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The Economic Consequences of Businesspeople in Politics: A Survey

Abstract

To which extent does business experience of politicians influence economic policies and economic outcomes? I review the new empirical literature which examines this question. The survey encompasses the literature on business politicians at the national, sub-national and local level. The results show that business politicians were active in promoting globalization and market-oriented economic reforms and influenced budget composition. Business politicians prioritized public investment expenditure and increased spending on infrastructure, roads and transport. They decreased spending on public consumption and transfers. The market-oriented policies translated into effects on economic outcomes. In the US states, for example, market-oriented policies of business politicians increased economic growth. Future research should examine how businesspeople in parliament influence economic policies and outcomes and employ survey experiments to investigate voters' perceptions of business politicians.

JEL-Codes: D720, H110, K100, O470, P100.

Keywords: political leaders, business background, business politicians, economic policies and outcomes.

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1 Introduction

Politicians influence economic outcomes to a large extent. Citizens desire competent politicians who are able to handle challenges and to lead their countries in a suitable manner. In many countries, citizens are concerned that the incumbent politicians just fail. Failure includes bad economic performance, poor handling of geopolitical conflicts and issues with migration. A major question is which attributes of politicians influence economic policies and outcomes. I investigate how politicians' occupational experience influences economic policies and outcomes.[1]

Politicians with business experience (business politicians) are likely to influence economic outcomes. Business politicians may, for example, promote economic performance. They know how to run an enterprise or have executive experience in the private sector. Successful entrepreneurs are creative, adaptive and competitive. They have learned to take individual responsibility, are patient, and are hesitant regarding regulation and bureaucracy. Other attributes of business politicians may, however, decrease economic performance: business politicians pursue self-interests and are inclined to lobby for the interests of their industries. The personal characteristics and the expertise of businesspeople in politics may well translate into public office. Leading a country is, admittedly, different than leading an enterprise. Business politicians need to organize majorities within the electorate. Need for compromise might be larger in public office than when running an own enterprise. It remains as an empirical question how business politicians influence economic outcomes such as economic performance. I review the empirical literature describing the economic consequences of businesspeople in politics.

Discussing the economic consequences of politicians with business experience requires to define what business politicians are. First: Which type of politicians do the empirical studies consider? The literature relates to heads of governments (prime ministers and presidents) and cabinet members (ministers and secretaries of state) at the national level, governors and cabinet members at the sub-national level such as the US states, members of parliament (legislators) at the sub-national level, mayors and coucillors at the local level. Second, business experience is measured in different manners in the individual studies. It includes experience as Chief Executive Officer (CEO) or a Chief Financial Officer (CFO) of a company, an owner or manager of a small company.

[1] Politicians' occupational experience also influences voting decisions. Voters use candidates' occupation as a signal of competence (e.g. McDermott, 2005 and Mechtel, 2014).

Individual studies focus on experience in the private sector which does not need to encompass executive tasks. Third: To whom are business politicians compared? This also differs between studies. Some studies compare politicians with business experience to politicians with any other occupation. Other studies disentangle consequences of many individual occupations. I relate to the type of politicians, the measurements of business experience and the comparison group when discussing the individual studies.

The results show that business politicians have quite some effects on economic policies and outcomes. Business politicians were active in promoting globalization and market-oriented economic reforms. A strong result at which scholars arrive based on data at the national, sub-national and local level is that business politicians influenced budget composition. Business politicians prioritized public investment expenditure and increased spending on infrastructure, roads and transport. They decreased spending on public consumption and transfers. In the US states, market-oriented policies of business politicians increased economic growth.

Contribution to the literature: My survey connects to the literature that examines how characteristics of political leaders relate to economic outcomes. The education of political leaders influences economic performance. Educated political leaders tended to increase, for example, economic growth (e.g., Jones and Olken, 2005, Besley et al., 2011, Yao and Zhang, 2015, Carnes and Lupu, 2016, Easterly and Pennings, 2016).[2] Political leaders with significant work experience increased economic growth in democracies (Shi, 2024b). Educated local leaders decreased taxes, were active in providing infrastructure and abstained from corruption (Pelzl and Poelhekke, 2023). Local leaders with managerial skills increased growth of their cities (Carreri and Payson, 2024). Political leaders' background in economics also influenced economic performance. Countries that were ruled by politicians who studied economics had higher GDP growth than countries that were ruled by politicians who had another field of study (e.g., Brown, 2020. Carnes and Lupu (2023) survey the literature on the economic background of politicians). I discuss whether having business experience influences economic policies and outcomes.

Characteristics of ministers and legislators relate to economic policy outcomes.

[2] US presidents who served in the army had higher growth rates than US presidents who did not serve in the army (Congleton and Zhang, 2013). The 2020 election of US president Joe Biden influenced business expectations of international economic experts in their home countries (Boumans et al., 2024).

Finance ministers with financial expertise and non-blue collar background decreased budget deficits (Jochimsen and Thomasius, 2014; Hayo and Neumeier, 2016). Finance ministers with economic education were active in creative accounting (Clémenceau and Soguel, 2017). Development ministers who spent a long time in the development office obtained large aid budgets (Fuchs and Richert, 2018). Doctors (physician-trained) health ministers increased hospital capacities, capital, and funding by the statutory health insurance (Pilny and Roesel, 2020). Legislators who were active as attorneys hesitated to vote in favor of tort reforms that restrict tort litigation but were active to support bills that extend tort law (Matter and Stutzer, 2015).[3] My survey discusses the extent to which business background of ministers and legislators relates to economic policies and outcomes.

Selection of papers: The literature on economic consequences of business politicians is developing dynamically. My survey includes all papers on the economic consequences of business politicians: To make sure that I do not miss individual studies, I have done an encompassing literature search and contacted the experts in the field asking whether they are aware of other studies.

Organization of the survey: In the next section, I discuss the background on why and how business politicians are likely to influence economic policies and outcomes. Section 3 discusses the empirical evidence at the national level. I discuss the measurement of business politicians at the national level, the empirical strategies and the results based on economic outcomes. Sections 4 and 5 discuss the evidence at the sub-national and local level. Section 6 concludes and describes avenues for future research.

2 Background

Politicians with business experience are expected to influence economic policies and economic performance for many reasons. Individual personality traits of entrepreneurs are likely to be decisive when entrepreneurs become politicians (Obschonka and Fisch, 2018). Occupational experiences also affect individual attitudes (Kitschelt and Rehm, 2014). Individual attributes of businesspeople that are likely to influence economic

[3] The education and occupational background of central bankers influenced their inflation preferences (Göhlmann and Vaubel, 2007).

performance include creativity, willingness to innovate, awareness of individual responsibility, economic expertise, risk taking and patience (subsection 2.1). How should business politicians' attributes influence economic outcomes? First, the attributes of business politicians matter for every individual decision which the business politicians take. Second, individual attributes and beliefs have been shown to spread through intergroup and interpersonal relations (e.g., Pettigrew, 1998). When business politicians are creative, self-reliant, patient etc., they may well inspire their collaborators in public office who, in turn, may inspire others etc. Third, business politicians influence the attitudes of society by implementing business friendly-policies (Neumeier, 2018). Clearly, it is also conceivable that societies with business-friendly cultures are more willing to elect businesspeople into public office. In any event, societies' attributes affect economic outcomes.

2.1 Attributes of businesspeople

Creativity and innovation: Joseph A. Schumpeter described that highly influential entrepreneurs are creative, adaptive and competitive and are eager in breaking rules (Schumpeter, 1934; Obschonka and Fisch, 2018). Innovation and entrepreneurship increase economic growth (e.g., Phelps and Sinn, 2011, Glaeser et al., 2015 and Acemoglu et al., 2018).

Individual responsibility: Entrepreneurs know that they are responsible for their individual actions. They enjoy the benefits of being successful and they have to bear the consequences when they fail. Being aware of individual responsibility increases business politicians' effort and to carefully consider decisions. As compared to entrepreneurs, for example, employees and civil servants might be less aware of individual responsibility. Civil servants often enjoy permanent jobs, employment protection is very pronounced and individual failure translates into less severe consequences than for entrepreneurs. Individual responsibility has been shown to increase economic growth (Davis, 2016).

Risk taking and patience: Entrepreneurs have been shown to have similar risk attitudes as the general population, and entrepreneurs have been shown to be more patient than the general population (e.g. Andersen et al., 2014). Patient individuals have a long-run time horizon, and patient societies enjoy high per capita income and growth (e.g. Hübner and Vannoorenberghe, 2015, Sunde et al., 2022).

Economic expertise: Businesspeople are likely to have a better knowledge about economics than the general population. They have experience, for example, in designing budgets and know about how regulations in the labor and product markets influence economic activity. Businesspeople also know about the benefits of globalization, including gains from trade and the exchange of information and ideas between individuals.

Preferences: Businesspeople have different preferences than citizens with other occupations (Witko and Friedman, 2008). Business politicians pursue self-interests: They may well lobby for the interests of businesspeople in general and the branch in which they pursued their own business activities (e.g. Gehlbach et al., 2010 and Babenko et al., 2023). In Thailand and the United States, for example, the market valuation of the firms of business politicians increased drastically when they came into office (Bunkanwanicha and Wiwattanakantang, 2009; Babenko et al., 2023). Business politicians are likely to implement regulations and public policies favorable to their firms. In the US Congress, MPs with business experience had pro-business bill sponsorship and conservative roll-call voting (e.g., Witko and Friedman, 2008 and Carnes, 2012). Politicians' occupational background influences issue representation in parliament (e.g., Hansen et al., 2019, Velimsky et al., 2024). In Europe and Israel, business MPs were more likely to support income inequality and small government; they were also less likely to consult with labour groups, than MPs from working-class and other backgrounds (Hemingway, 2022). Clearly, the self-interests of business politicians may give rise to market-oriented policies which, in turn, increase economic growth. When self-interests of business politicians give rise to corruption, by contrast, business politicians may decrease economic growth (e.g. Méon and Sekkat, 2005 and Gründler and Potrafke, 2019a).

Over-confidence and over-optimism: Entrepreneurs are often over-confident and over-optimistic (e.g. Busenitz and Barney, 1997, Koellinger et al., 2007, Obschonka and Fisch, 2018). Over-confidence and over-optimism may well translate into high public debt and decreasing economic growth. Over-optimistic growth expectations for a country decreased, for example, economic growth a few years later (Beaudry and Willems, 2022).

Experience in communicating with the public: Entrepreneurs are likely to have less experience in communicating with the public than politicians with other professional backgrounds. The ability to communicate with the public is useful for, for example, explaining the need for structural reforms or budget consolidation. Economic performance may therefore decline when citizens believe that business politicians hardly communicate with the public and do not consider citizens' needs.

2.2 Translation into empirical outcomes

Do businesspeople becoming politicians use their competences in the interest of the business environment, from within which they stem, or in the interest of the entity that they now run, i.e. the state? How individual attributes of business politicians translate into economic policies and outcomes remains as an empirical question. The empirical studies which I discuss in the next sections provide answers to this question. Do individual attributes such as creativity and innovation have stronger effects than attributes such as over-confidence and over-optimism? The empirical studies do not yet disentangle which attributes of business politicians translate into individual policies.

2.3 Types of public office and collaboration

The benefits of businessmen's attributes are likely to differ between the individual public offices. The requirements of heads of national governments differ from, for example, requirements of members of national parliament (MPs) or mayors in municipalities.

In parliament and cabinets, diversity among individual MPs and ministers may well be important. A cabinet that only includes businesspeople might probably perform worse than a cabinet that enjoys diversity regarding its members' occupations. Diverse teams tend to perform better than homogeneous teams (e.g. Horwitz and Horwitz, 2007). Future research needs to examine whether the composition of cabinets and parliaments matters. Questions include whether entrepreneurs in top public offices are successful if their colleagues in the cabinet or parliament are not entrepreneurs, and which synergies arise in cabinets when ministers with business experience collaborate with ministers without business experience.

3 National level

Quite some empirical studies investigating effects of political leaders (prime ministers and presidents) with business experience on economic policies and outcomes use data at the national level (see Tables 1 and 2).

3.1 Measuring business experience of politicians

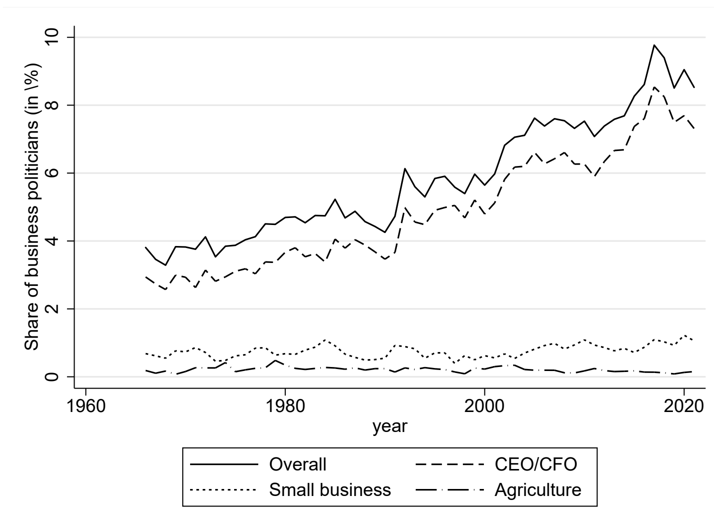
Examining economic consequences of business politicians requires data on politicians' occupational background. The previous studies used the data on political leaders compiled by, for example, Goemans et al. (2009), Ellis et al. (2015) and Baturo (2016). These three datasets and their updates include information for political leaders (heads of government and presidents) for the periods 1875-2015, 1875-2004 and 1950-2010.

The new gold standard on politicians' occupations will likely be the *Paths to power* dataset of Nyrup et al. (2023). The *Paths to power* dataset includes data for political leaders and, being the most important innovation, sociodemographic information on 43,501 cabinet members from 130 countries over the period 1966-2021. Nyrup et al. (2023) distinguish between 26 occupations. Business experience is measured by being a Chief Executive Officer (CEO) or a Chief Financial Officer (CFO) of a company, an owner or manager of a small company or an owner of large-scale agriculture land or forest.

The data show that the overall share of business politicians increased from 3.8% in 1966 to 8.5% in 2021 (see Figure 1). Most of the business politicians were CEO and CFO. The share of CEO and CFO among all politicians increased from 2.9% in 1966 to 7.3% in 2021. The share of owners/managers of small companies among all politicians increased from 0.7% in 1966 to 1.1% in 2021. The share of owners of large-scale agriculture land or forest among all politicians decreased from 0.19% in 1966 to 0.15% in 2021.

Countries with high shares of business politicians over the period 1966-2021 were Slovakia (25%) and Ukraine (22%). The two countries with no business business politicians in the sample are Ethiopia and Myanmar. Countries with very small shares of business politicians include North Korea (0.3%) and Sweden (1.0%). The shares of business politicians in large OECD countries such as the United States and Germany were 17% and 15%.

Figure 1 SHARE OF BUSINESS POLITICIANS, 1966-2021.



Notes: The figure shows how the share of cabinet members with business experience developed over the period 1966-2021. The data is taken from the *Paths to power* dataset of Nyrup et al. (2023). It includes sociodemographic information on 43,501 cabinet members from 130 countries. Business experience is measured by being a Chief Executive Officer (CEO) or a Chief Financial Officer (CFO) of a company, an owner or manager of a small company or an owner of large-scale agriculture land or forest.

3.2 Empirical strategies

The empirical strategy of the studies at the national level is regressing outcome variables such as economic reform indicators on a dummy variable that assumes the value one when political leaders had business experience. The studies control for fixed country and fixed time effects. There is heterogeneity across countries in both economic development and policies and the relationship between this economic development and political leaders' business background. Those differences are to some extent country-specific and relate to, for example, cultural or geographical circumstances. When those circumstances do not change over time, they are captured by fixed country effects. Global shocks and trends may also be correlated with economic performance and political leaders' business background. Those shocks and trends may well be captured by fixed time effects. Other potential confounders such as political institutions are also controlled for.

There may be, however, other variables that are correlated with both economic performance and political leaders' business background. A potential confounder that has so far been overlooked in the empirical literature is whether individual societies have a business-friendly culture. It is quite clear that societies with a business-friendly culture are both likely to have businesspeople in public office and willing to accept business-friendly policies which translate into great economic performance. Business-friendly culture might be measured by entrepreneurial activity taken from *Global Entrepreneurship Monitor - GEM*, or data describing how entrepreneurs are portrayed in school books or perceptions of citizens or economic experts of entrepreneurs which scholars would need to compile in surveys. The parameter estimates of the leaders' business background suffer from omitted variable bias when those variables are not considered in the econometric model. Omitted variable bias is more likely to be present in studies that use cross-national than sub-national data because countries differ regarding political, institutional and cultural aspects to a larger extent than sub-national states.

Reverse causality between the politicians' business experience and economic policies also prevents causal identification. Voters observe economic policies and outcomes and are likely to consider those economic policies and outcomes at the ballot box. When citizens believe, for example, that candidates with business experience would decrease the size and scope of government and they seek for a smaller size and scope of government, they vote out of office incumbent politicians who do not have business experience. By contrast, market-oriented policies under business politicians might give rise to changes in government when citizens desire a larger size and scope of government.

Future research should therefore come up with more sophisticated identification strategies. A promising identification strategy might be using (unexpected) deaths of political leaders as an instrumental variable for the political leaders' occupational characteristics (Jones and Olken, 2005). Using unexpected deaths provides exogenous variation for a change in leadership, but does not yet solve, however, the selection issue of who would be the next leader (e.g., Gift and Krcmaric, 2017, Krcmaric et al., 2020, Nones, 2024). Another promising identification strategy might be exploiting tight vote margins of business politicians. Some of the empirical studies executed at the sub-national and local level already use tight vote margins of business politicians.

3.3 Results

3.3.1 Constitutional compliance

Political leaders with business background were more likely to comply with the constitutions of their countries than political leaders with other professional backgrounds. Gutmann et al. (2023) examine data for 943 leaders from 156 countries over the period 1950-2010. Constitutional compliance is measured as the gap between de jure constitutional rules and their de facto implementation (Gutmann et al., 2024). Political leaders' professional experience is measured by the data of Baturo (2016). 8% of the political leaders in the authors' sample had a business background. The authors employ a common panel data model and regress their measure for constitutional compliance on political leaders' characteristics, fixed country and fixed year effects and other potential confounders. The results suggest that the constitutional compliance measure was around 0.1 standard deviations higher when political leaders had business experience as compared to political leaders with other professional backgrounds. The authors also control for professional experience in academia, the judiciary, the military.

The authors also examine whether the political leaders' field of study was related to constitutional compliance. Against the background of the related studies showing that, for example, political leaders with studies in economics had higher economic growth than political leaders with other fields of study, an interesting question is whether business background is a stronger predictor for constitutional compliance than studies in economics. 13% of the political leaders in the authors' sample studied economics. Studies in economics may well influence the choice of occupation; among the 151 business politicians in the authors' sample, 53 studied economics. The results do not suggest that political leaders who studied economics were more active to comply with their constitutions than political leaders who did not study economics. A model, that includes the political leaders' occupational backgrounds and fields of study in one specification, suggests that business experience is a stronger predictor of constitutional compliance than studies in economics.[4]

3.3.2 Foreign direct investments

Foreign direct investments (FDI) were higher when political leaders had a business background than when political leaders did not have a business background: Francois et al. (2020) use data for 100 dictatorial countries over the period 1973-2008. International investors are likely to expect that politicians with business background implement business-friendly policies. They are therefore inclined to provide FDI to countries in which business politicians are in office. Francois et al. (2020) measure business background by "prior executive experience in the corporate sector". The authors' sample shows that 7% of the political leaders had a business background. The authors also consider the field of study and examine, in particular, whether leaders' studies in economics influence FDI inflows. In the baseline model, the authors regress FDI inflows as a share of GDP on the political leaders' characteristics such as business background and studies in economics and some other (macroeconomic) control variables. The coefficient estimate of the dummy variable "business experience or study in economics" is positive, but lacks statistical significance at conventional levels. The authors also investigate the extent to which primary, secondary or tertiary education in combination with business experience and studies in economics predict FDI inflows. An important result is that FDI inflows as a share of GDP were around 7.7 percentage points higher when political leaders had tertiary education and either business experience or studied economics compared to political leaders with only primary education. Clearly, combining business background and studies in economics in the baseline models does not help to make inference only regarding business background. When disentangling effects of business background and studies in economics, the results suggest that studies in economics had, however, a numerically stronger effect on FDI inflows than

[4] This specification is not included in the printed version. I was curious about what would happen in a model including both the leaders' occupational backgrounds and fields of study and asked the authors. The authors estimated the model I had in mind in May 2024.

business background.

A promising avenue for future research would be to examine in which industries and branches FDI increased when business politicians were in office. Did the industries and branches benefit in which the politicians had own business experience?

3.3.3 Trade agreements

Business politicians were active in signing many and deep trade agreements. Nones (2024) arrives at this result based on data for 185 countries over the period 1948-2009. Political leaders of other countries are likely to sign trade agreements with business politicians because they expect the business politicians to understand gains from trade and to implement other business-friendly policies at the national level. Business leaders might also have self-interests in fostering trade in industries in which they were active themselves or plan to return when they leave public office. Nones (2024) measures business experience in an encompassing manner. The measurement considers whether the firm, in which the business politician worked, was involved in tradeable activities. Clearly, it springs to mind whether inferences would change when a broader measure of politicians' business experience (without explicit experience with trade activities) is considered. As discussed in the appendix, inferences do not change when a broader measure of business experience is used. The main explanatory variable is business experience, the model does not include variables measuring other professional experience of political leaders. The author employs four dependent variables: (1) the number of trade agreements signed in a given year (count variable), (2) a dummy variable assuming the value one when at least one trade agreement was signed in a given year, (3) a variable that measures the depth of the trade agreement based on the items discussed in the trade agreement, (4) an additive index that also captures the depth of the trade agreement. In the baseline models, the author regresses the dependent variables on politicians' business experience. Those OLS and binary choice models report conditional correlations between politicians' business experience and fostering trade openness. The results show that politicians' business experience is strongly correlated with fostering trade openness. This holds for all the four dependent variables. The chance of signing a trade agreement increased, for example, by 34% when the political leader had business experience. Nones (2024) also addresses endogeneity concerns of politicians' business experience by using instrumental variables. The instruments include background information of the political leaders' family and unexpected deaths of the leaders. The IV-results corroborate the results of the baseline model. When using leaders' unexpected deaths as an IV, however, the author does not consider fixed country effects. Heterogeneity analyses show that effects become stronger when "export-oriented business" experience is considered.

I believe that the results of Nones (2024) are plausible. The results also suggest that globalization is a channel through which business politicians promote economic growth. Globalization has been shown to increase economic growth (e.g., Dreher, 2006, Gygli et al., 2019 and Potrafke, 2015 for a survey). Future research may well use the new KOF Globalization Index (Dreher, 2006 and Gygli et al., 2019) to investigate in detail through which types of globalization (economic, social and political, de facto and de jure globalization) business politicians promoted globalization. What is more, scholars could investigate winners and losers of globalization which business politicians promoted.

3.3.4 Market-oriented reforms

Political leaders with business experience were active in implementing market-oriented reforms. Dreher et al. (2009) measure economic reforms by the annual change of the Economic Freedom Index. Doing so is standard in the empirical literature to measure economic reforms. The authors self-compile data on the professional background and education of the political leaders. Their sample includes 513 political leaders from 64 countries over the period 1970-2002. The authors regress the annual change of the Economic Freedom Index on dummy variables which measure the individual professional background of the political leaders (entrepreneur, union executive, scientist, economist, other scientist, soldier (military), politicians and others). The dummy variable for "Entrepreneurs" is a strong predictor of market-oriented reforms. The estimates suggest that the annual change of the Economic Freedom Index was around 1 point higher (almost two standard deviations of the dependent variable) when a political leader was an entrepreneur as compared to the baseline category "no and other profession". This effect is numerically large. The major issue of the study is, however, that only 11 leaders among the 513 leaders in the sample are classified as entrepreneurs. I was wondering about the extent to which inferences change when an individual political leader is included/excluded. Many countries in the authors' sample never had a political leader with business experience. I was also curious about the extent to which inferences would change for a larger sample of countries and the time period examined.

The related study by Li et al. (2020) also examines how political leaders' characteristics influence market-oriented reforms as measured by the Economic Freedom Index. Their sample includes 137 countries over the period 1960-2005. Li et al. (2020) do, however, not consider whether a political leader has had business experience. The authors show that educated leaders were active in implementing market-oriented reforms. The effects are pronounced for political leaders who studied economics, social science, and natural science. Future research should disentangle the effect of political leaders' business experience and economics background on market-oriented reforms.

3.3.5 Public expenditure and fiscal consolidation

Military expenditure in 17 non-US North Atlantic Treaty Organization (NATO) countries was found to be lower under political leaders with business background than under political leaders with no business background: Fuhrmann (2020) arrives at this result and proposes that political leaders with business background are likely to free-ride on others and other nations. I found the argument of Fuhrmann (2020) intriguing. The author's core argument is that reducing military expenditure and free riding on the United States gives rise to increasing expenditure for purposes other than the military. Business politicians are likely to do so because they are familiar with economic theory and understand on how to push through their own material interests. The author uses the annual change of military expenditure as the dependent variable and shows that this dependent variable is stationary. I was convinced by this strategy, even though I would have used the annual change of military expenditure as measured as a share of GDP instead of the absolute amount. Fuhrmann (2020) regresses the annual change of military expenditure on a dummy variable for political leaders' business background defined as: "if they did any one of the following prior entering office: established or owned a company, worked as a firm's chief executive officer, served on a corporate board of directors or worked as a senior manager or an executive" (p. 423). He also controls for "whether a leader is a former economist or worked in the financial sector" (p. 424). The baseline category of professional experience therefore is having no experience in business nor as an economist or in the financial sector. The sample includes 36 political leaders with business experience out of overall 193 heads of governments (18.65%). Unconditional correlations show that the mean of the annual change in military expenditure was 2.36% when the political leaders did not have business experience as compared to 0.19% when the political leaders had business experience. Discussing this difference in means was useful and convincing. When estimating panel data models, controlling for fixed country and fixed year effects and other confounders such as economic growth and government ideology, the results suggest that the annual change in military expenditure was around 1.2 percentage points lower when the political leader had business experience as compared to when the political leader did not have business experience. The author uses two placebo tests. First, he uses non-military expenditure as an alternative dependent variable. The results show that the business background variable was not correlated with non-military expenditure in the 17 non-US NATO countries. Second, the author uses data for European non-NATO member such as Sweden and shows that the business background variable lacks statistical significance - a result in line with the author's theory because the non-NATO countries have no incentive and opportunity to free-ride on the United States.

I was wondering whether inferences would change for a larger sample of countries and maybe a larger time period. The author's sample includes 17 non-US NATO countries and ends in the 2014 - political leaders agreed on the NATO summit in Wales to spend 2 % of their GDP on the military (Two-Percent-Target). I propose to focus on countries that faced the threat of military conflict. Examples are the Baltic countries. Were business politicians in countries with high geopolitical risks more likely to increase military expenditure than non-business politicians?

Social expenditure in OECD countries decreased when business political leaders were in office. Based on a sample of 38 OECD countries over the period 1980-2022, Dorn et al. (2024) show that the annual change in public social expenditure (in % of GDP) decreased by around 0.2 percentage points (around 17 % of a standard deviation) under political leaders with business experience as compared to political leaders without business experience. Business political leaders were around 12 percentage points more likely to bring down the share of social spending in GDP than political leaders without business experience. The authors also find that business leaders of both left-wing and rightwing parties decreased social expenditure. Against the background that social expenditure increased in many OECD countries and demographic change puts quite some pressure on politicians to further increase social expenditure, the results of Dorn et al. (2024) are quite intriguing. Descriptive evidence for Indonesia also suggests that the first head of government with business experience, Joko Widodo, decreased the growth in social expenditure (Warburton, 2024). Future research should provide quantitative evidence, for example by using the synthetic control method, to corroborate the descriptive evidence. Voting more businesspeople to be heads of government may therefore help to cut social spending or at least prevent social expenditure from continuously growing.

Political leaders with business background were more active in consolidating public budgets than political leaders without business background: Nones (2023) uses data for 17 OECD countries over the period 1978-2014. Periods of fiscal consolidation are measured by the data of Alesina et al. (2019). The dependent variable is a dummy variable that assumes the value of one in a year of fiscal consolidation as measured by the narrative approach of Alesina et al. (2019). Following Fuhrmann (2020), the author codes politicians with business experience when the leader "established or owned a company, worked as a firm's chief executive officer, served on a corporate board of directors, or worked as a senior manager or an executive" (p. 504). The baseline estimates show that political leaders with business background were around 27 percentage points more likely to implement fiscal consolidation than political leaders without a business background. Measuring periods of fiscal consolidation is, however, quite controversial. Scholars also use, for example, cyclically adjusted primary balances and inferences may change when another measure for fiscal consolidation periods is used (e.g., Gründler and Potrafke, 2019b).

Business politicians decreased budget deficits (in % of GDP) when the legislature was hardly fragmented and they increased budget deficits (in % of GDP) when the legislature was fragmented: Mikosch (2011) arrives at this result based on data for 25 democratic OECD countries over the period 1975-2010. The sample includes 226 political leaders, 41 among them had business experience. The author proposes that business politicians are successful in reducing budget deficits when the political circumstances resemble the circumstances in a company. Business politicians are compared to politicians with professional experience as lawyer, scientist, worker and unionist and career politicians. I found the author's result plausible and liked the suggestion on how to interpret the result. The estimates report, however, conditional correlations and would need to be corroborated by causal estimates.

Future research should examine in more detail how business politicians influence fiscal policies at the national level. I propose, for example, using the Classification of the Functions of Government (COFOG) database of the OECD to investigate budget composition under business politicians at the national level.

3.3.6 GDP growth

When business politicians are active in complying with their constitutions, attracting FDI, fostering trade integration, promoting market-oriented reforms and consolidating budgets, they are also likely to, in turn, promote economic growth. There is, however, no study yet that examines how political leaders' business background relates to GDP growth at the national level. The study of Shi (2024a) is related to a setting of political leaders' business background and economic growth: the author uses the "richness of experience in private sectors" as an explanatory variable which measures the (sum of) experience in eight categories: agriculture, manufacture, science, finance, law, media, NGO and arts. The dependent variable assumes the value one when a political leader has experience in one of those categories and eight when a political leader in all these eight categories. Shi (2024a) uses data for 135 countries from 1950 to 2010. The author regresses the logarithm of real per capita GDP on the lag of the logarithm of real per capita GDP and explanatory variables that measure political leaders' richness in experience in private (and public). The results show that political leaders' "richness of experience in public sectors" but not the "richness of experience in private sectors" predicts GDP growth. The variable "richness of experience in private sectors" lacks statistical significance both when being included as the only measure of professional experience or in addition to the variable "richness of experience in public sectors". This result does not corroborate the evidence showing that business politicians were active in attracting FDI and promoting market-oriented reforms. To conclude how business politicians influence economic growth at the national level, scholars should run a common growth model that uses politicians' business experience as the main explanatory variable.

3.3.7 Environmental outcomes

Business politicians may well influence environmental outcomes. It is theoretically not quite clear, however, how business politicians are expected to influence environmental outcomes. On the one hand, business politicians may want to promote economic growth and, in turn, accept increasing emissions. The environmental Kuznets curve discusses the extent to which the environmental quality develops in line with economic growth (e.g., Grossman and Krueger, 1995). On the other hand, business politicians are likely to have expertise about environmental issues and climate change and may well be active in environmental protection and reducing CO_2 emissions.

Empirical evidence suggests that CO_2 emissions were higher under political leaders with business experience than political leaders without business experience. Diaz-Serrano and Kallis (2022) employ panel for 27 OECD countries over the period 1992-2017 and regress a country's CO_2 emissions on a dummy variable that assumes the value one when the country's president in presidential democracies or the prime minister in parliamentary democracies had business experience. The baseline model does not include dummy variables for other occupations. The authors self-compile the information about business experience. Their sample includes 19 out of 154 political leaders with business experience (12.3%). Some of the countries in their sample therefore never had a political leader with business experience over the period 1992-2017. There is no within-country variation to be exploited: we cannot observe whether within an individual country a change in political leadership gave rise to a change in CO_2 emissions. In any event, I would have liked to learn about some examples showing how CO_2 emissions or other environmental outcomes (or policies) changed when a new political leader with business experience entered office. There are other empirical issues. The authors' model includes many confounding variables that are likely to be correlated with CO_2 emissions and business experience. The politicians' gender is an example. The results show that female political leaders had much higher CO_2 emissions than male political leaders. Many political leaders with business experience are, however, male. The authors are concerned about multicollinearity issues when both the business experience variable and gender are included in the econometric model. Another issue are outliers. I was wondering whether inferences change when an individual leader or leaders from an individual country are included/excluded. The authors' scatterplots suggest that inferences may well depend on individual leaders or countries. The authors also use the countries' installed renewable capacity as a dependent variable. The results do not suggest that political leaders' business experience was correlated with the countries' installed renewable capacity.

Future research needs to re-examine the extent to which business politicians influenced environmental outcomes. The datasets on characteristics of national political leaders help to use large samples. Encompassing environmental outcomes measuring overall environmental quality are also available for large panel datasets (e.g., Kammerlander and Schulze, 2021).

4 Subnational level

4.1 US states

In the US states, governors with business experience increased the annual growth rate in personal income and the private capital stock by 0.5 and 0.4 percentage points and decreased the unemployment rate by 0.6 percentage points (Neumeier, 2018). These effects are numerically large and established by a rigorous empirical framework. Neumeier (2018) uses a matching approach which compares two governors who are statistically very similar (ideally identical) except that one governor has business experience and the other governor does not have business experience. The sample covers the period 1960-2009 and includes 446 governors, of whom 48 had business experience prior to entering politics. The positive effects of governors with business experience on the growth in personal income and the private capital stock are confirmed by using a Regression Discontinuity Design (RDD). The RDD focuses on governors with business experience and tight vote margins. Clearly, the RDD estimates are based on a smaller sample than the estimates of the matching approach and suggest even numerically larger effects of governors with business experience on the growth rate in personal income and the private capital stock than when using the matching approach. The RDD estimates for the unemployment rate are numerically similar than the estimates based on the matching approach, but lack statistical significance at conventional levels (Table 3). In any event, employing a RDD is certainly an advantage of any study at the sub-national and local level to identify causal effects of business politicians. The studies based on data at the national did not (yet) employ a RDD and have issues in reporting causal effects.

An interesting question is how government ideology influences the effects of business governors on economic performance. Government ideology is related to economic policies and outcomes in the United States (e.g., Potrafke, 2018). Republican governors are likely to implement more market-oriented policies than Democratic governors which, in turn, influences economic performance. What is more, businesspeople are more inclined to run for the Republican than the Democratic party. Neumeier (2018) examines the role of government ideology. The results show that economic performance was better under Republican business governors than Democratic business governors. The growth in income and the private capital stock was somewhat higher under Republican business governors than Democratic business governors. The effects for the unemployment rate and income inequality are pronounced: the unemployment rate (GINI coefficient) was around 0.4 percentage points (0.27 points) lower under Republican business governors than Democratic business governors. I would have been curious to know, however, whether Republican business governors performed better than Republican non-business governors.

Neumeier (2018) elaborates on the channels on how governors with business experience promote economic growth and private investment: they expand economic freedom. Overall economic freedom was higher and especially labor markets were deregulated when governors with business background were in office. This result corroborates the results of Dreher et al. (2009) who show that business politicians at the national level increased economic freedom (see Section 3.3.4).

4.2 Canadian provinces

In the Canadian provinces, social services spending decreased when the share of cabinet members with business experience increased (Table 4).[5] Borwein (2022) employs panel data for the 10 Canadian provinces over the period 1985-2016. The dependent variable is social services spending as a share of GDP. The author compiles information about the occupational background of the cabinet members. She disentangles the share of "occupation-for-profit-other-private-sector" and the "occupation-not-for-profit-working-class" ministers. Profit-oriented professions include businesspeople (around 22%), other private-sector professionals (around 9%), and farm owners (around 8 %). In the baseline model, the author regresses the social spending measure on the shares of cabinet members with "for-profit" and "not-for-profit" occupation. The results show that the share of "for-profit" occupation was negatively correlated with social spending. Increasing the share of ministers with "for-profit" occupation by one percentage point was associated with a decrease of 0.5 percentage points in social expenditure as a share of GDP.

Ministers from center and rightwing parties have more often business experience than ministers from leftwing parties. Borwein (2022) therefore disentangles effects of "for-profit" ministers between the individual types of parties. The results show that

[5] In OECD countries, unemployment, sickness and pension benefits decreased when the share of "liberal professionals" (lawyers, bankers and executives) among the cabinet members increased (Alexiadou, 2022). We do not learn in the study of Alexiadou (2022), however, how unemployment, sickness and pension benefits changed when the share of the "owning class" (self-employed, small business owners and farmers) changed.

"for-profit" ministers from center parties are more active in decreasing social expenditure than "for-profit" from leftwing and rightwing parties. The author proposes that the ideological flexibility of center parties "likely make them more amenable to the occupation-based preferences of ministers" (p. 559).

The results report conditional correlations between business experience of cabinet members and social expenditure in the Canadian provinces. Those conditional correlations are quite in line with the results at the national level (Dreher et al., 2009 and Dorn et al., 2024) and the US states (Neumeier, 2018) who reported a smaller size and scope of government under political leaders with business experience than under political leaders without business experience.

4.3 Russian regions

In the Russian regions, governors with business experience were active in preventing tax cuts for businesses (Table 4) - a likely reason being that the governors wanted to prevent competition between the firms because they had personal ties to the firms (Baccini et al., 2018). In 2002, the corporate profit tax (CPT) rate was reduced from 35 percent to 24 percent in all Russian regions. The national government granted, however, the regional governments the discretion to further decrease the CPT rate by up to another four percentage points. Among the 81 Russian regions, 36 regional governments did not change the CPT rate. 10 regional governments decreased the CPT rate from 24 to 20 percentage points. 34 regional governments reduced the CPT rate to up to 20 percent for specific projects — "government-approved investment projects that aimed at promoting regional economic development" (p. 411). An example of those projects included the reconstruction of agricultural companies in Leningrad Oblast. Baccini et al. (2018) use as their baseline dependent variable a dummy that assumes the value one when a region implemented a CPT rate cut in the year 2003. In 2003, the governors were appointed by the Russian President indicating that reverse causality between CPT rate cuts and the business experience of a governor can be ruled out. The main explanatory variable is a dummy variable and assumes the value one "if a governor owned a company prior to or during his appointment as governor in 2003" (p. 422f.). The baseline sample suggests that 50 percent of the governors had business experience based on this definition. The authors also use the more stringent definition of business experience by Slinko et al. (2005) for robustness tests. The more stringent definition of business experience suggests that only 8 governors (around 9 percent in the sample) had business experience. The inferences of Baccini et al. (2018) do qualitatively not change when using the more stringent definition of governors' business experience.

The baseline model is a spatial autoregressive probit model which considers whether the geographical neighbors of a region implemented tax cuts. The results of the baseline model suggest that the probability of a CPT rate cut was around 20 percentage points lower when a governor had business experience as compared to when a governor did not have business experience. The results also suggest that governors with business experience prevented both project-based and non-project-based CPT rate cuts in a similar manner. Clearly, one would expect governors with business experience to implement market-oriented policies, that is to promote CPT rate cuts. The results of Baccini et al. (2018) suggest the opposite. The authors propose that the governors with business experience had personal ties to the firms in their regions and feared competition that might have given rise to declining profits in the year 2003. A major question is the extent to which inferences would change when using panel data that consider how incoming (business) governors influence the CPT rates.

Russian regions with a large share of MPs with business background had higher public expenditure on economic infrastructure, roads and transports (Table 5). Szakonyi (2021) arrives at these results based on data over the period 2008-2016 and data for 14,508 regional MPs. Business background is measured by having work experience as firm director or individual entrepreneur before taking public office. The author presents conditional correlations indicating meaningful effects of business experience: "For every additional businessperson in office, total spending on economic infrastructure increases by 1% (0.2 percentage points)" (p. 273). Legislatures with many business MPs did, however, also have larger public deficits than legislatures with a small share of business MPs.

5 Local level

5.1 US cities

In US cities, mayors with business experience influenced municipal fiscal policy: they increased expenditure on infrastructure and decreased redistributive spending (Table 6). Kirkland (2021) examines data from 248 US cities in 44 US states over the period 1950-2007. 32 % of the mayoral candidates have business experience. "Owners or corporate officers (CEO, COO, president, vice president, treasurer, etc.) of a business or firm engaged in the sale or provision of goods or services for profit" (p. 1660) are considered as mayors or candidates with business experience. The author employs a RDD and investigates policies of business mayors with tight vote margins. The counterfactual to the policies of business mayors are policies of non-business mayors. The results show, for example, that business mayors increased expenditure on roads by \$61.39 per capita and decreased expenditure on housing and community development by \$27.52 per capita. Kirkland (2021) does not conclude that mayors with business experience influenced public debt and deficits. She also investigates whether the effects are driven by mayors' party ideology. Doing so turns out to be difficult. An empirical issue is that party affiliation is not observed for around 30% of the candidates in the dataset. The author examines how Republican mayors with tight vote margins influenced the fiscal policy outcomes and shows that Republican mayors decreased size of government. I was wondering whether she could have compared, for example, fiscal policy outcomes of Republican business mayors with Republican non-business mayors.

In Californian cities, increasing the number of council members with business background did not give rise to policy changes (Beach and Jones, 2016). The city councils in California usually have five members. Around 31 % of the 14,232 candidates who ran for office over the period 1995-2011 had business experience. Beach and Jones (2016) consider a candidate to have business experience when his occupation encompasses one of those categories: executive (CEO, CFO, COO, executive, president), entrepreneur (business owner, entrepreneur) or investor (investor, venture capitalist). The authors examine dependent variables such as total revenue, total expenditure, total government administration expenditure, and total public goods expenditures (Table 7). The sample of the fiscal variables covers the period 1999-2011. Other dependent variables are the unemployment rate and the candidates' vote shares in the next election. The authors employ a RDD and focus on council elections in which one marginal candidate (who just made it into the council) had business experience and the other candidate had no business experience. Whether a city council thus got an(other) member with business experience was hence quasi random. The results do not suggest that having business experience influences any of the dependent variables. I was wondering about the extent to which the authors could consider whether the current members of the city council had business experience or not. An additional member with business experience may well have different effects depending on whether there are already many members with business experience or all the other council members lack business experience.

5.2 Czech municipalities

In Czech municipalities, very similar to the Californian cities, council members with business experience hardly influenced fiscal policy outcomes: Kuliomina (2021) also employs a RDD to examine how the occupation of the marginally elected councilor influences fiscal policy outcomes (Table 8). The councils of Czech municipalities have between 5 and 70 members depending on population size of the individual municipality. More than 60% of the municipalities are quite small and have less than 10 councilors. The sample includes data over the period 2002-2010. The author employs self-reported data about whether individual councilors are entrepreneurs (13% within the sample). The 20 dependent variables include total expenditure and individual expenditure categories, total revenues and individual types of revenue, deficits and debt. The results hardly suggest any effects on the outcome variables. If anything, business councilors decreased current expenditure on fire fighting.

The author discusses why her results hardly suggest any effect of business councilors on fiscal policy outcomes. First, Kuliomina (2021) measures being an entrepreneur by self-reported data. She describes that the entrepreneurship status might be under reported. It is therefore quite likely that the control group also includes entrepreneurs and the estimates are downward biased. Second, the room to maneuver of a marginally elected councilor on fiscal policy outcomes is just small. The mayor and the vice mayor enjoy a great deal of power at the local level in the Czech Republic. I believe that the lack of power of marginally elected councilors to really influence policies at the local level is an important reason for why Beach and Jones (2016) arrived at very similar results for Californian cities.

5.3 Russian municipalities

In Russian municipalities, business mayors increased economic infrastructure expenditure and decreased public procurements in open auctions. Szakonyi (2021) compiled data for 68,169 mayoral candidates who campaigned in 19,886 mayoral elections over the period 2007-2016. The author measures business experience based on the candidates' full-time occupation on their registration form and considers as business politician when "a candidate worked as firm director, deputy director, a member of a board of directors, or other position of leadership at the time of their campaign" (p. 265). To confirm the measurement as business politician, the author matches the individual candidates with the almost 12 million "individual entrepreneurs" aggregated by the Professional Market and Company Analysis System (SPARK). The business candidates in the sample won 22.5% of the elections they contested.

The dependent variables are total public expenditure and public expenditure on economic infrastructure, health care, education; the ratio between public expenditure and revenue (which the author uses as a measure of the budget deficit) over the period 2007-2016 (Table 9). The results show that mayors with business background increased public expenditure on economic infrastructure by around 6-7% of their budget. There is no evidence that mayors with business background influence total spending, expenditure on health care and education, and the ratio between expenditure and revenue. Szakonyi (2021) concludes based on his results that business politicians do not increase government efficiency because there is no evidence that business politicians decreased the ratio between expenditure and revenue that he considers to be a measure of government efficiency. I do not believe that the results at hand help to arrive at any conclusion regarding government efficiency. Government efficiency may well be measured in a more encompassing manner than by the ratio between revenues and expenditures.

Szakonyi (2021) also examines data on local procurement contracts. The municipalities select contractors within public procurement. A major question is how the contractors are chosen. For example, when competitive auctions take place, the selection procedure is more likely to be transparent and to avoid corruption than when local governments choose contractors without competitive auctions. Szakonyi (2021) examines data for 1,427,288 contracts over the period 2011-2016. As a dependent variable, he uses the share of contracts that used auctions within each mayoral term. The author considers all actions and uses another dependent variable that focuses on construction procurement (which are often prone to corruption). The results do not suggest that mayors with business background influenced the overall selection of contractors. Business mayors were, however, less likely to use auctions when handling contracts in the construction sector than non-business mayors.

5.4 Chinese cities

In Chinese cities, mayors and party secretaries with business background had a smaller size of government than mayors and party secretaries without business experience. Luo (2024) examines data for 223 cities over the period 2001-2010 (Table 9). The author employs a standard panel data model and regresses total revenue and expenditure (as measured as a share of GDP) on a dummy variable that assumes the value one when the mayor and party secretary had business experience. Clearly, "China's local government leaders are appointed by the officials seated on higher up the political ladder, whilst this process is still away from transparent" (p. 21). The data show that 41.7% of the municipal party secretaries and 43.9% of the mayors had business experience. The results suggest that government revenue and expenditure (each measured as a share of GDP) was by around 0.46 and 0.68 percentage points (around 6% and 3.3% of the dependent variable's standard deviation) lower when the mayor had business experience than when the mayor did not have business experience. Cities' expenditure as a share of GDP decreased by around 0.9 percentage points when the municipal party secretary had business experience. Luo (2024) does not present causally identified estimates, but rather conditional correlations between politicians' business background and size of government. The correlations are especially pronounced in cities in which per capita GDP was low and fiscal decentralization was strong.

6 Conclusion

Business politicians influence economic policies and outcomes. They attracted foreign direct investment and were active in signing trade agreements. At the national and subnational level, business politicians promoted market-oriented reforms and consolidated budgets. The empirical evidence also suggests that business politicians influenced budget composition: they prioritized public investment over government consumption. Those policies increased economic growth in, for example, the US states. Business politicians need to enjoy power to really influence policies and economic outcomes. Pronounced effects of businesspeople in politics have been shown when businesspeople were prime ministers, governors or mayors. It did not matter, by contrast, whether a marginally elected member of a city council had business experience or not.

The empirical evidence provides very good reasons to societies to elect more entrepreneurs into public office. Clearly, there may also be costs. Two concerns arise against promoting business politicians. First, business politicians pursue self-interests. They may well lobby for the interests of businesspeople in general and the branch in which they pursued their own business activities. Second, promoting business politicians affects the representativeness of the general population in public office. When societies promote businesspeople in politics and the number of public offices is limited, citizens with other occupations become less represented in public office.

Scholars examine the economic consequences of business politicians both in democratic countries and dictatorships. Having business experience in Russia or other dictatorships is different than having business experience in industrialized democracies. Future research may want to investigate in more detail whether the effects of business politicians on economic policies and outcomes differ depending on countries' political institutions.

Future research should use the data on occupational background of cabinet members of Nyrup et al. (2023) to examine in more detail how the share of ministers with business experience influences economic policies and outcomes. The new studies may also want to consider stronger identification strategies than the previous studies. Promising identification strategies include using unexpected deaths of business politicians or focusing on business politicians with tight vote margins.

Individual business politicians are likely to make a difference — as, for example, individual school leaders do in their school districts (e.g. Branch et al., 2012, 2013). Future research needs to disentangle, however, the effects of business politicians from societies' attitudes towards business-friendly policies and government ideology.

Future research should also compile new data on the share of businesspeople among members of parliament (MPs) – an admittedly very ambitious endeavor. Using this data, scholars should examine how the professional background of MPs influences economic policies and outcomes. A parliament that includes a high fraction of MPs with business background may well pass more business-friendly laws than a parliament with a low fraction of MPs with business background. Scholars may also want to examine the extent to which MPs with business background in the factions of the ruling parties as opposed to the factions of the parties in the opposition matters. Exploiting some exogenous variation that influenced the composition of the MPs' professional background would be promising.

Future research may bring the topics tackled so far at the regional level to the national level (e.g. concerning the role of government ideology). Experimental studies are also suited to examine the role of businesspeople in politics. If voters know that citizens with business experience would implement "better" policies, would they indeed support candidates with business experience in elections? Or would a high material status of candidates with business experience discourage voters?

When societies would like to encourage more businesspeople to run for public office, an important question is which institutions affect the selection of businesspeople into politics (e.g. Braendle, 2016). Those factors include disclosure rules for income and assets, the salaries of politicians and regulation of outside earnings. Income and asset disclosures increase transparency and reduce lobbying and the potential of corruption. Empirical evidence suggests, however, that income and asset disclosures reduce the attractiveness of public office (e.g. Rosenson, 2006, Gehlbach et al., 2010, Van Aaken and Voigt, 2011, Szakonyi, 2023). Higher salaries and opportunities for outside earnings might help to attract more businesspeople for public office. Future research needs to examine the extent to which higher salaries and opportunities for outside earnings are useful to attract businesspeople for public office.

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Table 1 THE EFFECTS OF POLITICAL LEADERS (PRESIDENTS AND PRIME MINISTERS) WITH BUSINESS BACKGROUND - NATIONAL LEVEL

Study	**Dependent variable**	**Business background measure**	**Counterfactual**	**Main expl. variable**	**Sample**	**Result**
Dorn et al. (2024)	social expenditure (in % of GDP) (changes)	Professional experience in the private sector	No professional experience in the private sector	Yes	1980-2022 38 countries	-
Nones (2024)	Number of trade agreements signed	Professional experience in the private sector	No professional experience in the private sector	Yes	1948-2009 185 countries	+
Nones (2024)	At least one trade agreement signed (dummy variable)	Professional experience in the private sector	No professional experience in the private sector	Yes	1948-2009 185 countries	+
Nones (2024)	Depth of trade agreements (continuous measure)	Professional experience in the private sector	No professional experience in the private sector	Yes	1948-2009 185 countries	+
Nones (2024)	Depth of trade agreements (additive index)	Professional experience in the private sector	No professional experience in the private sector	Yes	1948-2009 185 countries	+
Shi (2024a)	log of pc real GDP (including lags of y)	Richness of experience in the private sector	No ichness of experience, in the private sector, Richness of experience in the public sector, rest	No	1950-2010 135 countries	0
Gutmann et al. (2023)	Constitutional compliance	Professional experience in the private sector	Professional experience in academia, judiciary, military, and rest	No	1950-2010 943 leaders	+/0
Nones (2023)	Fiscal consolidation (dummy variable)	Professional experience in the private sector	No professional experience in the private sector	Yes	1978-2014 17 countries	+
Nones (2023)	Expenditure-based fiscal consolidation (dummy variable)	Professional experience in the private sector	No professional experience in the private sector	Yes	1978-2014 17 countries	+
Diaz-Serrano and Kallis (2022)	CO2 emissions (p.c., tonnes, logs)	Professional experience in business	No professional experience in business	Yes	1992-2017 27 countries	+
Diaz-Serrano and Kallis (2022)	Installed renewable capacity (p.c., kw, logs)	Professional experience in business	No professional experience in business	Yes	1992-2017 27 countries	0

Table 2 THE EFFECTS OF POLITICAL LEADERS (PRESIDENTS AND PRIME MINISTERS) WITH BUSINESS BACKGROUND - NATIONAL LEVEL

Study	**Dependent variable**	**Business background measure**	**Counterfactual**	**Main expl. variable**	**Sample**	**Result**
François et al. (2020)	FDI (in % of GDP)	Professional experience in the private sector	No professional experience in the private sector, political experience, and rest	Yes	1973-2008 207 leaders 100 countries	+
Fuhrmann (2020)	Defence expenditure (NATO) annual change	Professional experience in the private sector	Economics and finance experience, and rest	Yes	1952-2014 193 leaders 17 countries	-
Fuhrmann (2020)	non-Defence expenditure (NATO) annual change	Professional experience in the private sector	Economics and finance experience, and rest	Yes	1952-2014 193 leaders 17 countries	0
Fuhrmann (2020)	Defence expenditure (non-NATO) annual change	Professional experience in the private sector	Economics and finance experience, and rest	Yes	1952-2014 193 leaders 17 countries	0
Mikosch (2011)	Public deficit (in % of GDP)	Entrepreneur	Professional experience as lawyer, scientist, worker and unionist, career politician, and rest	Yes	1975-2010 226 leaders 25 countries	0
Dreher et al. (2009)	Economic Freedom Index annual change	Entrepreneur	Professional experience as union executive, scientist, economist, other scientist, soldier (military), politician, and rest	Yes	1970-2002 513 leaders 64 countries	+

Table 3 THE EFFECTS OF POLITICAL LEADERS WITH BUSINESS BACKGROUND - US STATE LEVEL

Study	Dependent variable	Business background measure	Main expl. variable	Policitian	Period	Identfication	Result
Neumeier (2018)	Personal income growth (real, p.c.)	Business experience	Yes	Governor	1960-2009	Matching	+
Neumeier (2018)	Capital stock growth (private, p. c.)	Business experience	Yes	Governor	1960-2007	Matching	+
Neumeier (2018)	Unemployment rate	Business experience	Yes	Governor	1977-2009	Matching	-
Neumeier (2018)	Income inequality (GINI coefficient)	Business experience	Yes	Governor	1960-2009	Matching	0
Neumeier (2018)	Personal income growth (real, p.c.)	Business experience	Yes	Governor	1960-2009	RDD	+
Neumeier (2018)	Capital stock growth (private, p. c.)	Business experience	Yes	Governor	1960-2007	RDD	+
Neumeier (2018)	Unemployment rate	Business experience	Yes	Governor	1977-2009	RDD	0
Neumeier (2018)	Income inequality (GINI coefficient)	Business experience	Yes	Governor	1960-2009	RDD	0
Neumeier (2018)	Economic Freedom Index overall, annual change	Business experience	Yes	Governor	1981-2009	Matching	+
Neumeier (2018)	Economic Freedom Index size of government annual change	Business experience	Yes	Governor	1981-2009	Matching	0
Neumeier (2018)	Economic Freedom Index taking and taxation annual change	Business experience	Yes	Governor	1981-2009	Matching	0
Neumeier (2018)	Economic Freedom Index labor market regulation annual change	Business experience	Yes	Governor	1981-2009	Matching	0

Table 4 THE EFFECTS OF POLITICAL LEADERS WITH BUSINESS BACKGROUND - SUBNATIONAL LEVEL

Study	**Dependent variable**	**Business background measure**	**Main expl. variable**	**Country**	**Politician type**	**Period**	**Identfication**	**Result**
Borwein (2022)	Social services spending (% of provincial GDP)	Business experience (% of ministers)	Yes	Canadian provinces	Ministers	1986-2015 (10 provinces)	OLS	-
Baccini et al. (2018)	tax cuts (dummy variable)	Business experience	Yes	Russian regions	Governor	2003	Spatial lag model	-
Baccini et al. (2018)	tax cuts project specific (dummy variable)	Business experience	Yes	Russian regions	Governor	2003	Spatial lag model model	-
Baccini et al. (2018)	tax cuts non-project specific (dummy variable)	Business experience	Yes	Russian regions	Governor	2003	Spatial lag model model	-

Table 5 THE EFFECTS OF MPS WITH BUSINESS BACKGROUND - RUSSIAN REGIONS

Study	**Dependent variable**	**Business background measure**	**Main expl. variable**	**Period**	**Identfication**	**Result**
Szakonyi (2021)	Total expenditure (thousands of rubels, log)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Economic infrastructure expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	+
Szakonyi (2021)	Education expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Health expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Housing expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Health expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	All social policy expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Agriculture expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Fuel and utilities expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Transport and road expenditure (% of revenues)	Business experience	Yes	2008-2016	None, OLS	+
Szakonyi (2021)	Corporate propterty tax revenue (% of revenues)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Private investment (thousands of rubels, log)	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Government investment (thousands of rubels, log)	Business experience	Yes	2008-2016	None, OLS	+
Szakonyi (2021)	Unemployment rate	Business experience	Yes	2008-2016	None, OLS	0
Szakonyi (2021)	Government bond issuances (change)	Business experience	Yes	2008-2016	None, OLS	+

Notes: The counterfactual is

Table 6 THE EFFECTS OF POLITICAL LEADERS WITH BUSINESS BACKGROUND - LOCAL LEVEL UNITED STATES

Study	Dependent variable	Business background measure	Main expl. variable	Policitian type	Period	Identfication	Result
Kirkland (2021)	Total revenues (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Own-source revenues (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	+
Kirkland (2021)	Total tax revenues (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Property tax revenues (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Charges & Misc revenues (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Total debt (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	+/0
Kirkland (2021)	Total debt issued (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Short-term debt (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Total expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Total basic services expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Administration expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Sanitation expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Fire protection expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Police expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Total infrastructure & Amenities expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	+
Kirkland (2021)	Roads expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	+
Kirkland (2021)	Libaries expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Parks expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Total redistributive programs expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	-
Kirkland (2021)	Welfare expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0
Kirkland (2021)	Housing & community development expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	-
Kirkland (2021)	Health expenditures (real USD, p.c.)	Business experience	Yes	Mayor	1950-2007 248 cities	RDD	0

Table 7 THE EFFECTS OF POLITICAL LEADERS WITH BUSINESS BACKGROUND - LOCAL LEVEL UNITED STATES

Study	**Dependent variable**	**Business background measure**	**Main expl. variable**	**Policitian type**	**Period**	**Identfication**	**Result**
Beach and Jones (2016)	Total revenues (real USD, p.c., logs)	Business experience	Yes	Councilor	1999-2011	RDD	0
Beach and Jones (2016)	Total expenditure (real USD, p.c., logs)	Business experience	Yes	Councilor	1999-2011	RDD	0
Beach and Jones (2016)	Total government administration expenditure (real USD, p.c., logs)	Business experience	Yes	Councilor	1999-2011	RDD	0
Beach and Jones (2016)	Total public good expenditure (real USD, p.c., logs)	Business experience	Yes	Councilor	1999-2011	RDD	0
Beach and Jones (2016)	Revenues > expenditure (dummy)	Business experience	Yes	Councilor	1999-2011	RDD	0
Beach and Jones (2016)	Debt ratio (Total liabs/Total assets)	Business experience	Yes	Councilor	1999-2011	RDD	0
Beach and Jones (2016)	Quick ratio (Cash+Inv/Current liabs.)	Business experience	Yes	Councilor	1999-2011	RDD	0
Beach and Jones (2016)	Unemployment rate	Business experience	Yes	Councilor	1999-2011	RDD	0
Beach and Jones (2016)	Vote share in the next election	Business experience	Yes	Councilor	1999-2011	RDD	0

Table 8 THE EFFECTS OF POLITICAL LEADERS WITH BUSINESS BACKGROUND - LOCAL LEVEL CZECH REPUBLIC

Study	Dependent variable	Business background measure	Main expl. variable	Policitian type	Period	Identfication	Result
Kuliomina (2021)	Total revenues (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Tax revenues (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0/-
Kuliomina (2021)	Tax revenues: property tax (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0/+
Kuliomina (2021)	Tax revenues: local fees (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Non-tax revenues (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Capital revenues (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Subsidies received (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Total expenditure (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Current expenditure (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Current expenditure on fire fighting (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	-
Kuliomina (2021)	Capital expenditure (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Has annual deficit (dummy variable)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Total deficit (real p.c.)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Has debt (dummy variable)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0
Kuliomina (2021)	Total debt (real p.c., logs)	Entreprenuer	Yes	Councilor	2002-2010	RDD	0

Table 9 THE EFFECTS OF POLITICAL LEADERS WITH BUSINESS BACKGROUND - LOCAL LEVEL CHINA AND RUSSIA

Study	**Dependent variable**	**Business background measure**	**Main expl. variable**	**Policitian type**	**Period**	**Identfication**	**Result**
Luo (2024)	Total revenue (% of GDP)	Business experience	Yes	Mayor	2001-2010 223 cities	None, OLS	-
Luo (2024)	Total expenditure (% of GDP)	Business experience	Yes	Mayor	2001-2010 223 cities	None, OLS	-
Luo (2024)	Total revenue (% of GDP)	Business experience	Yes	Party secretary	2001-2010 223 cities	None, OLS	-
Luo (2024)	Total expenditure (% of GDP)	Business experience	Yes	Party secretary	2001-2010 223 cities	None, OLS	-
Szakonyi (2021)	Total expenditure (thousands of rubels, logs)	Business experience	Yes	Mayor	2007-2016	RDD	0
Szakonyi (2021)	Economic infrastructure expenditure (% of expenditure)	Business experience	Yes	Mayor	2007-2016	RDD	+
Szakonyi (2021)	Education expenditure (% of expenditure)	Business experience	Yes	Mayor	2007-2016	RDD	0
Szakonyi (2021)	Health expenditure (% of expenditure)	Business experience	Yes	Mayor	2007-2016	RDD	0
Szakonyi (2021)	Total expenditure (% of revenue)	Business experience	Yes	Mayor	2007-2016	RDD	0
Szakonyi (2021)	Competitive procurement (all purchases, mill rubels)	Business experience	Yes	Mayor	2011-2016	RDD	0
Szakonyi (2021)	Competitive procurement (construction purchases, mill rubels)	Business experience	Yes	Mayor	2011-2016	RDD	-