientelism on governance, particularly the difference between short-term actions and the implementation of long-term reforms, 2.3) the economic measures adopted during periods of crisis, 2.4) focusing specifically on 2008 GFC economic responses worldwide, and finally, 2.4) the research gaps that this work aims to address.

2.1 Definition of Clientelism and Key Features

Clientelism is a multi-faced political and social phenomenon, it is a system of exchange where a powerful figure (patron or principal) provides material resources or protection to a less powerful party (client or agent) (Stokes, 2005; Hicken, 2011; Kitschelt and Wilkinson, 2007). In return, clients offer loyalty and political support (Robinson and Verdier, 2013, p. 262). These relationships are often described as "instrumental friendships" (Scott, 1972, p. 92) and often arise in contexts where formal institutions are weak or underdeveloped (Lemarchand, 1977, pp. 100-102). Under clientelism, the allocation of public resources becomes conditional on political support - benefits are offered only when the recipient delivers votes or loyalty (Wantchekon, 2003, p. 400).

For this thesis, I rely on Kitschelt and Wilkinson's definition of clientelism as "a particular mode of exchange between electoral constituencies as principals and politicians as agents in democratic systems", focused on targeted benefits rather than broad public goods (Kitschelt and Wilkinson, 2007, p. 7). This definition underscores how clientelism is flexible, taking different forms across democratic settings and economic conditions.

Clientelism is typically characterized by five main features: asymmetric dependency, exclusivity, contingency, monitoring mechanisms, and iterated interaction. Asymmetric dependency means that patrons have more power and control over resources and distribute them to clients who provide loyalty in exchange (Scott, 1972, p. 92). Exclusivity refers to the fact that patrons do not distribute resources universally, they target a specific group of beneficiaries, forming "exclusive clubs" (Kitschelt and Wilkinson, 2007, p. 88). Contingency of clientelistic relationship shows that benefits are provided to clients only by the patron who promises to do so, while patrons provide these resources only to those clients who promise to vote for them (Hicken,

2011, p. 291). Monitoring mechanisms help ensure this exchange remains credible, even without coercion (Larreguy, 2013). Clientelism also represents an iterated interaction that allows each side to form expectations about the other's actions over time (Hicken, 2011, pp. 292-293). Therefore, this relationship is often viewed as an economic exchange adapted to political markets (Kitschelt and Wilkinson, 2007, pp. 7-8).

Clientelism can take several forms. A classic variant is relational clientelism, in which patron-client ties involve long-term obligations. In contrast, "single-shot" clientelism involves one-off vote-buying or targeted transfers usually around election time (Higashijima and Washida, 2024; Yıldırım and Kitschelt, 2020). A third relevant variant is crisis-driven clientelism, which emerges when governments respond to economic shocks by offering quick financial help like bonuses or subsidies to avoid protests (Vanhuysse, 2010; Trantidis, 2016). Despite this variety, all forms share the core logic of exchanging specific benefits for political support.

2.2 Clientelism and Governance: Short-Termism or Long-Term Reforms

Scholars have widely debated how clientelism can undermine good governance, pushing it toward short-term measures aimed at securing political support (Stokes, 2013; Keefer, 2007; Acemoglu et al., 2004; Robinson and Verdier, 2013; Mares and Young, 2016). As a result, politicians tend to prioritize quick payoffs (like jobs or cash transfers) over long-term investments, being unable to make credible and sustained commitments (Keefer, 2007, pp. 819-820).

In many post-communist and young democracies, politicians rely on short-term, vote-winning strategies because they struggle to make credible promises about long-term public benefits. (The reasons for this credibility problem are discussed later in the Theoretical Framework.) When people don't trust future promises, both voters and leaders focus on what can be de-

livered right away. Keefer (2007) argues that politicians respond by offering quick, targeted rewards, and clientelism grows where political competition is unclear and trust in institutions is low (Kitschelt and Kselman, 2013). Over time, this becomes a cycle: leaders keep giving out patronage and avoid reforms that might upset loyal supporters (Acemoglu et al., 2004; Finan and Schechter, 2012). These short-term benefits can include pension bonuses, tax cuts before elections, or free food packages (Vanhuysse, 2010; Yıldırım and Kitschelt, 2020). While such measures may reduce unrest in the short term, depending on them too much can weaken governance and make countries more vulnerable to future crises (Geddes, 1996, p. 33-34).

2.3 Economic Policy Responses to Financial Crises

During financial crises, governments typically rely on three main policy strategies: austerity, stimulus, and social protection. Each of these approaches involves different goals, tools, and consequences for economic recovery.

Austerity involves cutting public spending or raising taxes to reduce budget deficits and regain investor confidence. This includes wage freezes, layoffs, or social transfer cuts. However, it often deepens economic crises and increases unemployment with social costs such as rising poverty and inequality (Blyth, 2013; Guajardo et al., 2014).

Stimulus policies, in contrast, aim to boost aggregate demand by increasing public spending, tax cuts, or direct transfers. These measures can shorten recessions and reduce unemployment (Christiano et al., 2011). One clear example of a stimulus policy is the COVID-19 "stimulus checks" in the United States, which aimed to boost household spending through direct transfers (Chetty et al., 2020). The effectiveness of stimulus measures depends on timely implementation, credible fiscal rules, and adequate borrowing capacity (Krugman, 2012).

Social protection policies serve as humanitarian relief and an economic stabilizer by supporting household consumption during downturns. These include extending unemployment insurance, food assistance, and cash transfers. Such measures helped to ease the public anxiety of the Great Recession, for example (Jenkins et al., 2012).

In practice, governments rarely rely on a single approach during financial crises. Many countries use mix of different tools, adapting them to the specific economic context (Blyth, 2013). As each approach has different trade-offs and risks, understanding how and why states choose these tools is important for analyzing crisis responses in specific political contexts, such as clientelist governance.

2.4 Clientelism in Economic Crises: The 2008 GFC Experience

Economic crises show how different governance systems respond under pressure. They show whether clientelist leaders choose short-term loyalty over long-term solutions. Scholarship suggests that countries with already developed clientelism often respond to crises with short-term clientelist policies (Vanhuysse, 2010; Afonso et al., 2015; Hicken, 2011).

During the 2008 GFC, many governments faced a dilemma: adopt austerity and structural reforms to address fiscal imbalances or increase spending to calm public unrest (Armingeon, 2012). In clientelist political systems, leaders have strong incentives to avoid austerity which harm their patronage networks, even if economic conditions are less favourable. For example, during the Eurozone debt crisis, Greece's clientelist parties refused to cut public-sector jobs or benefits, prioritizing electoral support over creditor demands (Afonso et al., 2015). In addition, Remmer (2007) argues that local clientelist governments of Argentina kept public jobs and transfers high even during economic downturns.

Crises can put pressure on clientelist systems, but most governments adjust their tactics and become more flexible. When the economy worsens, traditional patron-client relationships can become harder to maintain, and people may start asking for more fair and broad welfare programs (Kitschelt and Wilkinson, 2007). Still, instead of ending clientelism, leaders often change how they deliver benefits. Therefore, during the 2008 GFC, most clientelist governments continued their strategies by adapting them, not abandoning them (Afonso et al., 2015).

2.5 Research Gap

Most work on clientelism still leaves two key questions open. First, the post-communist countries of EE/SEE remain understudied. While rich evidence exists for Latin America (Stokes, 2005), Southern Europe (Afonso et al., 2015), and Asia (Aspinall and Sukmajati, 2016), only a few papers examine the region's communist legacies and 1990s transitions (Grzymala-Busse, 2008; Gherghina and Volintiru, 2023b). Second, classic works focus on stable times, not on severe shocks. Foundational studies of vote buying and patronage (Kitschelt and Wilkinson, 2007; Stokes, 2013) analyse routine elections, yet crises may change the action profile set. The 2008 GFC forced governments to choose between austerity and protecting their loyalists, but systematic evidence on how clientelist leaders in this region reacted is scarce (Hicken, 2011; Vanhuysse, 2010; Afonso et al., 2015).

Filling these two gaps is important for both research and policy. If clientelism affects how governments respond to a major shock regardless of their economic situation, it helps us understand whether patronage really holds up under pressure, or if it breaks down during crises. This adds to existing theories that mostly focus on stable times. On the policy side, many of these countries are part of the EU or hoping to join. If patronage networks shape how they spend

during crises, then EU institutions need to take that into account when designing support and rules, rather than applying the same approach to all countries.

In addition to the theoretical gap, there is a methodological limitation. Much of the existing research on clientelism is based on case studies, which provide depth but often lack broader generalizability. In contrast, my work will use panel data regression methods to examine patterns across a larger set of EE/SEE countries.

3 Theoretical Framework

This theoretical framework explains how clientelism influenced EE/SEE governments' economic policy choices during the 2008 GFC. More precisely, it links the research question of how clientelist political structures shaped fiscal decisions to theories of political institutions and voter behavior. The key concepts include institutional weakness, voter biases, and the trade-off between immediate redistribution and sustainable policies during crisis period. This logic provides a basis for formulating my expectations in the EE/SEE context of the 2008 GFC. The following chapter expands this framework by looking at 3.1) how weak institutions encourage clientelism, 3.2) how clientelism shapes policy during crises, and 3.3) how voter behavior during economic shocks strengthens short-term responses.

3.1 Institutional Weakness and Clientelism

Political institutions shape the incentives for clientelism. Scholars emphasize that where institutions are weak, politicians are more likely to use clientelist politics (Keefer and Khemani, 2005). When they cannot credibly commit to future policy outcomes, they prefer direct, easily

monitored transfers (Cruz and Keefer, 2015). Hicken (2011) similarly argues that only strong parties and institutions can shift politicians away from vote buying toward long-term investment, and in weaker democracies patron-client tactics prevail. In many post-communist countries, state institutions and party systems in the 2000s remained fragile and corrupt (Grzymala-Busse, 2008). In such environment governments often prioritize distributing immediate rewards (public jobs or cash transfers). Therefore, I expect that in EE/SEE countries, where political clientelism is high enough, there will be an increase in wage spendings as well as subsidies provision.

H1: In EE/SEE countries, higher levels of clientelism are associated with greater public spending on targeted social transfers and public-sector wages in normal times.

3.2 Clientelism in the Period of Crisis

Economic crises often intensify these institutional pressures. Austerity measures can be politically risky for any government, but especially for clientelist regimes that depend on distributing benefits to remain loyalty and stay in power (Blyth, 2013). A recession period even intensifies this tendency: some rulers try to show immediate actions, like increasing wages of public employees or providing cash bonuses to retirees, because these actions have an immediate and tangible impact on supporters (Armingeon, 2012).

Therefore, they often attempt to delay austerity, using short-term solutions to maintain loyalty. During the shock period, countries with high level of clientelism are less willing to implement spending cuts and more prone to preserve patronage programs (Afonso et al., 2015). Vanhuysse (2010) describes how post-communist governments treated targeted benefits as a "political sedative" in hard times - broadening programs like pensions or energy subsidies to

satisfy diverse groups and avoid social instability.

Despite the intensification of clientelism during the crisis, Trantidis (2016) explains that clientelist systems become very adaptable. Fiscal constraints can limit total spending, but governments can shift who gets what (Trantidis, 2016). However, rather than promote deep reforms, clientelist governments may even resort to deficit spending and debt accumulation if it means avoiding unpopular cutbacks. They prioritize political survival over financial sustainability. Therefore, I hypothesize that EE/SEE countries during 2008 GFC would increase the spending on public wages and subsidies as well as resulting in larger deficits.

H2: Among EE/SEE countries, those with higher levels of clientelism are associated with increase in spending on public wages and subsidies during the 2008 GFC than their less clientelist peers.

H3: During the 2008 GFC, more clientelist EE/SEE countries are associated with running larger fiscal deficits compared to countries in the region with lower levels of clientelism.

3.3 Voter Biases and Clientelistic Relationships

As stated previously, the pressures on clientelist systems only intensify during economic shocks driving governments further toward short-term, vote-securing measures. These choices may be politically rational for clientelist incumbents not only because they want to secure core groups of supporters, but also because they take advantage of how voters tend to behave under stress.

A related tendency is present bias, which makes people care more about immediate rewards than future gains. During a crisis, it becomes even stronger as voters are more likely to support a leader who offers an immediate solution instead of waiting for long-term reforms to

show results or doing them in advance (Healy and Malhotra, 2009). Moreover, in many post-communist countries, trust in political institutions is low. When voters do not believe that official programs or reforms will be fairly or fully implemented, they may prefer a direct benefit from a known patron. A small but certain reward, like a job or subsidy, feels more reliable than a policy promise made by a government. Some voters may also feel socially obligated to support a politician who has helped them at some point of time (Stokes, 2013; Finan and Schechter, 2012).

Therefore, while clientelism already influences fiscal decisions in normal times, its effect may become stronger during economic shocks. This amplification arises not only from institutional weaknesses, but also from the way voters react to crisis, with bigger sensitivity to losses, a preference for immediate relief, and distrust in abstract policy reforms. Based on this logic, I predict that in clientelistic countries of EE/SEE, governments, overall, will respond to crises with a stronger direction toward short-term distributive measures rather than long-term structural adjustments.

H4: In EE/SEE countries, the association between clientelism and short-term fiscal measures overall becomes stronger during the 2008 GFC.

This theoretical framework suggests that clientelism, particularly in EE/SEE, is closely linked with short-term, distributive fiscal responses. These associations are expected to be especially visible in crisis periods, when political and economic pressures converge.

4 Methodology and Data

4.1 Variables and Sources

The analysis covers the years 2006 to 2016. The main impact of the 2008 GFC was felt between 2009 and 2010, which later overlapped with the Eurozone crisis. During this time, most EE/SEE countries introduced urgent measures to respond to the economic downturn. By including different phases of the crisis, the analysis allows to observe how economic policies changed over time and how governments may have adjusted their strategies during and after the crisis[1].

I selected twelve EE/SEE countries: Albania, Bulgaria, Croatia, Czechia, Hungary, Moldova, Poland, Romania, Serbia, Slovakia, Ukraine, and Greece. They share similar past, and have consistently reported annual data on fiscal balances, subsidies, and wages (other countries in the region had almost no data). Eleven of them underwent post-communist transitions where weak institutions could shape crisis responses. I included Greece, a democracy with relatively low clientelism but its own debt crisis, to widen the clientelism spectrum and check if the same crisis-clientelism patterns emerge outside post-communist space.

Therefore, I constructed a panel dataset (country-year) for EE/SEE countries, including potentially important variables collected from open sources provided by international institutions and research centers. Panel data is useful because it allows the model to account for both variation across countries and changes within each country over time. Moreover, it increases efficiency, and helps detect dynamic relationships (Baltagi, 2005, pp. 5-7).

[1] All code and raw data at `https://github.com/AnnaBazhenova/Thesis-Code`.

4.2 Dependent Variables

In this work, I analyze several fiscal outcomes. The dependent variables are *Wage bill as a percentage of GDP*, *Subsidies and other transfers (% gov. of expense)*, and *General government budget, deficit (-) / surplus (+)* of each country. *Wage bill* is measured as the government wage bill (total public-sector wages) expressed as a percentage of GDP. It comes from the World Bank's Worldwide Bureaucracy Indicators (World Bank, 2021). *Subsidies* refers to government subsidies or targeted social transfers. It was obtained from the World Development Indicators database (World Bank, nd). *Budget deficit* is measured as the overall fiscal deficit relative to GDP. This variable was downloaded from the Vienna Institute for International Economic Studies (wiiw, nd).

4.3 Key Explanatory Variable

The Varieties of Democracy (V-Dem) dataset provides my key political variable. In particular, I use V-Dem's *Clientelism Index* to measure the level of clientelistic politics in each country-year (Coppedge et al., 2025). It is a composite measure constructed via Bayesian factor analysis of three core indicators - vote-buying, particularistic vs. public-goods spending, and party-voter linkages. Higher values from 0 to 1 scale indicate that the government is more clientelist. For my main regressions, I use this variable and categorize each country as low, medium, or high clientelism terciles. This classification helps me compare fiscal responses across clear levels of clientelism, but I also use the index's continuous logic in robustness checks (see section Results).

4.4 Control Variables

In regression models, I include a set of control variables. The *Unemployment rate*, expressed as a percentage, was taken from the IMF database (IMF, nd). The variable *General government expenditures, total* was downloaded from wiiw (wiiw, nd). The variable *GDP growth*, expressed in percent, was extracted from the World Bank Group database (World Bank, nd). I also used the IMF World Economic Outlook Government dataset to obtain *General government debt, % of GDP* (IMF, nd).

An important political control variable in the analysis is the election year indicator, constructed using the Database of Political Institutions (Cruz and Scartascini, 2021). I used variables, which capture whether an executive (presidential) or legislative (parliamentary) election took place in a given year. Based on this, I created a dummy variable where 1 indicates the presence of a national election and 0 otherwise. This variable helps control for the political cycle and its potential effect on fiscal behavior.

I incorporated data from the World Bank's Worldwide Governance Indicators (WGI) to capture institutional capacity (World Bank, 2024b). I use *Government Effectiveness* variable as a control which "captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (World Bank, 2024a).

Finally, I created a crisis dummy variable that equals 1 for 2009-2010 and 0 otherwise. These years correspond to the main phase of the financial shock according to previous research (IMF, 2010; European Bank, 2009).

Below is the summary table of all variables collected:

Table 4.1: Summary of Variables Collected

Variable	Source	How it is measured / what it captures
Wage bill (% of GDP)	World Bank – WBI	Total general-government public wage spending divided by GDP
Subsidies and other transfers (% of expense)	World Bank – WDI	Government subsidies and targeted social transfers expressed as a share of GDP
General-government deficit / surplus (% of GDP)	wiiw Database	Overall fiscal balance of the general government; negative values denote deficits
Clientelism Index (v2xnp_client)	V-Dem v15	0–1 composite (higher = more clientelist), based on vote-buying, particularistic spending, and party–voter linkage indicators; grouped into terciles
Unemployment rate (% of labour force)	IMF	Annual average unemployment rate
GDP growth (%, constant prices)	World Bank – WDI	Year-on-year real GDP growth rate
General-government expenditure (% of GDP)	wiiw Database	Aggregate spending of the general government sector relative to GDP
General-government debt (% of GDP)	IMF (World Economic Outlook)	Gross public debt stock expressed as a share of GDP
Government effectiveness	World Bank – WGI	Perception-based index (–2.5 to +2.5) of public-service quality, policy implementation, and civil-service independence
Election year (dummy)	DPI 2020	1 if a national presidential or parliamentary election occurred in the year; 0 otherwise
Crisis dummy	Author's coding (EBRD 2009; IMF REO 2010)	1 for 2009–2010 (main phase of global financial and Eurozone shocks); 0 otherwise

4.5 Data Transformation

I performed several preparation steps to get a clean dataset for the analysis. Firstly, all datasets were converted to a country-year panel format (long-to-wide merge), ensuring country names match across sources. Secondly, variables were renamed for consistency. Thirdly, missing values have been analyzed and managed. In Albania I was not able to find data about subsidies from 2006 to 2010, as well as in Serbia for 2010. These missing data values were filled using Multiple Imputation by Chained Equations (MICE). This method is widely accepted in applied research for dealing with missing data without losing observations or introducing bias

(Azur et al., 2011).[2] This allows to keep observations that would be dropped otherwise due to incomplete data. Fourthly, for more convenient interpretation of our deficit results, the budget deficit variable was multiplied by –1 so that higher values correspond to larger fiscal shortfalls. Lastly, to capture the idea of political short-term focus of EE/SEE countries during GFC, I created a composite index via principal component analysis (PCA), the logic of which is explained later in the chapter. The first principal component (explaining the largest variance) is taken as a short-termism index, with higher values indicating more short-term-oriented politics. This index is used as an alternative dependent variable.

In addition, to check robustness of my models, I performed a log-transformation of each dependent variable. It should be noted that my dependent variables were not highly skewed (Figure 4, Figure 5, Figure 6), therefore, there it was not necessary from the beginning.

4.6 Methodology and Model

The main goal of the thesis is to check how clientelism influenced economic policy responses during the GFC of 2008 across twelve EE/SEE countries. This section describes the econometric model used and explains why this approach is appropriate.

The main econometric approach used is the random effects (RE) regression model. It assumes that country-specific characteristics are uncorrelated with the explanatory variables (Békés and Kézdi, 2021; Wooldridge, 2016). This model incorporates both within-country and between-country variations, making it potentially more efficient than other methods. This model also

[2]This technique is preferable to simpler methods like listwise deletion or mean imputation, which can distort the sample or underestimate variability. The missing data was likely caused by reporting delays or administrative problems, not by unusually high or low subsidy values. There was no sign that Albania was trying to hide these numbers. For this reason, it is reasonable to assume the data was missing at random. Given that the gaps in the dataset were limited and likely linked to reporting inconsistencies (not because of systematic political factors), MICE was an appropriate and defensible choice. It was run with multiple iterations to generate plausible values for missing values. Then it produced a set of imputed panels that were combined according to Rubin's rules.

includes the interaction term between clientelism index and crisis dummy variable. This allows me to test my main effect of interest: whether clientelist countries behaved differently than low-clientelim ones during the crisis.

I focus on RE models rather than fixed effects because clientelism is relatively stable over time within each country, and fixed-effects estimation would remove most of its variation (Wooldridge, 2016, pp. 435-460). I am also interested in cross-country comparison, as opposed to within-country comparison. The Hausman test also indicated that RE specifications are appropriate for my data. Moreover, I do not use a difference-in-differences design because all countries in the sample are "treated" by the global crisis, and clientelism is not a binary or randomly assigned treatment, making the parallel trends assumption unfeasible. Additionally, countries were very different before in economic, political, and social terms, making again their trends unparallel.

In addition to regressions, I use PCA to create a composite measure of fiscal short-termism to capture governments' overall tendency toward short-term fiscal strategies during the crisis. This index combines all dependent variables (wage spending, subsidies, and budget deficit) in one score that captures how government response is associated with more short-term clientelist goals. PCA is a dimensionality reduction technique that transforms correlated variables into a smaller number of uncorrelated "principal components" (Abdi and Williams, 2010, p. 433). Before applying PCA, I standardize each variable (z-scores) to ensure comparability. A higher score of the index means more shift toward immediate political rewards. I then use this index as a dependent variable to test whether clientelist governments are more likely to implement short-term strategies during crisis years. This combination helps to summarize the complex economic behaviour of countries and reduces potential multicollinearity among dependent variables. It is particularly useful when analyzing related outcomes that are conceptually linked, such as

different forms of targeted public spending (Abdi and Williams, 2010, pp. 434-436). Overall, PCA helps identify the shared structure in fiscal behaviour across countries and provides a compact, interpretable index for regression analysis.

To test the association between political clientelism and fiscal policy responses during economic crises, I estimate a baseline random effects (RE) panel model that includes a set of control variables: GDP growth, unemployment, government effectiveness, and an election-year dummy. These controls are included to control for macroeconomic conditions, labor market pressure, institutional quality, and political cycles as all of this may independently influence fiscal outcomes.

In addition, I include total government expenditure as a control in models where the dependent variable is either wage spending or subsidy spending. This is because wage and subsidy spending are components of total expenditure, and failing to control for overall spending could confound the interpretation. For example, a government with high public wages might simply have a larger overall budget. Therefore, including expenditure helps isolate whether clientelist governments allocate more to wages or subsidies, rather than just spending more in general. In the model where the dependent variable is the fiscal deficit, I include general government debt (% of GDP) instead of expenditure. Debt levels show how much a country has already borrowed, which affects whether it can afford to run a bigger deficit during a crisis. Controlling for debt helps distinguish whether clientelist governments run larger or smaller deficits during shocks due to political strategy, rather than simply because they had more (or less) borrowing capacity.

All models are estimated using Driscoll-Kraay standard errors, which are robust to heteroskedasticity, autocorrelation, and cross-sectional dependence. This is important in macro panel data,

where residuals may be correlated across countries and over time. Using Driscoll-Kraay corrections ensures that the inference remains valid even when these common issues are present in the panel structure.

The main RE models have the following mathematical specifications:

$$\begin{aligned}\text{wage}_{it} = \; & \alpha + \gamma_1 \,\text{mediumClient}_i + \gamma_2 \,\text{highClient}_i + \gamma_3 \,\text{crisis}_t + \gamma_4 \,\text{gdpgrowth}_{it} + \gamma_5 \,\text{unemp}_{it} \\ & + \gamma_6 \,\text{ge}_{it} + \gamma_7 \,\text{expend}_{it} + \gamma_8 \,(\text{mediumClient}_i \times \text{crisis}_t) + \gamma_9 \,(\text{highClient}_i \times \text{crisis}_t) \\ & + u_i + \varepsilon_{it} \,. \end{aligned} \tag{1}$$

$$\begin{aligned}\text{subsidy}_{it} = \; & \alpha + \delta_1 \,\text{mediumClient}_i + \delta_2 \,\text{highClient}_i + \delta_3 \,\text{crisis}_t + \delta_4 \,\text{gdpgrowth}_{it} + \delta_5 \,\text{unemp}_{it} \\ & + \delta_6 \,\text{ge}_{it} + \delta_7 \,\text{expend}_{it} + \delta_8 \,(\text{mediumClient}_i \times \text{crisis}_t) + \delta_9 \,(\text{highClient}_i \times \text{crisis}_t) \\ & + u_i + \varepsilon_{it} \,. \end{aligned} \tag{2}$$

$$\begin{aligned}\text{deficit}_{it} = \; & \alpha + \theta_1 \,\text{mediumClient}_i + \theta_2 \,\text{highClient}_i + \theta_3 \,\text{crisis}_t + \theta_4 \,\text{gdpgrowth}_{it} + \theta_5 \,\text{unemp}_{it} \\ & + \theta_6 \,\text{ge}_{it} + \theta_7 \,\text{debt}_{it} + \theta_8 \,\text{electionYear}_t + \theta_9 \,(\text{mediumClient}_i \times \text{crisis}_t) \\ & + \theta_{10} \,(\text{highClient}_i \times \text{crisis}_t) + u_i + \varepsilon_{it} \,. \end{aligned} \tag{3}$$

After estimating the main regression models, I perform several robustness checks to ensure the stability of the results. First, I replace the categorical clientelism groups (low, medium, high) with a continuous clientelism index to check whether the associations hold across the full range of clientelism scores. Second, I also apply a log transformation to each dependent variable to reduce the influence of skewed values and outliers. Lastly, I repeat all regressions excluding Greece (and later tried with dropping each country), that can be a potential outlier due to its unique debt crisis and externally imposed austerity from EU countries.

In addition, I estimate one- and two-step system Generalized Method of Moments (GMM) models (Arellano and Bover, 1995; Blundell and Bond, 1998; Windmeijer, 2005). This is a useful model to make sure my results are not driven by hidden differences between countries or by the fact that today's spending partly depends on yesterday's. GMM model uses each variable's own past values as instruments: in the differenced equation, levels lagged two periods or more ($Y_{t-2}, Y_{t-3}, \ldots$). In the levels equation, first differences lagged one period or more ($\Delta Y_{t-1}, \Delta Y_{t-2}, \ldots$). This internal instrument strategy removes unobserved country effects, corrects bias from lagged dependent variables, and addresses endogeneity without external instruments.

In the following specifications, the change in the outcome is regressed on clientelism, the crisis dummy, and their interaction, while instrumenting each dependent variable by its own level lagged three and four periods:

$$\Delta\,\text{wage}_{it} = \beta_1\,\text{clientelism}_i \;+\; \beta_2\,\text{crisis}_t \;+\; \beta_3\,(\text{clientelism}_i \times \text{crisis}_t) \;+\; \varepsilon_{it}, \qquad (4)$$

$$\Delta\,\text{subsidy}_{it} = \beta_1'\,\text{clientelism}_i \;+\; \beta_2'\,\text{crisis}_t \;+\; \beta_3'\,(\text{clientelism}_i \times \text{crisis}_t) \;+\; \varepsilon_{it}', \qquad (5)$$

$$\Delta\,\text{deficit}_{it} = \beta_1''\,\text{clientelism}_i \;+\; \beta_2''\,\text{crisis}_t \;+\; \beta_3''\,(\text{clientelism}_i \times \text{crisis}_t) \;+\; \varepsilon_{it}''. \qquad (6)$$

In the interaction models, β_3 (and its analogues β_3', β_3'') captures how the effect of clientelism on each fiscal outcome changes during crisis years.

Therefore, each type of the model was chosen to test my hypotheses about clientelism's interaction with crisis and economic policies. I interpreted the interaction coefficient to assess whether high-clientelism is associated with increased wage/subsidy spending or ran larger deficits in crisis times. All models were estimated in statistical software (RStudio).

5 Results

5.1 Public Wages and Clientelism

Table 5.1: Regression Results: Wage Spending and Clientelism

	Dependent variable:			
	Wage Bill (% of GDP)			
	Baseline	+ GE	+ Expend	Interaction
	(1)	(2)	(3)	(4)
Medium Clientelism	−0.548***	−0.613***	−0.346	−0.416
	(0.126)	(0.185)	(0.277)	(0.310)
High Clientelism	0.617	0.462	0.244	0.089
	(0.392)	(0.377)	(0.420)	(0.436)
Crisis	0.408***	0.361***	0.218***	−0.089
	(0.137)	(0.091)	(0.081)	(0.088)
GDP Growth	−0.049**	−0.058***	−0.019	−0.015
	(0.019)	(0.016)	(0.016)	(0.015)
Unemployment	0.002	−0.012	−0.021**	−0.024**
	(0.015)	(0.013)	(0.009)	(0.012)
Government Effectiveness		−1.139***	−0.849***	−0.737***
		(0.244)	(0.284)	(0.255)
Expenditure			0.172***	0.189***
			(0.009)	(0.011)
Medium x Crisis				0.256
				(0.198)
High x Crisis				0.620**
				(0.292)
Constant	9.228***	9.685***	2.634***	2.053***
	(0.630)	(0.429)	(0.451)	(0.483)
Observations	132	132	132	132
R^2	0.300	0.350	0.546	0.559
Adjusted R^2	0.273	0.318	0.520	0.527
F Statistic	54.107***	67.214***	148.998***	154.857***
Note:				*p<0.1; **p<0.05; ***p<0.01
				Driscoll–Kraay robust SEs (HC1), maxlag = 2.
				*p<0.1; **p<0.05; ***p<0.01

Table 5.1 shows the following result. Column 1 is the baseline, Column 2 adds *Government Effectiveness* to capture underlying administrative capacity, Column 3 then adds *Total Govern-*

ment Expenditure, Column 4 adds interaction term. Controlling for government effectiveness and total expenditure helps pinpoint the political logic of crisis spending. Government effectiveness accounts for differences in administrative capacity. Total expenditure fixes the budget's size, letting to see how funds are allocated.

In the baseline model the crisis dummy is positive and significant (≈ 0.41), indicating that every country, on average, was associated with increase its public-sector payroll during the GFC. Looking at the main clientelism coefficients in that same column, medium-clientelist states were associated with spending about ≈ 0.55 pp of GDP less on wages than the low-clientelist reference group (significant at the 5 percent level), whereas high-clientelist states had a statistically insignificant coefficient.

Adding *Government Effectiveness* in Column 2 does not significantly change this conclusion. The variable itself has a large negative coefficient (≈ -1.14), showing that better-run administrations allocate a smaller share of GDP to wages. These patterns hold in Column 3, which additionally includes total government expenditure. The crisis coefficient remains positive and significant (≈ 0.22).

The key shift appears in Column 4. Here, the crisis effect becomes small and statistically insignificant (≈ -0.09), but the *High Clientelism* × *Crisis* interaction becomes positive and significant (≈ 0.62). This suggests that high-clientelist governments were associated with a greater increase in wage bill sending during crisis period. Medium-clientelist countries did not significantly change public wages spending during the GFC (interaction is positive but not statistically significant).

To check my results for robustness, I indicated that variance-inflation factors for all wage-bill regressors were below 5, indicating that multicollinearity is not a concern (see Figure 7).

These findings are also robust across a range of specifications. Using the log of the wage bill (Table 7.1) the regression provides a similar result that high-clientelist countries still spend more on wages during the crisis than low-clientelist countries. The gap also looks smaller because of the log scale, but the key point does not change.

Moreover, the result is not driven by any single country. In particular, excluding Greece (an outlier case with an especially severe post-2009 austerity program) does not change the result (Table 7.2). The crisis dummy remains positive and significant across all specifications, confirming that public-sector wage bills rose during the crisis even without Greece. More importantly, the *High Clientelism* × *Crisis* interaction stays positive (≈ 0.34 pp of GDP), although it is not significant. The *Medium Clientelism* × *Crisis* term remains near zero. In short, omitting Greece does not overturn the key pattern: high-clientelist governments continue to protect or raise wages relative to low-clientelist states in crisis years, demonstrating that the finding is not driven by a single outlier.

Replacing the categorical clientelism groups with a continuous clientelism score shows a similar pattern (Table 7.3). Countries that score higher on clientelism still hold up, or slightly raise, public wages in the crisis. The interaction term between clientelism and crisis is positive and suggests that countries with higher clientelism scores were associated with smaller wage cuts during the crisis. However, this effect is slightly less precise (the interaction term remains positive but with a higher p-value). This suggests that the relationship is strongest at the extremes (captured by the categorical clientelism).

In sum, the evidence indicates that during the 2008 GFC, clientelistic governments tended to protect or reward public employees (through maintaining or increasing wages), and low-clientelist governments were more likely to cut the wage bill to manage the fiscal stress.

5.2 Subsidies and Clientelism

Table 5.2: Regression Results: Subsidy Spending and Clientelism

	Dependent variable:			
	Subsidy Spending (% of gov. expense)			
	Baseline	+ GE	+ Expend	Interaction
	(1)	(2)	(3)	(4)
Medium Clientelism	1.779**	1.849**	1.241	0.814
	(0.904)	(0.915)	(0.886)	(1.000)
High Clientelism	2.966	3.087	3.190*	2.877
	(1.960)	(2.001)	(1.796)	(1.993)
Crisis	−0.054	0.004	0.282	−0.289
	(0.666)	(0.598)	(0.537)	(0.311)
GDP Growth	−0.122	−0.111	−0.171**	−0.150*
	(0.088)	(0.078)	(0.075)	(0.080)
Unemployment	0.257**	0.275**	0.297***	0.290***
	(0.126)	(0.118)	(0.103)	(0.098)
Government Effectiveness		1.175	1.291	1.670
		(1.560)	(1.372)	(1.319)
Expenditure			−0.294*	−0.279*
			(0.158)	(0.154)
Medium x Crisis				1.924***
				(0.667)
High x Crisis				−0.028
				(1.060)
Constant	46.959***	46.458***	58.417***	58.029***
	(2.709)	(2.382)	(8.092)	(8.161)
Observations	132	132	132	132
R^2	0.085	0.088	0.129	0.143
Adjusted R^2	0.048	0.044	0.080	0.080
F Statistic	11.664**	12.080*	18.379**	20.373**
Note:				*p<0.1; **p<0.05; ***p<0.01
				Driscoll–Kraay robust SEs (HC1), maxlag = 2.
				*p<0.1; **p<0.05; ***p<0.01

A similar pattern is observed in government subsidy spending during the crisis (Table 5.2). The structure is the same as for the previous results. Column 1 is the baseline, Column 2 adds *Government Effectiveness*, Column 3 adds *Total Government Expenditure*, Column 4 then

introduces the interaction terms.

In the baseline model the crisis dummy is not significant, indicating that subsidies did not rise among low-clientelist countries during the GFC. Instead, political variation dominates: medium-clientelist states are associated with spending ≈ 1.8 pp more of their budgets on subsidies than low-clientelist peers, while highly clientelist states appear to spend even more, though the estimate is imprecise.

Adding *Government Effectiveness* (Column 2) leaves this pattern essentially the same. The coefficient is positive but insignificant, implying that bureaucratic quality does not by itself explain variation in subsidies. The medium-clientelist coefficient remains significant, and the high-clientelist coefficient remains large yet noisy.

When *Total Government Expenditure* is held constant, the pattern shifts. The medium-clientelist spending decreases to roughly 1.2 pp and loses significance, whereas the high-clientelist coefficient becomes statistically significant at 10% level. The expenditure term is negative (≈ -0.29 pp), indicating that subsidies are negatively associated with other claims on the budget.

Finally, introducing the interaction terms shows the key association. The *Medium Clientelism* × *Crisis* interaction is positive and strongly significant. *High Clientelism* × *Crisis* term is small and insignificant, implying no additional subsidy shift among the most clientelist governments. This shows that medium-clientelist countries were associated the most with the increase of subsidies during the 2008 GFC (coef. ≈ 1.92 pp).

In summary, medium-clientelist countries responded to the crisis with an increase in subsidies, whereas high-clientelist countries did not show any significant change in spending, and low-clientelist countries maintained low, unchanged subsidy spending, perhaps focusing their crisis response elsewhere. This outcome suggests a non-linear effect: countries with medium levels of

clientelism showed the strongest increase in subsidy spending during the crisis, while countries with very high clientelism were already spending more on subsidies before the crisis, so they had less need (or ability) to expand them further when the shock hit.

I calculated Variance Inflation Factors (VIFs) for all regressors in the subsidy regressions. Every VIF was below 5, so multicollinearity is not a concern in this model as well (See Figure 8). Robustness checks also confirm the subsidy story. Logging the dependent variable, dropping Greece, or switching from clientelism tiers to a continuous index all leave the main result intact: only medium-clientelist governments expand subsidies during the crisis. The log model shows a smaller but still significant bump (Table 7.4). Omitting Greece also does not change the direction of coefficients (Table 7.5). The continuous index blurs the peak but keeps the direction (Table 7.6).

Overall, the robustness checks confirm that an increase in subsidy spending in medium-clientelist countries is a reliable finding, highlighting a strategy of expanding particularistic transfers during the crisis. High-clientelist regimes had high subsidies even without the crisis, and low-clientelist regimes showed fiscal restraint in here.

5.3 Dynamic GMM Model

While my main random-effects models do not provide support for H1, the one-step difference-GMM specification offers more robust evidence (Figure 1). In the GMM model, the main effect of clientelism is positive and statistically significant for both subsidy spending and wage spending. Specifically, a one-unit increase in the clientelism index is associated with approximately five pp. more spending on subsidies and two pp. more on wages in non-crisis years. These results confirm the logic of H1, which predicts that governments with higher clientelistic index

allocate a larger share of resources to patronage tools such as subsidies and public employment in normal times.

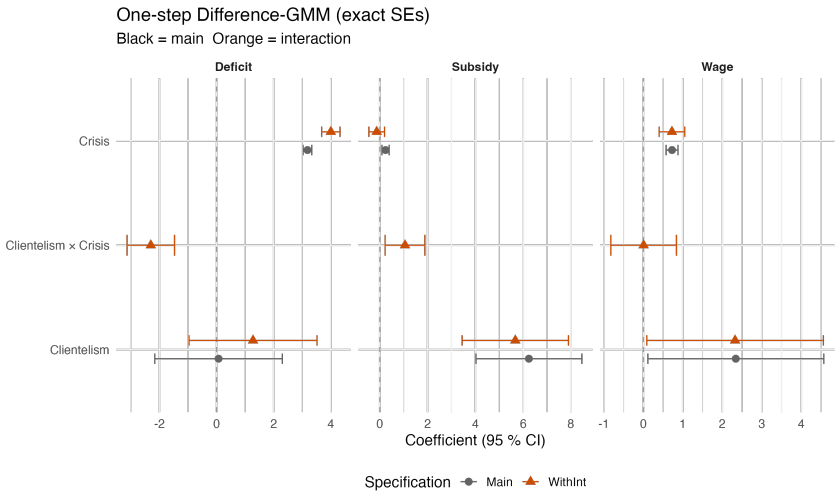

Figure 1: Coefficient plot of system-GMM estimates (95% CI) for clientelism, crisis, and interaction across outcomes and regimes

The GMM approach is a useful tool for several reasons. First, it includes lagged values of the dependent variables, which allows it to control for time-based persistence in spending. Government expenditure tends to follow stable patterns over time, and by accounting for these dynamics, GMM isolates the effect of clientelism itself rather than attributing spending outcomes to past values alone.

Second, it uses internal instruments, i.e. past values of the same variables. In the first-difference equation, each variable (deficit, subsidy, wage, clientelism, crisis, or their interaction) is instrumented by its own level from two or more periods earlier. In the levels equation, we use the corresponding first differences from one or more periods earlier. This simple, built-in approach helps correct for endogeneity, like reverse causality or omitted factors.

Finally, the GMM estimates reveal no significant effect of clientelism on overall budget deficits, suggesting that clientelist governments may not increase total borrowing but instead reallocate existing funds toward politically useful things like public wages and targeted subsidies. Overall,

these results support H1: in normal, non-crisis years, higher clientelism levels are linked to greater patronage spending, even after accounting for past spending patterns.

5.4 Deficit and Clientelism

Table 5.3: Regression Results: Deficit and Clientelism

	Dependent variable:			
	Budget Deficit (% of GDP)			
	Baseline	+ GE	+ Debt	Interaction
	(1)	(2)	(3)	(4)
Medium Clientelism	−0.311	0.247	0.160	0.335
	(0.331)	(0.482)	(0.461)	(0.408)
High Clientelism	−0.124	0.970	0.785	1.215
	(0.903)	(1.007)	(0.967)	(0.762)
Crisis	2.541***	2.550***	2.447***	3.561***
	(0.321)	(0.319)	(0.335)	(0.492)
GDP Growth	−0.123***	−0.122***	−0.137**	−0.148***
	(0.037)	(0.036)	(0.055)	(0.045)
Unemployment	0.049	0.063	0.097	0.100*
	(0.063)	(0.061)	(0.076)	(0.060)
Government Effectiveness		1.318**	1.364**	1.194*
		(0.643)	(0.655)	(0.692)
Gov. Debt			−0.011	−0.009
			(0.018)	(0.015)
Election Year				0.648***
				(0.159)
Medium x Crisis				−1.290***
				(0.356)
High x Crisis				−2.527***
				(0.494)
Constant	2.746***	1.816**	2.165**	1.672***
	(0.695)	(0.814)	(0.845)	(0.604)
Observations	132	132	132	132
R^2	0.347	0.365	0.371	0.417
Adjusted R^2	0.322	0.334	0.335	0.369
F Statistic	67.096***	71.731***	73.057***	86.619***

Note: *p<0.1; **p<0.05; ***p<0.01
Driscoll–Kraay robust SEs (HC1), maxlag = 2.
*p<0.1; **p<0.05; ***p<0.01

The results in Table 5.3 show clear differences in how countries managed their budget deficits during the crisis, depending on their level of clientelism. The structure of the table is the same as in previous ones.

In Column 4, low-clientelist countries (baseline category) experienced the sharpest rise in deficits, as reflected in the large and statistically significant crisis coefficient (≈ 3.6 pp), which suggests that, on average, their budget balances worsened by about 3.6 pp. of GDP during the crisis period. In contrast, high-clientelist countries had a much smaller increase in their deficits. The positive and significant interaction term for *High Clientelism* × *Crisis* indicates that their deficits were associated with increase by only about 1 pp of GDP, on average. Medium-clientelist countries are in between, with a statistically significant *Medium* × *Crisis* interaction term of ≈ 1.3 (deficit increase of around 2 pp).

These patterns likely reflect different financing strategies in clientelist politics. High-clientelist countries seem to have avoided large increases in their official budget deficits. Even though they raised spending on public wages and kept subsidy levels steady during the crisis, their deficits did not grow as much as in countries with lower clientelism. This suggests they may have used off-budget methods like external loans, aid, or accounting adjustments to cover the extra costs without increasing the deficit. Low-clientelist countries showed much larger official deficits. Importantly, this does not prove that clientelism leads to better fiscal discipline. Instead, it suggests that governments with different political styles made different choices, and the depth of clientelist networks not only determines what gets spent during a crisis but also how that spending is financed.

As with other models, I conducted the same checks as for other models to ensure this result is robust. Logging the deficit leaves the crisis coefficient positive and the *High* × *Crisis* interaction

negative and marginally significant (Table 7.7), excluding Greece strengthens the *High* × *Crisis* and *Medium* × *Crisis* effect (Table 7.8), and using a continuous clientelism score shows a similarly negative clientelism–crisis interaction (Table 7.9).

Thus, the association between clientelism and crisis-time deficits appears robust: more clientelist governments did not record a dramatic deficit in crisis period, and the least clientelist governments saw the steepest rise in deficits. This finding, at first glance, seems contrary to the notion that clientelistic regimes are fiscally irresponsible. However, it likely reflects different crisis-management strategies. For example, low-clientelist governments may have allowed deficits to grow in response to the crisis either to support the economy through broader stimulus or because they were less willing to make cuts. In contrast, high-clientelist governments may have focused on protecting specific types of spending, like wages and subsidies, while cutting other areas or relying on off-budget resources to avoid a rise in their official deficit. To test this further, future research could use local or sectoral budget data to track off-budget payments, carry out interviews or case studies to understand how patronage spending is hidden.

Therefore, contrary to the H3, recorded budget deficits rose most sharply in low-clientelist countries, whereas high-clientelist regimes showed the smallest official deficit increases.

5.5 Short-Termism Index and Clientelism

To capture the overall orientation of fiscal policy responses, I constructed a Short-Termism Index that combines the three above dependent variables - wage bill changes, subsidy spending, and deficit outcomes. This index helps me capture the main shared pattern. Higher values of this index indicate a more short-term oriented fiscal response, lower values indicate a more long-term or austere approach. The results for the composite index are shown in Table 5.4.

Table 5.4: Regression Results: Short-Termism and Clientelism

	Dependent variable:
	Short-Termism Index (PCA)
Clientelism	1.353
	(1.259)
Crisis	1.063***
	(0.097)
GDP Growth	−0.045***
	(0.007)
Unemployment	0.024
	(0.021)
Government Effectiveness	0.044
	(0.235)
Clientelism × Crisis	−0.751***
	(0.120)
Observations	132
R^2	0.408
Adjusted R^2	0.320
F Statistic	13.116*** (df = 6; 114)
Note:	*p<0.1; **p<0.05; ***p<0.01
	Driscoll–Kraay SEs (HC1), maxlag = 2.
	*p<0.1; **p<0.05; ***p<0.01

To capture the overall orientation of fiscal policy responses, I constructed a Short-Termism Index that combines the three above dependent variables - wage bill changes, subsidy spending, and deficit outcomes. This index helps me capture the main shared pattern. Higher values of this index indicate a more short-term oriented fiscal response, lower values indicate a more long-term or austere approach. The results for the composite index are shown in Table 5.4.

In general, all countries experienced an increase in short-term oriented fiscal behavior during the GFC (*Crisis* coefficient is positive and significant). The crisis itself is associated with a jump in the short-termism index for the average country. This suggests that governments shifted toward more immediate fiscal measures in response to the 2008 shock. However, the size of this increase becomes smaller as clientelism rises. The interaction between clientelism and the

crisis is statistically significant and negative (≈ -0.75), meaning that countries with higher levels of clientelism saw a smaller shift toward short-term fiscal behavior during the crisis. This suggests that under crisis conditions, it was the less clientelist countries that adjusted their fiscal behavior most sharply in a short-term direction.

I also added government debt and expenditure controls to the index model (Table 7.10). The clientelism-crisis interaction remains highly significant. This means that the main outcome cannot be explained simply by having different debt levels or spending patterns.

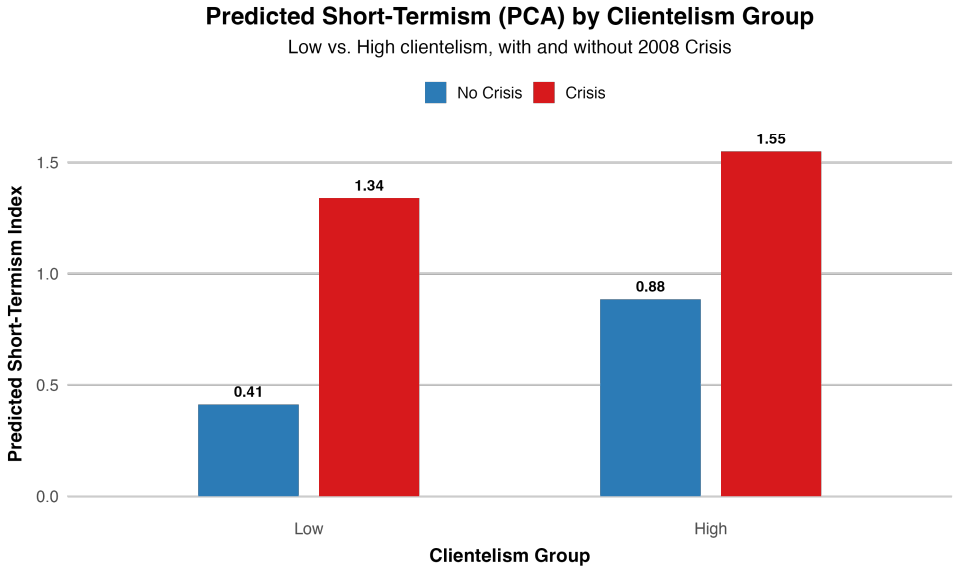

Figure 2: Predicted Short-Termism by Clientelism Group and Crisis Status

This challenges H4, which anticipated a stronger short-term shift from more clientelist governments. Instead, the results show that low-clientelist countries shifted more during the crisis, while higher clientelist governments may have already been using short-term policies before the shock, leaving less space for additional increase (Figure 2).

In short, clientelist governments already spend more on patronage in normal times but do not necessarily do the same in a crisis. Medium-clientelist countries drove the biggest subsidy increases, high-clientelist states were associated with more spending on public wages, while

low-clientelist states ran the largest deficits. Less clientelist governments showed the biggest shift toward short-term measures, suggesting highly clientelist systems were already at their limit. Overall, clientelism affects not only what gets spent but also how crisis responses are funded.

6 Conclusion and Policy Implications

The main conclusion from this work is that political clientelism shapes fiscal policy in crisis - but not in a linear direction.

In normal times, more clientelism means higher wage bills and larger targeted subsidies. Once the shock hit, the response differed across countries. High-clientelist states increased public wages and may have hidden part of the cost off-budget, so their recorded deficits stayed modest and subsidies flat. Medium-clientelist states made subsidies their main target while keeping deficits mid-range. Low-clientelist states froze wages and held subsidies steady but posted the biggest open deficits. One potential explanation for the low-clientelist pattern is that these governments relied more on broad-based fiscal measures rather than just increases in wages or subsidies. For example, they may have enacted large emergency tax cuts or revenue-relief packages, turned to off-budget measures (for example, loan guarantees or sector bailouts) (Reinhart and Rogoff, 2009), and focus more on automatic stabilizers (for example, unemployment benefits) when their economies dropped sharply (Blanchard and Leigh, 2013). These hidden costs can push up overall deficits even if visible wage and subsidy spending stays flat.

Future research could extend this study. Researchers can look at national aggregates and micro-level budget data, linking ministry payroll files, procurement contracts or municipal transfers with detailed political information. Tracking who actually receives public money would in-

dicate whether the same non-linear clientelism thresholds operate across regions. Moreover, future work can model these clientelism focal points and see whether similar non-linear effects appear in the COVID-19 shock or other periods of instability.

In short, clientelism does influence fiscal choices, yet its effect flips as a country shift from low to medium and then to high clientelist environments, a pattern overlooked by research that treats the relationship as simply linear.

6.1 Limitations

This study has several important limitations that should be acknowledged.

First, the sample is limited to twelve EE/SEE countries, which limits the generalizability of the findings. Other states in the region, such as Montenegro, North Macedonia, and others, have high levels of clientelism but could not be included due to data unavailability.

Second, clientelism is a complex and multifaceted concept that cannot be measured simply. In this work, I rely on V-Dem's clientelism index, which is constructed from expert assessments of vote-buying, particularistic spending, and party-voter linkages. While the V-Dem index is widely used, it remains prone to perception bias: experts' judgments may vary according to their own backgrounds. In other words, clientelism in V-Dem captures a combination of informal practices as well as related phenomena such as corruption or low transparency. These factors may not perfectly correspond to each country's real-world patronage networks.

Third, missing data required imputation for some key variables, especially subsidies in Albania (2006–2010) and Serbia (2010). I used MICE to fill these gaps, and while diagnostic checks suggest that the imputed values are plausible, imputation can never fully replace actual

observations.

Finally, this paper relies on observational panel data and therefore shows only associations rather than causality. Future work might combine cross-country analysis with within-country case studies or make natural experiments to draw stronger causal inferences.

These limitations mean that the findings should be interpreted cautiously. Nevertheless, by acknowledging these concerns and conducting multiple robustness checks, this study provides a useful first step toward understanding how patronage politics shaped fiscal responses during the 2008 crisis in Eastern and South-Eastern Europe.

6.2 Policy Recommendations

Before turning to specific tools and rules, it is worth noting why I treat increased deficits and clientelist spending as harmful even when headline GDP does not immediately collapse. Persistently large deficits are simply "deferred taxes", they must eventually be paid for by spending cuts, more expensive borrowing or other things. Research shows that running a deficit above about 3–4 % of GDP leads to higher debt-service bills that, two to three years later, squeeze out spending on infrastructure and social programs (Reinhart and Rogoff, 2010; International Monetary Fund, 2017). Likewise, borrowing to fund patronage undermines institutional strength and raises sovereign borrowing costs, making future downturns harder to manage (Akitoby et al., 2006).

The econometric results of my thesis show that clientelism shaped not the amount but the composition of fiscal responses to the GFC. Their channels of spending differed as well. Because each group spent on a comparable scale relative to its pre-crisis trend, the evidence shows that the delivery mechanism (wages, subsidies, or other tools) rather than the overall size of stimulus

determined post-crisis budget stress. Two country cases illustrate the point. Serbia, a country with a high level of clientelism, let wages and pensions grow until they absorbed about two-thirds of total spending before the crsis (International Monetary Fund, 2009). When the crisis hit, the government had little space and had to accept an IMF programme that capped the 2009 deficit at 3% of GDP and required a nominal wage freeze plus a 10% staff cut. The headline deficit nevertheless stayed below 3% (Balkan Insight, 2009). Low-clientelist Slovakia, on the other hand, entered the crisis with a relatively small wage bill (roughly one-fifth of expenditure even in later years) but saw its deficit jump to 7.9% of GDP in 2009 after revenues collapsed and discretionary measures were adopted (The Slovak Spectator, 2010). IMF staff soon urged a temporary freeze of wages, pensions and some social benefits to bring the deficit back under control (International Monetary Fund, 2010). Both experiences show a common reality: without pre-existing rules to guide and limit discretionary pay and transfers, budgets can seize up or explode under stress.

The regressions in Table 5.1 show that highly clientelist states increased or at least protected public wages during the GFC. To keep such pressures in check, a simple but powerful tool is a wage-bill ceiling. Annual growth in the total public spending would be capped at the lower of trend nominal GDP growth or inflation plus productivity gains. An independent fiscal council would publish the ceiling certify budget compliance before legislators vote.

Serbia's experience illustrates the value of an ex-ante rule. In the boom years 2007-08, public wages and pensions rose rapidly. When the crisis hit, the authorities had to accept an IMF arrangement that imposed a nominal freeze on pensions for 2009 and a real freeze on government wages, together with a hiring ban (International Monetary Fund, 2009). If this rule had been existed, it would have tempered the boom-time surge in wages and pensions and avoided the need for an emergency freeze under IMF pressure.

Slovakia also demonstrates the usefulness of a ceiling. With its deficit heading for nearly 8 % of GDP in 2009, the IMF Article IV recommended a temporary nominal freeze on wages, pensions and some social benefits to help restore (International Monetary Fund, 2010). A legal rule would have delivered that adjustment automatically, without the politically costly bargaining for the government.

The success of Kosovo's 2018 Fiscal Responsibility Law, which ties the wage bill to GDP growth and has since stabilized public-sector pay, shows that this approach can work in countries across the region (World Bank, 2018). A similar formula, adjusted to each country's macro-framework, would give both high- and low-clientelist systems the breathing space they lacked in 2009.

Medium-clientelist governments did not rely on wages but did expand subsidies (Table 5.2). This was a second channel for clientelist spending. Finance ministries should create a yearly public register listing every subsidy, tax break, and government guarantee, and implement a regular spending review that evaluates each program's efficiency and fairness. Schemes that fail to meet minimum standards would be redesigned. By forcing all transfers into the open, this process decrease the space for hidden patronage, as happened with the Serbian state-enterprise bailouts in 2009 (International Monetary Fund, 2009). It would have allowed low-clientelism countries to target and cut only the least effective social programs, rather than imply austerity measures for all services.

Finally, the results show that low-clientelist countries recorded the largest jump in headline deficits during 2009-10 (Table 5.3). A strong framework of fiscal discipline would help governments stick to sound budgets over the long run. For EU members, the obvious anchor is a reinforced Excessive Deficit Procedure (EDP): the Stability and Growth Pact already codifies

a 3 % of GDP reference value for the deficit and 60 percent for debt (Council of the European Union, 1997). Automatically triggering corrective measures under the EDP whenever a country exceeds the 3 % deficit limit outside of severe downturns would give those fiscal rules real enforcement power. Non-EU countries can achieve a similar effect through the help of IMF or World Bank.

By combining a credible wage-bill ceiling, a systematic mechanism for pruning subsidies and robust external enforcement, governments with different level of clientelism can enter the next downturn with budgets that adjust quickly and spend where they matter most.

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7 Appendix

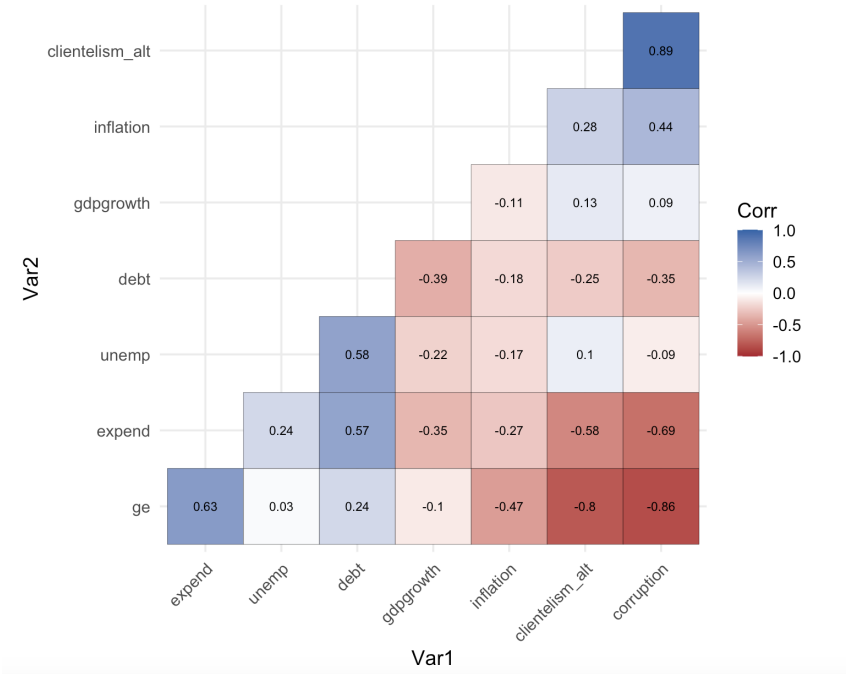

Figure 3: Correlation Heat-Map

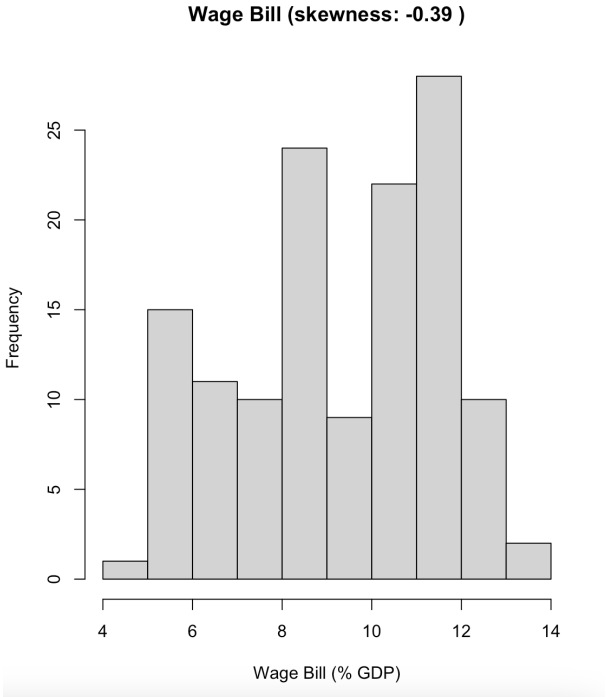

Figure 4: Distribution of Wage Bill

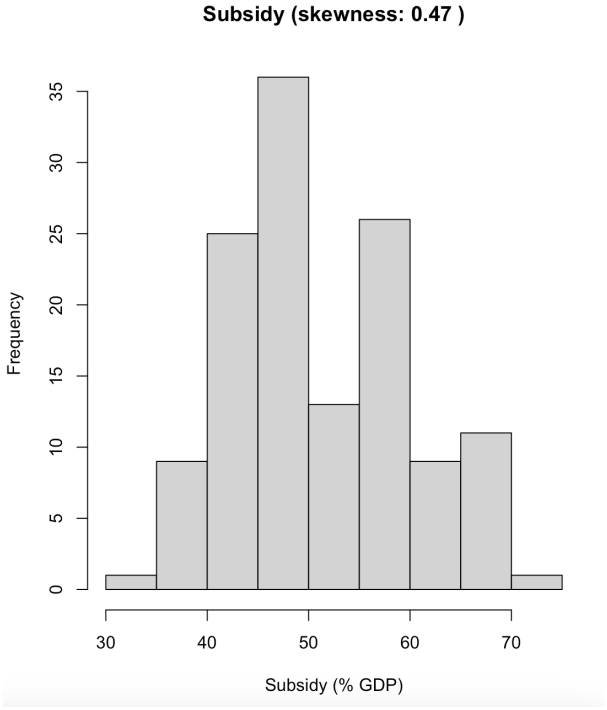

Figure 5: Distribution of Subsidies

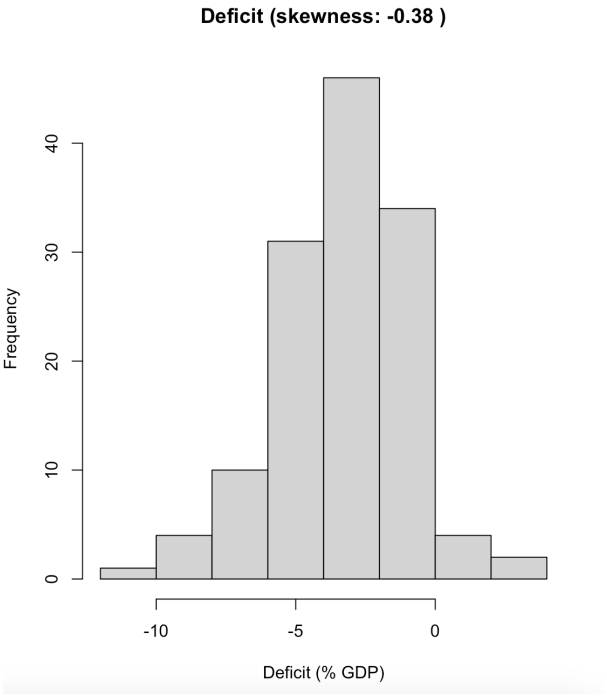

Figure 6: Distribution of Deficit

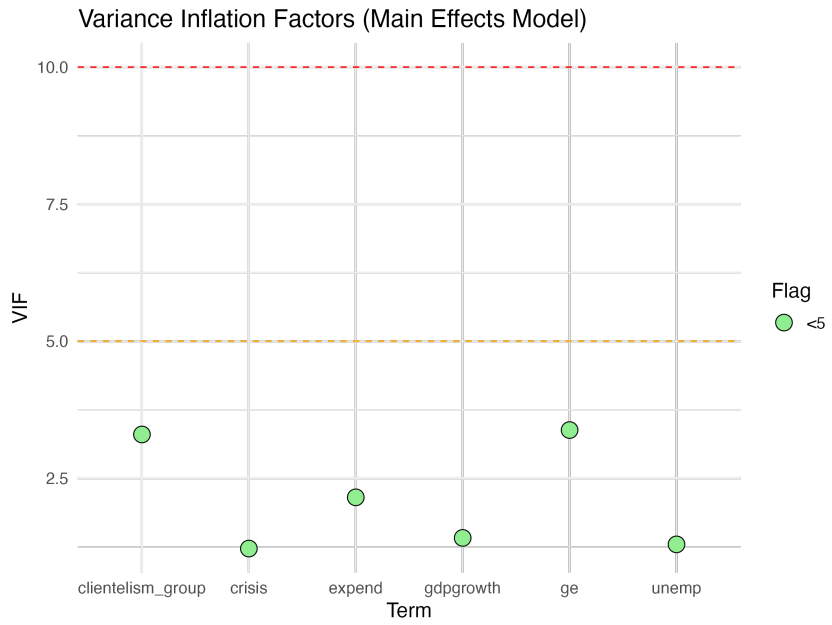

Figure 7: Variance Inflation Factors for the Main Effects Model (Wages)

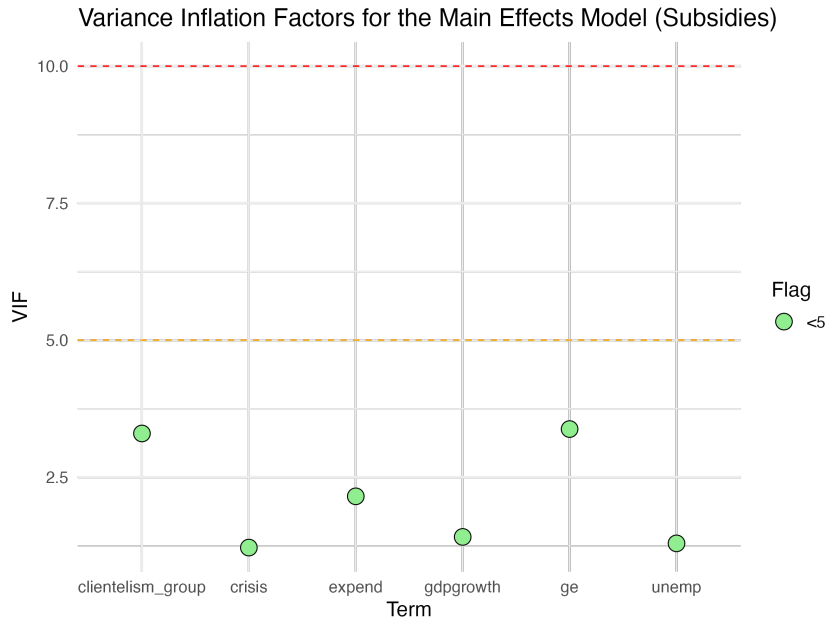

Figure 8: Variance Inflation Factors for the Main Effects Model (Subsidies)

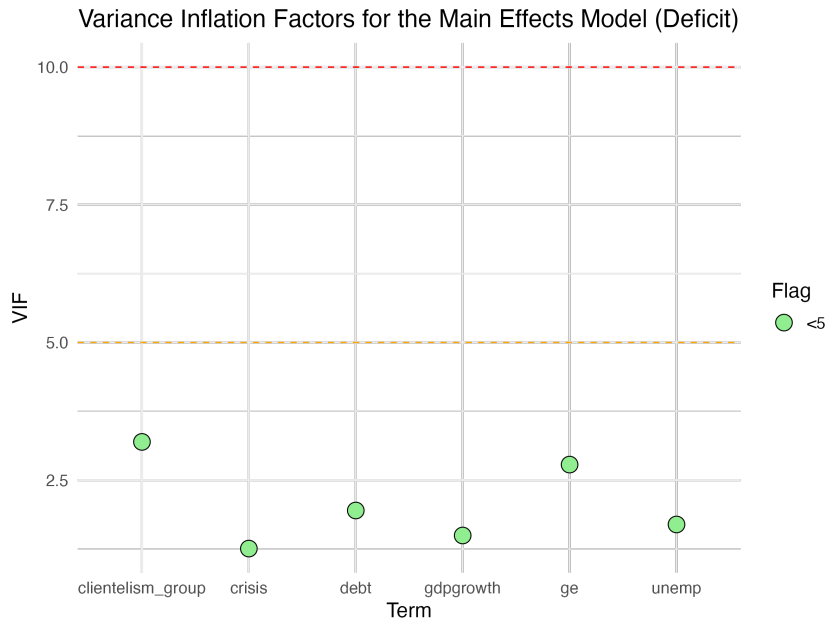

Figure 9: Variance Inflation Factors for the Main Effects Model (Deficit)

Table 7.1: Regression Results: Logged Wages and Clientelism

	Dependent variable:			
	Logged Wage Bill			
	Baseline	+ GE	+ Expend	Interaction
	(1)	(2)	(3)	(4)
Medium Clientelism	−0.046*	−0.054*	−0.024	−0.037
	(0.024)	(0.032)	(0.041)	(0.034)
High Clientelism	0.086	0.067	0.037	0.016
	(0.057)	(0.054)	(0.062)	(0.042)
Crisis	0.042***	0.036***	0.019	−0.016
	(0.014)	(0.008)	(0.016)	(0.026)
GDP Growth	−0.005**	−0.006***	−0.001	−0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Unemployment	0.0002	−0.002*	−0.003	−0.003
	(0.001)	(0.001)	(0.002)	(0.002)
Government Effectiveness		−0.155***	−0.117***	−0.101***
		(0.023)	(0.025)	(0.038)
Expenditure			0.021***	0.023***
			(0.001)	(0.003)
Medium x Crisis				0.036
				(0.035)
High x Crisis				0.067*
				(0.035)
Constant	2.177***	2.238***	1.387***	1.328***
	(0.059)	(0.041)	(0.053)	(0.119)
Observations	132	132	132	132
R^2	0.246	0.311	0.526	0.536
Adjusted R^2	0.216	0.278	0.499	0.501
F Statistic	41.058***	56.349***	137.643***	140.722***

Note: *p<0.1; **p<0.05; ***p<0.01
Driscoll–Kraay robust SEs (HC1), maxlag = 2.
*p<0.1; **p<0.05; ***p<0.01

Table 7.2: Regression Results: Wages Spending and Clientelism

	Dependent variable:		
	Wage Bill (% of GDP)		
	Baseline	+ GE	Interaction
	(1)	(2)	(3)
Medium Clientelism	−0.537	−0.581	−0.554
	(0.461)	(0.469)	(0.393)
High Clientelism	0.827	0.675	0.653
	(0.557)	(0.514)	(0.435)
Crisis	0.332***	0.294***	0.171*
	(0.108)	(0.074)	(0.104)
GDP Growth	−0.049***	−0.056***	−0.057***
	(0.016)	(0.014)	(0.012)
Unemployment	−0.003	−0.001	−0.0002
	(0.012)	(0.010)	(0.011)
Government Effectiveness		−0.922***	−1.032***
		(0.255)	(0.239)
Medium x Crisis			−0.017
			(0.195)
High x Crisis			0.339
			(0.362)
Constant	8.967***	9.170***	9.178***
	(0.383)	(0.284)	(0.471)
Observations	121	121	121
R^2	0.338	0.370	0.391
Adjusted R^2	0.310	0.337	0.347
F Statistic	58.798***	66.935***	71.883***
Note:			*p<0.1; **p<0.05; ***p<0.01
			Driscoll–Kraay robust SEs (HC1), maxlag = 2.
			*p<0.1; **p<0.05; ***p<0.01

Table 7.3: Regression Results: Wages Spending and Cont.Clientelism

	Dependent variable:		
	Wage Bill (% of GDP)		
	Baseline	+ GE	Interaction
	(1)	(2)	(3)
Clientelism	0.913	0.505	0.535
	(1.294)	(0.873)	(0.825)
Crisis	0.504***	0.447***	0.226
	(0.157)	(0.126)	(0.199)
GDP Growth	−0.034	−0.045**	−0.046**
	(0.023)	(0.020)	(0.018)
Unemployment	0.026	0.012	0.011
	(0.020)	(0.020)	(0.019)
Government Effectiveness		−1.177***	−1.190***
		(0.226)	(0.248)
Clientelism × Crisis			0.632
			(0.892)
Constant	8.605***	9.140***	9.150***
	(0.652)	(0.695)	(0.729)
Observations	132	132	132
R^2	0.164	0.216	0.224
Adjusted R^2	0.138	0.185	0.187
F Statistic	24.953***	34.667***	36.148***
Note:			*p<0.1; **p<0.05; ***p<0.01
			Driscoll–Kraay robust SEs (HC1), maxlag = 2.
			*p<0.1; **p<0.05; ***p<0.01

Table 7.4: Regression Results: Logged Subsidies and Clientelism

	Dependent variable:		
	Subsidy Spending (% of GDP)		
	Baseline	+ GE	Interaction
	(1)	(2)	(3)
Medium Clientelism	0.034*	0.035*	0.025
	(0.019)	(0.019)	(0.020)
High Clientelism	0.057	0.059	0.051
	(0.038)	(0.038)	(0.042)
Crisis	−0.001	−0.0002	−0.015
	(0.012)	(0.011)	(0.012)
GDP Growth	−0.002	−0.002	−0.002
	(0.002)	(0.002)	(0.002)
Unemployment	0.006**	0.006**	0.006**
	(0.003)	(0.003)	(0.002)
Government Effectiveness		0.019	0.030
		(0.028)	(0.026)
Medium x Crisis			0.044***
			(0.015)
High x Crisis			0.007
			(0.023)
Constant	3.830***	3.822***	3.826***
	(0.059)	(0.054)	(0.059)
Observations	132	132	132
R^2	0.100	0.103	0.122
Adjusted R^2	0.064	0.060	0.065
F Statistic	14.029**	14.360**	17.053**
Note:			*p<0.1; **p<0.05; ***p<0.01
		Driscoll–Kraay robust SEs (HC1), maxlag = 2.	
			*p<0.1; **p<0.05; ***p<0.01

Table 7.5: Regression Results: Subsidy Spending and Clientelism

	Dependent variable:		
	Subsidy Spending (% of GDP)		
	Baseline	+ GE	Interaction
	(1)	(2)	(3)
Medium Clientelism	3.951***	4.329***	3.965***
	(1.078)	(1.225)	(1.234)
High Clientelism	5.760***	6.636***	6.565***
	(1.178)	(1.248)	(1.293)
Crisis	−0.092	0.087	−0.448
	(0.722)	(0.602)	(0.467)
GDP Growth	−0.152*	−0.123*	−0.107
	(0.087)	(0.071)	(0.078)
Unemployment	0.254*	0.256*	0.241*
	(0.144)	(0.136)	(0.127)
Government Effectiveness		3.964**	4.455**
		(1.863)	(1.813)
Medium x Crisis			2.574***
			(0.549)
High x Crisis			−0.304
			(1.011)
Constant	46.491***	45.348***	45.514***
	(2.811)	(2.275)	(2.472)
Observations	121	121	121
R^2	0.105	0.133	0.161
Adjusted R^2	0.066	0.087	0.101
F Statistic	13.492**	17.483***	21.477***
Note:			*p<0.1; **p<0.05; ***p<0.01
			Driscoll–Kraay robust SEs (HC1), maxlag = 2.
			*p<0.1; **p<0.05; ***p<0.01

Table 7.6: Regression Results: Subsidy Spending and Cont.Clientelism

	Dependent variable:		
	Subsidy Spending (% of GDP)		
	Baseline	+ GE	Interaction
	(1)	(2)	(3)
Clientelism	15.388***	16.529***	16.243***
	(4.250)	(4.636)	(4.613)
Crisis	0.102	0.227	−0.108
	(0.561)	(0.503)	(0.415)
GDP Growth	−0.123**	−0.101*	−0.099*
	(0.061)	(0.052)	(0.051)
Unemployment	0.249**	0.282***	0.284***
	(0.108)	(0.103)	(0.101)
Government Effectiveness		2.379**	2.576**
		(1.133)	(1.080)
Clientelism × Crisis			0.993
			(1.226)
Constant	43.163***	41.922***	41.952***
	(2.695)	(2.716)	(2.773)
Observations	132	132	132
R^2	0.140	0.151	0.152
Adjusted R^2	0.113	0.117	0.112
F Statistic	20.630***	22.323***	22.459***
Note:			*p<0.1; **p<0.05; ***p<0.01
			Driscoll–Kraay robust SEs (HC1), maxlag = 2.
			*p<0.1; **p<0.05; ***p<0.01

Table 7.7: Regression Results: Logged Deficit and Clientelism

	Dependent variable:		
	Budget Deficit (% of GDP)		
	Baseline	+ GE	Interaction
	(1)	(2)	(3)
Medium Clientelism	−0.239***	−0.016	−0.051
	(0.058)	(0.128)	(0.106)
High Clientelism	−0.214	0.258	0.342
	(0.150)	(0.336)	(0.292)
Crisis	0.707***	0.700***	0.712***
	(0.075)	(0.070)	(0.090)
GDP Growth	−0.036***	−0.039***	−0.040***
	(0.012)	(0.013)	(0.014)
Unemployment	0.045***	0.044***	0.039***
	(0.010)	(0.011)	(0.008)
Government Effectiveness		0.468	0.480
		(0.375)	(0.317)
Election Year			0.194***
			(0.070)
Medium x Crisis			0.068
			(0.061)
High x Crisis			−0.257*
			(0.139)
Constant	0.621***	0.324	0.302
	(0.150)	(0.368)	(0.279)
Observations	126	126	126
R^2	0.278	0.301	0.333
Adjusted R^2	0.248	0.265	0.281
F Statistic	47.066***	52.162***	57.893***
Note:			*p<0.1; **p<0.05; ***p<0.01
	Driscoll–Kraay robust SEs (HC1), maxlag = 2.		
			*p<0.1; **p<0.05; ***p<0.01

Table 7.8: Regression Results: Deficit and Clientelism

	Dependent variable:		
	Budget Deficit (% of GDP)		
	Baseline	+ GE	Interaction
	(1)	(2)	(3)
Medium Clientelism	−1.035*	−0.979	−0.821
	(0.594)	(0.976)	(0.876)
High Clientelism	−0.729	−0.626	−0.345
	(1.014)	(1.499)	(1.186)
Crisis	2.325***	2.328***	3.021***
	(0.316)	(0.321)	(0.472)
GDP Growth	−0.110***	−0.110***	−0.127***
	(0.029)	(0.028)	(0.022)
Unemployment	0.169***	0.170***	0.184***
	(0.044)	(0.048)	(0.054)
Government Effectiveness		0.131	−0.093
		(1.289)	(1.418)
Election Year			0.660***
			(0.225)
Medium x Crisis			−0.668**
			(0.312)
High x Crisis			−1.882***
			(0.397)
Constant	1.985*	1.901	1.462
	(1.160)	(1.282)	(1.375)
Observations	121	121	121
R^2	0.438	0.439	0.494
Adjusted R^2	0.413	0.409	0.453
F Statistic	89.575***	89.091***	108.519***
Note:			*p<0.1; **p<0.05; ***p<0.01
			Driscoll–Kraay robust SEs (HC1), maxlag = 2.
			*p<0.1; **p<0.05; ***p<0.01

Table 7.9: Regression Results: Deficit and Cont.Clientelism

	Dependent variable:		
	Budget Deficit (% of GDP)		
	Baseline	+ GE	Interaction
	(1)	(2)	(3)
Clientelism	−0.144	2.697*	3.022***
	(1.680)	(1.397)	(1.037)
Crisis	2.564***	2.614***	3.600***
	(0.350)	(0.357)	(0.538)
GDP Growth	−0.120***	−0.115***	−0.128***
	(0.031)	(0.028)	(0.023)
Unemployment	0.059	0.062	0.066
	(0.061)	(0.061)	(0.067)
Government Effectiveness		1.488***	1.339**
		(0.521)	(0.567)
Election Year			0.649***
			(0.179)
Clientelism x Crisis			−3.358***
			(0.660)
Constant	2.520***	1.213	0.885
	(0.858)	(0.778)	(0.644)
Observations	132	132	132
R^2	0.344	0.366	0.403
Adjusted R^2	0.324	0.341	0.369
F Statistic	66.696***	72.789***	83.636***
Note:			*p<0.1; **p<0.05; ***p<0.01
			Driscoll–Kraay robust SEs (HC1), maxlag = 2.
			*p<0.1; **p<0.05; ***p<0.01

Table 7.10: Regression Results: Short-Termism Index

	Dependent variable:
	Short-Termism Index (PCA)
Clientelism	−0.171
	(1.012)
Crisis	0.731***
	(0.056)
GDP Growth	−0.032**
	(0.012)
Unemployment	0.052***
	(0.018)
Gov. Effectiveness	0.583**
	(0.275)
Debt	−0.016***
	(0.004)
Expenditure	0.140***
	(0.014)
Clientelism × Crisis	−0.602***
	(0.158)
Observations	132
R^2	0.602
Adjusted R^2	0.534
F Statistic	21.147*** (df = 8; 112)
Note:	*p<0.1; **p<0.05; ***p<0.01
	Driscoll–Kraay robust SEs (HC1), maxlag = 2.
	*p<0.1; **p<0.05; ***p<0.01