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Are Global Value Chains for Sale?

On Business-State Relations in the MENA Region

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Abstract

We use new data on political connections from the World Bank Enterprise Surveys to examine the impact of connections on firms' participation in global value chains (GVCs) for six MENA countries (Morocco, Tunisia, Egypt, the West Bank and Gaza, Jordan, and Lebanon). In addition to political connections, we construct several measures of "political influence" based on available data on lobbying and grand corruption. We also explore whether political connections help firms overcome barriers to trade and investment and increase their participation in GVCs at the extensive and intensive margins. Our findings suggest that political connections do matter for firms' GVC participation. The impact is more pronounced for firms that combine political connections with informal payments to influence policymaking. Our findings on the significance of trade and investment barriers for GVC participation for different categories of firms' political influence are – however – inconclusive.

J.E.L. classification: F10, F14, P00.

Keywords: GVCs, political connections, bribes, MENA region.

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Abbreviations

EU	European Union
FDI	foreign direct investment
GVC	global value chain
IV	instrumental variable
MENA	Middle East and North Africa
NTM	non-tariff measure
OLS	Ordinary Least Squares
PPML	Poisson Pseudo Maximum Likelihood
PSM	Propensity Scores Matching
ROA	return-on-assets
ROE	return-on-equity
SOE	state-owned enterprise
SPS	sanitary and phytosanitary
TBT	technical barriers to trade
US	United States
USD	United States dollar
WBES	World Bank Enterprise Survey

1 Introduction

Over the past three decades, most Middle East and North African (MENA) countries have carried out reforms to foster economic growth and integrate themselves into the global economy. These reforms focused on lifting-off the state's heavy grip on most economic activities in some countries and opening up the domestic markets to international trade and investments. In tandem with these reforms, the region witnessed a proliferation of business-state relations, often referred to as "crony capitalism" (Eibl & Malik, 2016; Diwan et al., 2020). Key businesspersons were increasingly connected to the heads of state through family or friendship relations and were appointed to top positions in ruling parties, parliaments, and cabinets. Policies were largely shaped to suit the interests of connected businesses, which enjoyed exclusive privileges and substantial protection by the state.

Against this backdrop, a burgeoning body of literature focuses on the influence of politically connected firms on trade policy, suggesting that substantial liberalisation efforts carried out by the MENA governments since the 1990s were accompanied by a remarkable proliferation of non-tariff measures (NTMs) and the imposition of complex barriers to entry and operation specifically tailored to protect these politically connected domestic firms (Diwan et al., 2020; Eibl & Malik, 2016). Moreover, politically connected firms enjoyed specific privileges that enabled them to perform better than non-connected ones (Abdel-Latif & Aly, 2019; Diwan & Schiffbauer, 2018).

In this Discussion Paper, we extend the analysis of firms' political connections to investigate their participation in global value chains (GVCs). Motivated by the increasing contribution of GVCs to global trade and investment, we investigate whether political connections influence firms' participation in GVCs. To answer that question, we use newly released data on political connections at the firm level, available in the World Bank Enterprise Surveys (WBES) for six MENA countries: Morocco, Tunisia, Egypt, the West Bank and Gaza, Jordan, and Lebanon.

Our contribution to the literature is multifold: First, we establish a link between different strands of literature: the first strand is the well-established "protection-for-sale" literature based on the seminal work of Grossman and Helpman (1994), according to which organised sectors "buy" specific trade policies by paying "political contributions" to the government. We contribute to the "protection-for-sale" literature by exploring the nexus between the effectiveness of collective lobbying efforts in organised sectors and individual firms' participation in GVCs. The second strand of literature focuses on the performance of politically connected firms. Based on the seminal work of Faccio (2007), politically connected firms are entities with a top manager/owner/CEO/board member who has been appointed to a political position or who enjoys close ties to a present or previous politician. Overall, politically connected firms enjoy a number of exemptions and protective measures in exchange for their political support to the incumbent government. These privileges allow them to outperform non-connected firms in their respective sectors. In this regard, we bridge this literature with that on heterogeneous firms in international trade (Melitz, 2003) by exploring how political connections help firms overcome different trade and investment barriers and facilitate their participation in GVCs.

We also contribute to the growing literature on political connections in the region. While previous research focused on different indicators of firms' performance (such as productivity and profits), access to resources (such as credit), macroeconomic effects (such as growth and employment), or firms' influence on trade policy (such as the rise in NTMs), this study is – to our knowledge – the first to focus on politically connected firms in the context of GVCs. Our choice of countries is not only motivated by the availability of survey data, but also by the adverse political and economic impact of business-state relations on these economies. Power groups have changed in some MENA countries, yet business-state relations and political connections still matter for doing business.

Finally, we extend the analysis by including data on side-payments made by politically connected and non-politically connected firms to influence policies, votes, or decrees. We also explore whether there is a possible substitutability or complementarity between political connections at the firm level and these forms of corruption.[1] In other words, we test whether political connections are enough, or whether politically connected firms consider it important to pay bribes to influence policies that enable them to participate in GVCs or increase their GVC participation.

The remainder of the paper is organised as follows. In Section 2, we review the main literature that we use in our analytical framework: the Grossman-Helpman (1994) "protection-for-sale" model, the literature on political connections and firm performance (with a focus on the MENA region), and the determinants of GVC participation. In Section 3, we present the data, explain the different measures of firms' participation in GVCs, and provide some stylised facts about the different indicators of "political influence", including collective lobbying in organised sectors, political connections at the firm level, and side-payments made by firms in the MENA region. Section 4 presents our methodology, followed by a discussion of the main findings in Section 5. Finally, Section 6 summarises our main conclusions plus the key policy implications of our findings.

2 Literature review

In this section, we focus on three strands of the literature that relate to our empirical exercise. The first strand deals with the political economy of trade policy and draws on the "protection-for-sale" model. The second body of research analyses the performance of politically connected firms. The third group of studies looks at firm heterogeneity in international trade and determinants of firms' participation in GVCs.

2.1 The "protection-for-sale" model: theory, extensions, and empirical investigations

The "protection-for-sale" model by Grossman and Helpman (1994) is one of the leading approaches in the analysis of the political economy of trade policy. It is the first to provide a theory with a structural framework and testable predictions about the determinants of trade policy from a political economy perspective. The Grossman-Helpman model emphasises the role of organised economic sectors in influencing trade policy by their donations and campaign support. More specifically, special-interest groups in organised sectors make "political contributions" to the incumbent government in exchange for a specific choice of trade policy that may vary between free trade and protectionism.[2] To make the final decision on trade policy, the

1 Across the paper, we refer to corruption as the general concept that can be manifested by payments and briberies (greasing the wheel of the economy) (see Boland, 2020, and Alonso et al., 2022).

2 Note that there are two main theoretical frameworks that can be used to explain the impact of lobbying on trade policy outcome. The first is the theory of political competition, where competing parties announce trade policies they intend to implement if elected. Industrial lobbies would then support the party that promises them the highest level of welfare, thus swaying voters using their resources (Magee et al., 1989; Hillman & Ursprung, 1988). The second theory is that of the political support function which provides an umbrella for the protection-for-sale model. Welfare gains from specific policies are captured by interest groups and deadweight losses from these policies are borne by the society (Stigler, 1971; Hillman 1982). This approach serves best to explain the choice of trade policy

government must trade off potential losses in consumers' welfare (and a possible loss of their political support resulting from the implementation of distortive and costly trade policies) against its own welfare gains from contributions and other forms of political support coming from the various different interest groups.

The Grossman-Helpman model assumes a multi-sector, small, and perfectly competitive economy with one perfectly mobile factor and a number of industry-specific factors. Some of the owners of these specific factors are organised in industry lobbies that create pressure on the government to protect them from external competition, while other owners remain unorganised. Policy tools are restricted to tariffs and subsidies, which create a wedge between domestic and the world market prices of the different goods. In a first step, lobbies present a "schedule of contributions" including multiple vectors of trade policy choice (tariffs, subsidies) affecting *all sectors* of the economy, and their corresponding level of contributions.[3] The government maximises its welfare by choosing *one trade policy vector* (including a specific level of protection for each sector), according to which it will collect the corresponding contributions from the different interest groups. Thus, the choice of cross-sectoral trade policies is jointly/endogenously determined together with the cross-industry lobby contributions in the same model.

The government's final choice trade policy is determined by a number of structural parameters. The first parameter is the fraction of the population organised into lobbies. The higher the concentration of these lobbies (that is, the smaller the fraction of the population), the higher the protection. The second is the imports penetration ratio measured by the domestic output relative to imports. Sectors with low import penetration will receive higher protection because of their relatively smaller distortive effect. The third parameter is the price-elasticity of imports. Sectors with high import elasticity will have a trade policy choice closer to free trade to minimise loss in consumer surplus. The final parameter that influences the government's trade policy choice is the weight it places on aggregate welfare relative to political contributions, that is, the "trade-off" rate between potential losses in consumer welfare and gains in contributions. The larger this weight, the closer the trade policy choice to free trade.

The predictions of the Grossman-Helpman model received empirical support and the model was extended to accommodate different assumptions regarding market structure, trade policy tools, and markets. The model was extensively tested with US campaign contributions data and mostly using non-tariff barrier data (Goldberg & Maggi, 1999; Gawande & Bandyopadhyay, 2000; Gawande et al., 2006; Bombardini, 2008; Facchini et al., 2006; Bombardini & Trebbi, 2012; Kee et al., 2007; Tovar, 2011). While the United States is not a small economy, the predictions of the model were largely validated. Another group of studies tested the model's predictions on small economies while accounting for different levels of institutional quality (Mitra et al., 2002; McCalman, 2004; Branstetter & Feenstra, 2002; Gawande et al., 2012; Hagemejer & Michalek, 2008). Overall, developing countries with weaker tax systems were found to place more weight on tariff revenue, while more developed countries assigned a larger weight to producer welfare. At the same time, fewer countries assigned a larger weight to consumer welfare (Gawande et al., 2012). Mitra et al. (2002) found that in Turkey, the relative weight of social welfare is higher under democracy than under dictatorship. The model was also validated using artificial data with random levels of political organisation (Imai et al., 2009).

by governments already in place. We also find the second approach more suitable for the explanation of the trade policy choice by incumbent governments in the MENA region which generally face little or no competition and which have developed tight relationships with key domestic businesses to guarantee political stability.

3 The contribution schedules are designed in a Nash-equilibrium setting where each lobby maximises its aggregate utility, given the schedules of the other lobbies (Gawande & Krishna, 2003). Also, the model assumes that lobbies know the government's objective function, which it will use to maximise its welfare (Gawande & Bandyopadhyay, 2000).

The Grossman-Helpman framework was also extended to include intermediate goods in order to account for competition between upstream and downstream sector lobbies for protection versus free trade. The intensity of lobbying in the upstream sector was found to be largely determined by its share in downstream activities and by the concentration of downstream activities that use this input. The higher both shares, the stronger the upstream sectors will lobby to secure protection (Gawande & Bandyopadhyay (2000) using US data; and Gawande et al. (2012) using cross-sectoral data for 40 countries).

In terms of trade barriers, some studies used non-tariff measures (NTMs) as an alternative measure of protection that – contrary to tariffs – results in only partial rent capturing by the government (instead of full rent capturing from tariff revenue). For example, Facchini et al. (2006) suggest that the United States' government only captured 72 to 75 per cent of total trade policy rents resulting from NTMs. Similarly, Bown and Tovar (2011) found that tariff concessions in India were compensated by an increase in antidumping and safeguard measures.

The model was also tested on markets under monopolistic competition. While the political parameters were found to have the same effect on the level of protection, micro-economic parameters have different effects, depending on the nature of the industry and regardless of the presence of organised groups (Chang, 2005). Protection is also likely to increase in sectors where domestic and imported products are highly substitutable (Facchini et al., 2010). Firm size was also found to matter for lobbying. Within sector lobbies, large firms make the higher contributions because they gain more from protection (Bombardini, 2008). The mode of lobbying (collective versus independent) also depends on the market structure. Under oligopolistic competition, differentiated products are more likely to benefit from independent (firm-level) lobbying (Bombardini & Trebbi, 2012).

Another strand of the literature extends the protection-for-sale framework to include the decision on joining free trade agreements. Overall, potentially trade diverting preferential agreements were found to be politically motivated or supported by specific sector lobbies if they generated rents (Krishna, 1998; Cadot et al. 2003; Duttagupta & Panagariya, 2007).

Finally, "foreign lobbying" was incorporated as an additional determinant of trade policy. Overall, pressure and contributions from foreign exporter lobbies are associated with a drop in trade barriers (Gawande et al. (2006) using US data; Kee et al. (2007) using data for North and South American countries). On another note, Grether et al. (1999) found that, under the pressure from multinationals in Mexico, import-competing sectors with a heavy presence of foreign direct investment (FDI) benefitted from high levels of protection.

The review of the Grossman-Helpman model and its extensions allows us to conclude that – under different assumptions – lobbying influences trade policy. We extend this conclusion by assuming that, in the context of GVCs, organised sectors are likely to use political pressure and contributions to influence trade policy in a way that increases their participation in the global economy through value chains. Thus, our first proposition is the following:

P1: Firms in organised sectors (lobbies) are more likely to influence trade policy in a way that increases their members' participation in the global economy through value chains, compared to firms in unorganised sectors.

Before empirically testing the proposition, we review the literature on political connections and firm performance along with major determinants of firms' GVC participation. We combine both strands of the literature to make an additional proposition for the purposes of empirical validation in Section 4.

2.2 Political connections and barriers to entry, operation, and trade: empirical evidence

There is no standard definition for political connections at the firm level. In the strictest sense, a politically connected firm is one where the CEO is a member of the ruling party, a government official, or a member of parliament (Faccio, 2007; Francis & Kubinec, 2022). In a slightly broader sense, a firm is politically connected if a CEO or a member of the Board of Directors is a politician (Goldman et al., 2013). In the broadest sense, a firm is politically connected[4] if the CEO or a board member has close ties to a politician (family or friendship) (Fisman, 2001; Rijkers et al., 2017b).

The impact of political connections on firm-level performance is well-studied for developed and developing countries. For the purpose of consistency with our country sample, we focus on the literature on political connections in non-democratic regimes. In incontestable regimes, the ruling party will invest in sharing rents with a number of firms to maintain political stability (Ghandi & Przeworski, 2006). For their part, firms are willing to invest in political stability to maintain their access to special rights and privileges that generate rents. These privileges include preferential access to credit, licenses, subsidies, land acquisition, public procurement contracts, and exemptions from burdensome policy interventions, such as taxes and costly regulations (Faccio et al., 2006; Faccio, 2007; Khwaja & Mian, 2005; Choi & Thum, 2009; Boubakri et al., 2008, 2012; Diwan et al., 2020; Rijkers et al., 2017a; Harymawan, 2018; Francis et al., 2018; Alonso et al., 2022). A politically connected firm is therefore more likely to fully capture its profit from privileges and exemptions in exchange for its political support. Meanwhile, a non-connected firm will have to pay part of this profit in the form of bribes, gifts, and other types of rents extracted by the regime.

Politically connected firms should presumably perform better than unconnected firms. Nevertheless, the literature remains inconclusive in this matter. On the one hand, the exclusive privileges and exemptions granted to these firms should translate into increased productivity and better performance. On the other hand, political connections may come at a cost. Connected firms may be instructed to hire excessively to support the regime or may bear additional costs related to the organisation of campaigns or the mobilisation of its employees to vote for the ruling party. In this context, the empirical findings are mixed. In Faccio (2007), findings from a group of 47 countries suggest that corporate stock values were positively correlated with the appointment of a firm's manager to a political positon. In Brazil, politically connected firms had higher stock returns around the time of the 1998 and 2022 elections (Claessens et al., 2008). In Egypt, Chekir and Diwan (2013) suggested that political connections explain nearly 30 per cent of the corporate value. However, connected firms were less productive with declining returns-on-assets (ROA) and no significantly different returns-on-equity (ROE) compared to non-connected firms. More specifically, firms' political connections to a top officer was found to increase the firm's market value, while previous government ownership increases market value and profitability (Eissa & Eliwa, 2021). In Jordan, Alqudah et al. (2019) suggested that banks with politically connected board members have a lower return-on-assets due to the absence of relevant expertise among these members. Bussolo et al. (2022) found that politically connected firms in Central and Eastern Europe were less productive than non-connected firms, yet enjoyed privileged access to credit. Similar conclusions were suggested by Kim and Todo (2019) for Vietnamese firms operating in the textile and apparel

4 It is worth mentioning that state-owned enterprises (SOEs) are often considered politically connected firms (see Kim and Todo (2019)'s work on Vietnamese firms and Lin et al. (2020)'s review of Chinese state-owned firms). However, the definition of political connections we use in this paper refers to the strictest measure where the firm is politically connected if its top-level manager or owner has ever been appointed to a political position.

clusters. In Egypt, politically connected firms enjoyed privileged access to loans because these were less likely to fail, thanks to their connections or because private banks were themselves run by politically connected individuals (Diwan & Schiffbauer, 2018).

At the sector level, Diwan et al. (2020) have established an empirical link between political connections and a slowdown in sector's productivity and employment in Egypt. Likewise, Francis et al. (2018) showed that politically connected firms are less likely to hire and innovate than non-connected firms. Connected firms largely rely on rent-generating privileges instead of innovation to outrival their competitors. Similarly, connected firms in Lebanon are more labour intensive and pay higher wages than their non-connected counterparts (Diwan & Haidar, 2021). These firms tend to increase employment just before an election as a means of support to the government, but their overall impact on sector net employment is negative as the sharp competition discourages their competitors from innovating, investing, and hiring. By contrast, Abdel-Latif and Aly (2019) found that politically connected firms were the "gazelles" of the private sector: they created more jobs than unconnected firms before the Egyptian uprising.

Privileges and exemptions enjoyed by politically connected firms do not only arise from barriers to entry and operation in domestic markets, but also from trade-related barriers and regulations. It is worth noting that these trade barriers are less likely to reflect the outcome of *sector* lobbying in the sense of Grossman-Helpman (1994), but rather that of political pressure at the *firm* level. Trade regulations and trade barriers, such as NTMs, can be (mis)used to give politically connected firms a cost advantage over their non-connected competitors. Many NTMs, such as license requirements, quality controls, and rules of origin, can be implemented in a selective way to generate rents for connected firms, and raise the cost for non-connected firms that lack the information and capacity to meet these requirements. Thus, protective trade policy shifts from sector-level tariffs that affect all firms in a uniform way to alternative measures that can be tailored to leverage a small set of connected firms. In the MENA region, NTMs were heavily used to leverage politically connected firms and provide them with alternative means of protection following episodes of liberalisation. For example, Diwan et al. (2020) suggested that NTMs increased in tandem with the gradual elimination of tariffs, making Egypt one of the countries with the highest NTM frequencies in the world. Similarly, Eibl and Malik (2016) found that sectors predominated by connected businesspersons witnessed a higher incidence (that is, product coverage) and a higher intensity of NTMs (that is, number of NTMs by product) after the entry into force of the Egypt-European Union (EU) Association Agreement in 2004. Moreover, about 75 per cent of the sectors that witnessed a tariff reduction in 2004 witnessed an increase in NTMs by 2005. Similarly, Ruckteschler et al. (2022) found that in Morocco, politically connected sectors were compensated with a rise in technical barriers to trade (TBT) that mostly depended on administrative oversight and could be politically influenced. Sectors with a heavy presence of connected firms benefitted from NTMs that were 9 to 11 percentage points higher than non-connected sectors. These results were mainly driven by "non-royal" cronies, that is, connected firms that were not owned by the royal family. In Tunisia, the entry into force of the Association Agreement with the EU was coupled with a rise in TBT in sectors where firms connected to the Ben Ali family were operating (Kruse et al., 2021). Rijkers et al. (2017a) also reported that politically connected firms were able to evade tariffs worth USD 1.2 million during Ben Ali's rule by underreporting imports, while Rijkers et al. (2017b) demonstrated that entry barriers and FDI restrictions were particularly high in sectors where politically connected firms were heavily present.

2.3 Firm heterogeneity and determinants of GVC participation

The literature on the determinants of firms' participation in GVCs is abundant. Generally, Urata and Baek (2020) and Fernandes et al. (2022) find that factor endowments, geography, quality of institutions, trade policies, foreign direct investment, and industrial policies matter for GVC

participation. More specifically, among the macroeconomic policies, Banerjee and Zeman (2022) show that the real exchange rate exerts a positive effect on both the domestic value added in gross exports ratio and forward linkages. At the institutional level, Dollar et al. (2016) argue that the rule of law and political stability affect the involvement in GVCs. This result has also been verified by Ge et al. (2020) for the "One Belt and One Road" initiative proposed by China that aims at increasing regional integration and GVC participation. In the same vein, Alhassan et al. (2021) find that institutions measured by property rights, government spending, monetary freedom, and tax burden matter for GVC integration in African countries. In India, Aggarwal et al. (2021) show that GVC is positively affected by both domestic capital and foreign direct investment as well as by labour skill intensity.

Firm-level evidence shows that GVC participation is affected by the aforementioned macro-economic variables. Moreover, trade policy, investment climate, and firms' characteristics can also exert an impact on firms' integration in GVCs. First, the investment climate affects GVC participation. For instance, in Zimbabwe, credit financing is an important determinant in fostering GVC participation (Masunda & Mupaso, 2019). Similarly, Dovis and Zaki (2020) found that the number of days that are required to pay taxes; the number of procedures that are necessary to register property; and the time to export and to import have a significantly negative association with the likelihood of a firm's integration into a GVC in emerging economies. In the same line, Dollar et al. (2016) show that the quality of local institutions affects firms' integration in GVCs in China.

At the trade policy-level, Cieślik et al. (2019) show that EU membership may facilitate participation in GVCs, especially for smaller firms in Central and Eastern Europe. Moreover, several studies show that tariffs are a key variable that affects GVC participation (Cheng et al., 2015; Wang et al., 2019; and Eugster et al., 2022, among others). Yet, only a handful of these studies examine the impact of non-tariff measures on GVC participation (Yang & Otsuki, 2020; Korwatanasakul & Baek, 2021; Kim, 2021; Ghodsi & Stehrer, 2022). For instance, Kim (2021) examines the impact of NTMs on backward and forward participation in GVCs using a Poisson Pseudo Maximum Likelihood (PPML) estimation and finds that the disharmony of NTMs reduce backward participation in GVCs. In the same vein, Ghodsi and Stehrer (2022) argue that NTMs can have both trade-enhancing and trade-hindering effects. Lastly, in China, Yang and Otsuki (2020)'s findings suggest that NTMs applied against and imposed by China could significantly reduce firms' linkages with foreign countries, which affects their integration into GVCs.

Finally, in terms of firms' characteristics, larger, foreign-owned, more productive and innovative firms and employing skilled workers are more likely to be part of GVCs (Masunda & Mupaso, 2019; Cieślik et al., 2019; Urata & Baek, 2020).

The literature on politically connected firms and firm-level performance suggests that privileged access to special rights and exemptions from regulations create cost-wedges between politically connected and non-connected firms. Thus, politically connected firms are (a priori) more likely to perform better than non-connected firms. By incorporating these conclusions into the literature on firm heterogeneity (Melitz, 2003), we propose political connections as an additional determinant of firms' participation in GVCs.

By combining both strands of the literature, we derive our second assumption: Since politically connected firms face lower barriers to entry, operation, and trade, we assume that they are more likely to overcome the fixed costs associated with entry into the global market and would therefore be more likely to join GVCs. Thus, our second proposition is the following:

P2: Politically connected firms enjoy a number of privileges that lower barriers to entry, operation, and trade, compared to non-connected firms. This helps them bear the fixed cost of entry in GVCs.

Before empirically testing both propositions, we devote Section 3 to a detailed discussion of political connections and firm characteristics in the MENA region. Based on the WBES data, we illustrate some preliminary findings on the different forms of "political influence" exerted by firms in the MENA region. These include lobbying, political connections, and payments. Finally, we provide an overview of MENA firms' participation in GVCs, using different measures that illustrate different degrees of GVC engagement, ranging from the shallowest to the most comprehensive form of participation.

3 Lobbying, political connections, and participation in GVCs in the MENA region

To examine the nexus between lobbying, political connections and GVCs in the MENA region, we use firm-level pooled data that we extract from the World Bank Enterprise Surveys for six MENA countries (Morocco, Tunisia, Egypt, the West Bank and Gaza, Jordan, and Lebanon) in either 2019 or 2020 (one year per country).[5] These surveys cover a broad range of business environment topics such as access to finance, trade, corruption, competition, and infrastructure.

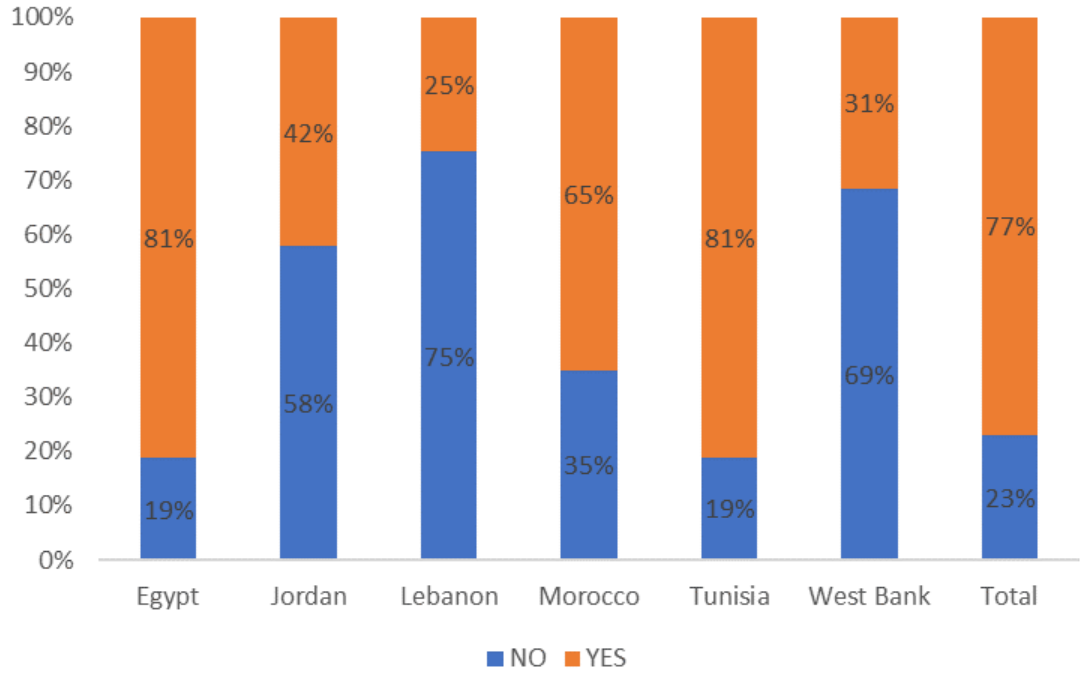
We constructed two main sets of variables of interest. First, for lobbying, political connections, and corruption, we relied on the following variables that we constructed using WBES data: i) lobbying is a dummy variable that takes the value of one, if the firm considers that lobbying is useful in influencing the state's decision-making processes and zero otherwise; ii) political connection is a dummy variable that takes the value of one if the owner/CEO/top manager/board member has ever been elected or appointed to a political position, and zero otherwise; and iii) firms' perception of whether briberies and payments, gifts, or exchange of favours with parliamentarians to affect votes, with national government officials to affect decrees, and with local or regional government officials to affect policies have a direct impact on their business.[6] It is important to note that these perception-based variables are indispensable for our analysis as they measure grand corruption where high-level officials may use control over legislative and regulatory powers to affect law and policymaking. Table A1 (see Appendix) illustrates these variables and the related survey questions. The second set of variables measure GVC participation. At the extensive margin, we followed Dovis and Zaki (2020) by constructing dummies indicating the export and import status, international certification, and foreign ownership. At the intensive margin, the GVC variable measures the depth of participation in a value chain by calculating the share of exported products to firm sales and the share of imported intermediate inputs in a firm's total inputs.

We begin this section by exploring the effectiveness of lobbying across our sample of MENA countries. It is important to note that this question has been addressed only to firms that are part of business associations or trade unions (in other words, firms that belong to organised sectors), which helps measure collective lobbying. Figure 1 summarises findings on firms' perceptions of the effectiveness of lobbying efforts by country. Overall, 77 per cent of the firms surveyed valued the lobbying efforts exerted by their business association. However, the picture varies substantially at the country level. In Egypt, Tunisia, and Morocco, the majority of firms valued the effectiveness of lobbying efforts exerted by business associations (81 per cent of Egyptian and Tunisian firms and 65 per cent of Moroccan firms). On the contrary, the majority of firms in Jordan, Lebanon, and the West Bank and Gaza did not recognise the effectiveness of lobbying.

5 We did not include other rounds of the surveys, as the political connections and contribution variables were not included.

6 We did not include other factual variables that measure corruption as they are more related to petty corruption and not to grand corruption.

Figure 1: Lobbying effectiveness – by country



Notes: i) Weights are used. ii) This variable is measured on the basis of the following question: "Referring to the most important business association the firm is part of, how useful is the influencing of regulatory decision-making processes or lobbying?"

Source: Authors' own elaboration using the WBES

In general, lobbies in authoritarian regimes are likely to be weak, as the regime has greater bargaining power vis-à-vis economic actors (Ruckteschler et al., 2022). More specifically, the literature on business-state relations in the MENA region (see Section 2) suggested that these tend to be stronger at the firm level than at the collective (sector) level. Therefore, we explore two alternative measures that may capture firms' "political influence" in the region more effectively (see Table 1). The first measure is that of firms' political connections. A politically connected firm is defined in the survey as one whose owner/top manager/CEO/board member has been appointed to a political position. This definition is based on a relatively restricted, non-comprehensive measure of political connection (Faccio, 2007; Goldman et al., 2013; Francis & Kubinec, 2022) and does not capture firms that fall under the wider scope of political connections (including owners/top managers/CEO/board members who have close family/friendship ties with a political figure). However, it is difficult to trace political connections in the broader sense using the WBES questions. Thus, it is safe to conclude that these statistics underestimate the actual incidence of political connections in the six MENA countries.

Table 1: Indicators of firms' political influence – by country

	Egypt	Jordan	Lebanon	Morocco	Tunisia	West Bank	Total
Political connections							
NO	95%	91%	99%	93%	72%	98%	94%
YES	5%	9%	1%	7%	28%	2%	6%
Decrees (contributions)							
NO	65%	98%	87%	32%	56%	89%	63%
YES	35%	2%	13%	68%	44%	11%	37%
Votes (contributions)							
NO	68%	95%	86%	29%	52%	90%	65%
YES	32%	5%	14%	71%	48%	10%	35%
Policies (contributions)							
NO	65%	99%	87%	32%	54%	90%	63%
YES	35%	1%	13%	68%	46%	10%	37%

Notes: i) Weights are used. ii) Political connections refer to whether the owner/CEO/top manager/board member of the firm has ever been appointed to a political position in this country. ii) Decrees, votes, and policies contributions refer to the firms' perception of whether briberies and payments, gifts, or an exchange of favours with parliamentarians to affect votes, with national government officials to affect decrees, and with local or regional government officials to affect policies have a direct impact on their business.

Source: Authors' own elaboration using the WBES

On average, politically connected firms (in a strict sense) represent 6 per cent of the firms included in our sample. Nevertheless, the percentage of connected firms varies substantially across countries. Surprisingly, the lowest shares of politically connected firms are found in Lebanon (1 per cent) and the West Bank and Gaza (2 per cent), two relatively small economies where cronyism played a historical role in phases of state-building and reconstruction. Lebanon has been historically known for deeply rooted political clientelism. During the post-war reconstruction phase, close interdependencies between business and politics was the main channel through which stability could be achieved (Diwan & Haidar, 2021). Strategic sectors like telecommunications, pharmaceuticals, and oil and gas were reserved to politically connected corporates by the means of non-competitive licensing procedures and/or government procurement contracts. In Palestine, political connections mark the strategy of the Palestinian Liberation Organization under Fateh, which was focused on engaging businesspersons in politics (Dana, 2020). Prominent politically connected families secured quasi-monopolies across different sectors in the nineties. Moreover, political public figures and security officials engaged in business activities, either directly or through "protégés". These relations grew more sophisticated as the state-building reforms carried out by the Fayyad government engaged several key businesspersons in political positions (Dana, 2014). At present, some of the most important import markets, such as food, cement, steel, and oil, are concentrated in the hands of a few monopolies (Dana, 2020).

The proportion of politically connected firms is larger for the remaining countries (5 per cent in Egypt and 7 per cent in Morocco). Surprisingly, politically connected firms (in the strictest, non-comprehensive sense) account for 28 per cent of the Tunisian firms included in the survey. The substantial share of politically connected firms in Tunisia could have two justifications: an exceptional predominance of business-state relations during Ben Ali's rule, or a mere reflection of transparency and public availability of information in Tunisia, compared to the rest of the

sample. Rijkers et al. (2017b) estimated that politically connected firms accounted for 5 per cent of the total output and 16 per cent of the profits in the private sector. They were four times more likely to operate in sectors with authorisations and FDI restrictions guaranteed by the Tunisian Investment Law. Moreover, the privatisation of state-owned firms benefitted the Ben Ali circle. In the car imports sector, for example, import quotas were exclusively granted to politically connected firms (Kruse et al., 2021). In Egypt, politically connected firms thrived after the first wave of privatisation in the nineties and later with the rise of Gamal Mubarak as one of the main leaders of the ruling party. Several iconic cases of political connections are well-known to the public, such as Ahmed Ezz, a member of the Parliament and the ruling party, who lobbied for increased protection in the steel market which he quasi-monopolised. Another famous politically connected businessman was the Minister of Housing who was also the owner of one of the largest real-estate developers in Egypt. Under his mandate, the ministry sold government-owned land at extremely cheap prices to his company and to other politically connected firms (Chekir & Diwan, 2013). Other politically connected firms were concentrated in textiles, cement, tourism, business, and the financial services. These sectors enjoyed exclusive import licenses, quasi-prohibitive licensing procedures, and energy subsidies, among others (Diwan et al., 2020). In Morocco, politically connected firms are owned by the royal family, the royal court, or politicians. Large firms (often associated with family clans that are connected to royals through intermarriage) are more influential than business associations (Ruckteschler et al., 2022). In Jordan, 9 per cent of the firms have a current or previous politician as their CEO. This share largely reflects “ethnic politics” that mark state-business relations. The state keeps a balance between the interests of East Bank Jordanians (who dominate the public sector) and West Bank business elites of Palestinian origin by balancing informal quotas devoted to each group in the ministerial cabinet with a mix of business deals and exemptions (Monroe, 2019).

The second measure of “political influence” is that of “firms’ perception of the importance of contributions” (also in Table 1). The survey includes three questions related to firm-level perception of contributions to influence decrees, votes, and policies. More specifically, these measures indicate whether a firm perceives payments, gifts, or an exchange of favours with parliamentarians to affect votes, with national government officials to affect decrees, or with local or regional government officials to affect policies, to have a direct impact on their business. Henceforth, we call these firms “potentially contributing firms”. By including these questions in the analysis, we try to define the relation between political connections and grand corruption. As mentioned above, these perception-based variables measure grand corruption where high-level officials may use control over legislative and regulatory powers to affect law and policymaking.

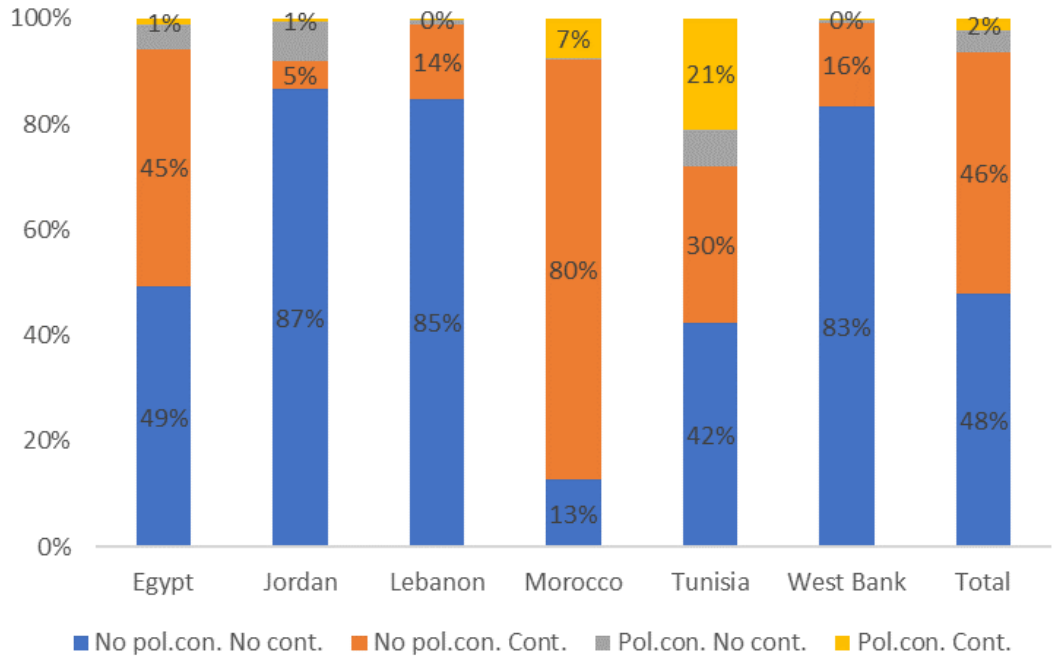
It is important to note that, on the one hand, political connections and grand corruption may be two complementary tools to influence policy. For example, Tovar (2011) suggested that official lobby contributions only guarantee access to the policymaker, while other substantial informal costs must be borne by lobbies to maintain these relations and to influence policy. On the other hand, political connections and corruption can be substitutes. In this case, non-connected firms may be better off if costs related to corruption are lower than what connected firms must pay in return for government protection, or vice versa (Kubinec, 2018; Francis & Kubinec, 2022).

On average, more than one-third of the firms perceive that contributions to influence policy are necessary. Nevertheless, cross-country differences are substantial. In Lebanon, and the West Bank and Gaza, the share of firms perceiving payments to affect decrees, votes, or policies as important ranges from 10 per cent to 15 per cent. This share contrasts with the equivalent shares in Tunisia and Morocco. Nearly half of the Tunisian firms and more than two-thirds of the Moroccan firms responding to the survey acknowledged that such payments had a direct impact on their business. These results suggest the importance of political connections and corruption in Tunisia, and a possibly heavier prevalence of corruption in Morocco. By contrast, the share of Jordanian firms recognising the importance of paying contributions (1 per cent to 5 per cent) is less than the share of politically connected firms (9 per cent). These results suggest that, a

priori, political connections matter more than payments in Jordan. Finally, Egyptian firms clearly show that firms consider payments indispensable to influence policy: the share of politically connected firms (5 per cent) is by far lower than the share of firms perceiving payments as important for their businesses (32 per cent to 35 per cent).

To explore the nexus between political connections and the perception of contributions, we calculated the share of firms that were politically connected, that perceived that payments to change policy (or laws or decrees) were important, that did both, and that did neither (Figure 2).

Figure 2: Interaction between political connections and firm contributions – by country



Notes: Weights are used. i) No pol. con. No cont. stands for firms that are not politically connected and do not perceive contributions as having a direct impact on their business. ii) No pol. con. Cont. stands for firms that are not politically connected but consider contributions as having a direct impact on their business. iii) Pol. con. No cont. stands for firms that are politically connected but do not perceive contributions as having a direct impact on their business. iv) Pol. con. Cont. stands for firms that are politically connected and consider contributions as having a direct impact on their business.

Source: Authors' own elaboration using the WBES

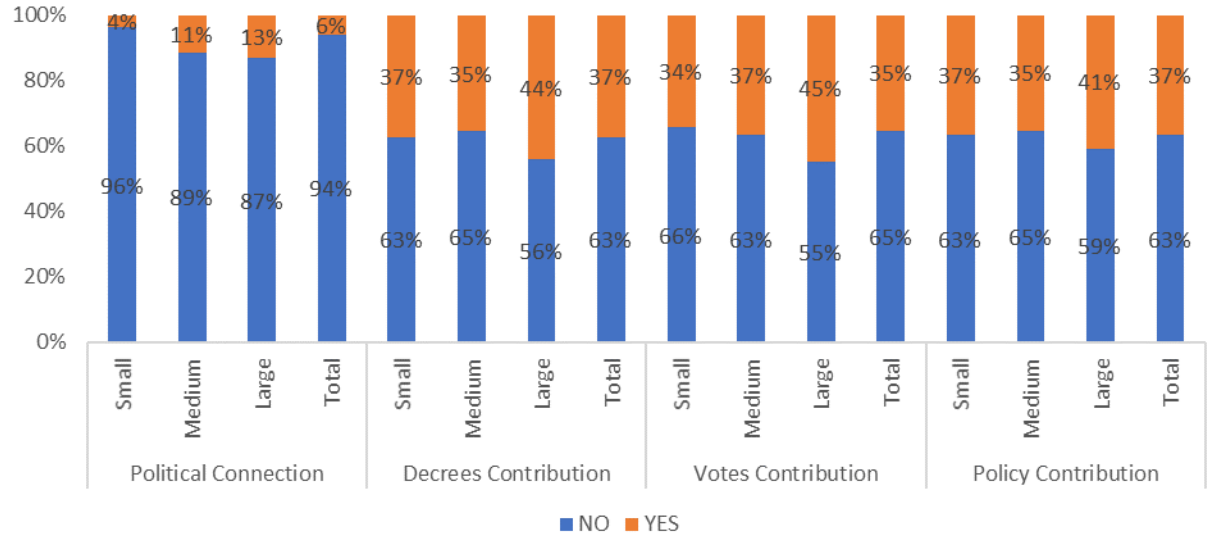
On average, non-connected firms represent the majority of the sample, with nearly equal shares of unconnected firms which thought that contributions were important (46 per cent) and unconnected firms which did not (48 per cent). Only 4 per cent of all firms were politically connected but did not consider payments as an important tool, and a smaller share of 2 per cent of the firms surveyed were both politically connected and responded that payments had a direct impact on their business. At the country level, the picture was different. The distribution of firm behaviour in Egypt was similar to the weighted average because Egypt had the largest weight in the sample. More than 90 per cent of the firms were not connected, with a quasi-balanced distribution of firms with different perceptions of the importance of payments. In Jordan, Lebanon, and the West Bank and Gaza, more than 83 per cent of the firms were neither politically connected, nor recognising the importance of contributions. The share of politically connected firms that did not perceive additional contributions as important was as high as 7 per cent in Jordan, while the share of connected and potentially contributing firms was only 1 per cent. In Lebanon and Palestine, both shares appeared to be negligible. These results were more likely to reflect the concentration of political power in the hands of a small group of firms (Dana, 2020; Diwan & Haidar, 2021) than to paint a positive image of transparent and competitive

markets. In both countries, smaller, non-connected firms may not be perceiving payments as important because they have little or no opportunity to influence policies in their favour.

The results were noticeably different for Morocco and Tunisia. In Morocco, payments constituted an essential tool of making business work. Compared to the rest of the sample, Morocco had the highest share of politically non-connected firms that perceived payments to influence policy as important (80 per cent) and the lowest share of non-connected, possibly non-contributing firms (13 per cent). Moreover, politically connected firms that possibly made payments accounted for 7 per cent of the total number of firms. Politically connected firms that did not see that payments had a direct impact on their business were absent from the Moroccan sample. In Tunisia, the distribution was also interesting, with a higher prevalence of political connections: the share of firms that were simultaneously connected and potentially paying additional contributing accounted for 21 per cent of the sample. Moreover, 7 per cent of the surveyed firms were politically connected but did not recognise payments as an important tool. Finally, 30 per cent of Tunisian firms had no connections, but saw that payments to influence policy in their favour were crucial for their business.

Figure 3 depicts the various different indicators of "political influence" and their distribution by firm size. The share of politically connected firms is largest for large firms (13 per cent) followed by medium ones (11 per cent). Indeed, large firms are more likely to be politically connected, as they benefit from rents generated through the government's special privileges and exemptions to grow. Moreover, large firms consider that payments to influence policies have a direct impact on their business (more than 40 per cent of large firms), since they are also the largest winners. These findings may provide initial evidence of potential complementarity between political connections and contributions. As for small and medium firms, our findings suggest that more than 35 per cent perceived payments as an important tool to influence votes, decrees, or policies in their favour. Thus, corruption is a more common phenomenon across all firms, regardless of their size.

Figure 3: Political influence – by firm size



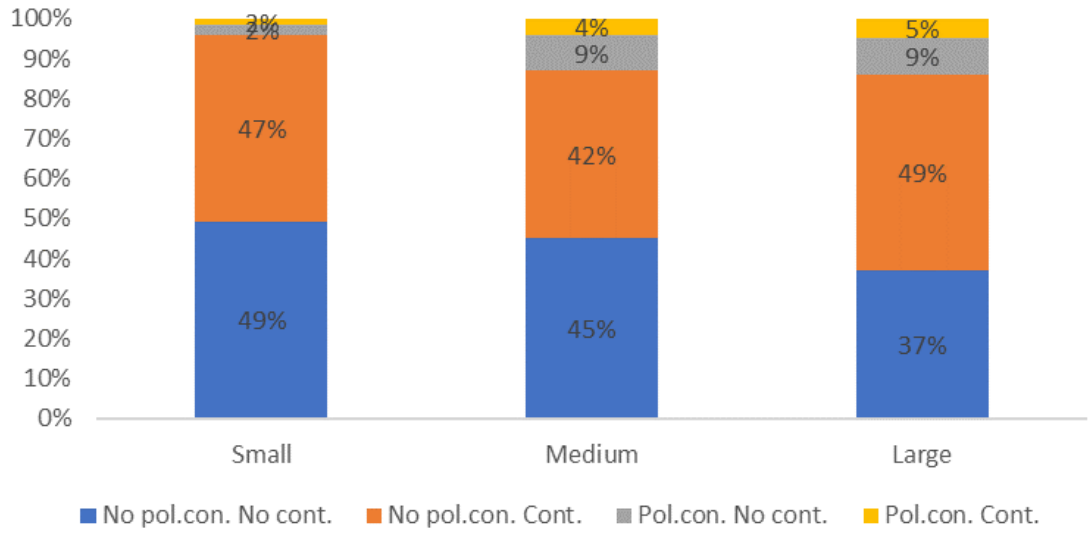
Notes: i) Weights are used. ii) Political connections refer to whether the owner/CEO/top manager/board member of the firm has ever been appointed to a political position in this country. ii) Decrees, votes, and policies contribution refer to the firms' perception of whether briberies and payments, gifts, or exchange of favours with parliamentarians to affect votes, with national government officials to affect decrees, and with local or regional government officials to affect policies have a direct impact on their business.

Source: Authors' own elaboration using the WBES

Figure 4 illustrates the interaction between political connections and any of the three types of contributions by firm size. “Political influence”, defined as the presence of either a connection, or the perceived importance of payments to influence policy, or both, increases with firm size. Clearly, the share of non-connected, potentially non-contributing firms drops from 49 per cent for small firms to 45 per cent for medium firms and to 37 per cent for large firms. While the share of non-connected, potentially contributing firms does not vary substantially across size, the share of politically connected firms (whether recognising the importance of contributions or not) increases by size (from 4 per cent in small firms to 13 per cent and 14 per cent in medium and large firms, respectively).

Our findings from the descriptive statistics suggest the presence of a specific pattern of firms’ political influence by countries and firm size. At the country level, a larger share of firms used lobbying and, possibly, side-payments in Egypt, Morocco, and Tunisia, compared to Jordan, Palestine, and Lebanon. At the firm level, political connections and potential contributions were slightly more present in large firms than in medium and small firms. In Section 4, we empirically investigate these patterns of firm characteristics and firm behaviour by testing for a possible complementarity between political connections and payments.

Figure 4: Interaction between political connections and contribution – by firm size



Notes: Weights are used. i) No pol. con. No cont. stands for firms that are not politically connected and do not perceive contributions as having a direct impact on their business. ii) No pol. con. Cont. stands for firms that are not politically connected but consider contributions as having a direct impact on their business. iii) Pol. con. No cont. stands for firms that are politically connected but do not perceive contributions as having a direct impact on their business. iv) Pol. con. Cont. stands for firms that are politically connected and consider contributions as having a direct impact on their business.

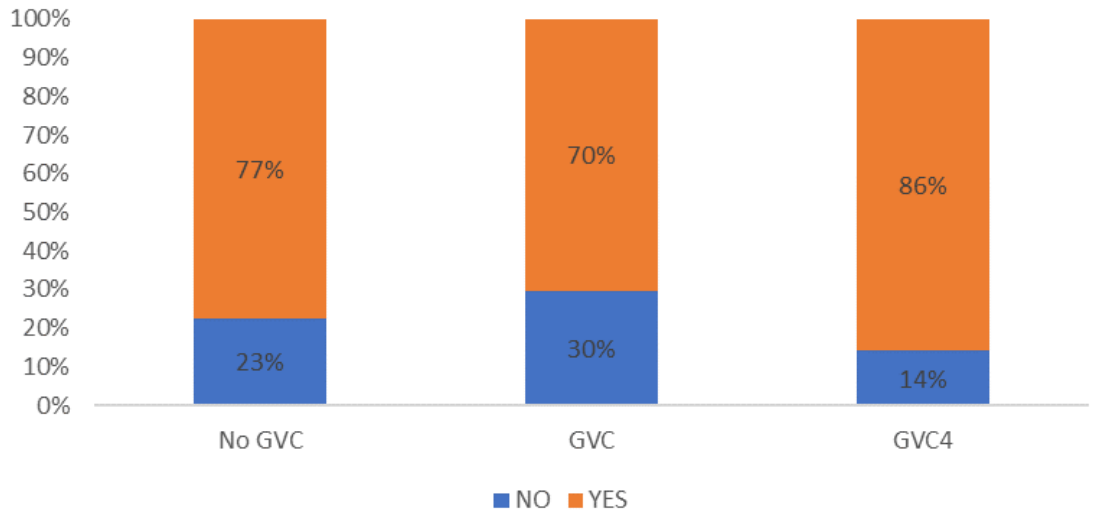
Source: Authors’ own elaboration using the WBES

Next, we introduce measures of GVC participation at the firm level and try to draw connections between lobbying, political influence, and firms’ integration into GVCs. Before proceeding with the analysis, it is necessary to define our measures of firms’ GVC participation. Our work follows Dovis and Zaki (2020)’s definition of four different levels of GVC participation based on trade, investment, and compliance with international standards. The first definition (GVC1) is the most basic measure of GVC participation: a firm is integrated into GVCs if it exports and imports at the same time. This means that the firm has backward and forward linkages along a value chain. The second definition (GVC2) is stricter. It includes firms that export, import, and have an international certification. Compliance with international standards is important for firms that are vertically integrated into GVCs. The third measure, (GVC3), includes two-way trading firms that

are either fully or partially owned by a foreign entity. This definition reflects the growing importance of multinationals as a complement to firm linkages along GVCs. Finally, the most comprehensive definition, (GVC4), combines the three dimensions and therefore covers a small number of firms in the sample. GVC4 firms are those that export, import, have an international certification, and also at least a share of their capital owned by a foreign entity.

Figure 5 illustrates how firms integrated into GVCs perceive the effectiveness of lobbying compared to firms that do not participate in GVCs. The figure shows that 77 per cent of firms that are not part of a GVC recognise the effectiveness of lobbying efforts made by their business associations, compared to a lower share of 70 per cent for firms who export and import along value chains (GVC1). A priori, these differences in firms' perceptions could imply that the political economy outcome of lobbying may be more in favour of import-competing sectors than export/GVC-oriented ones. Surprisingly, 86 per cent of firms integrated into GVCs through trade, certification, and FDI (GVC4) recognise the importance of lobbying through business associations. As the mode of GVC participation becomes more complex, collective lobbying appears to be an effective tool help these firms achieve their goals.

Figure 5: Lobbying effectiveness and depth of GVC participation



Notes: i) Weights are used. ii) This variable is measured on the basis of the following question: "Referring to the most important business association the firm is part of, how useful is influencing of regulatory decision-making processes or lobbying?"

Source: Authors' own elaboration using the WBES

Table 2 depicts the interaction between different modes of GVC participation and different forms of political influence. For the most straightforward definition of GVC participation (GVC1), 11 per cent of firms that were exporters and importers were also politically connected. Among those firms that were two-way traders and had an international certification (GVC2), 12 per cent were politically connected. The share of politically connected firms increased to 33 per cent when the definition of GVC participation includes two-way trade and foreign ownership (GVC3). However, for the most complex form involving two-way trade, certification, and foreign ownership (GVC4), the share of politically connected firms dropped to 17 per cent. A first conclusion is that deeper forms of GVC participation require the presence of political connections, or, inversely, that politically connected firms are more capable of integrating into a GVC in several ways that extend beyond two-way trade. Another possible explanation is that the number of firms participating in GVCs decreases as the definition becomes more complex. Thus, the share of connected firms increases within a smaller sample. In all cases, political connections seem to matter for greater GVC participation.

Table 2: Political influence and depth of GVC participation

		GVC1			GVC2			
		NO	YES			NO	YES	
Pol. Connection	NO	95%	89%	94%	NO	94%	88%	94%
	YES	5%	11%	6%	YES	6%	12%	6%
Decrees Cont.	NO	63%	59%	63%	NO	63%	53%	63%
	YES	37%	41%	37%	YES	37%	47%	37%
Votes Cont.	NO	65%	64%	65%	NO	65%	58%	65%
	YES	35%	36%	35%	YES	35%	42%	35%
Policies Cont.	NO	64%	56%	63%	NO	63%	60%	63%
	YES	36%	44%	37%	YES	37%	40%	37%
		GVC3			**GVC4**			
		NO	YES			NO	YES	
Pol. Connection	NO	95%	67%	94%	NO	94%	83%	94%
	YES	5%	33%	6%	YES	6%	17%	6%
Decrees Cont.	NO	63%	53%	63%	NO	63%	45%	63%
	YES	37%	47%	37%	YES	37%	55%	37%
Votes Cont.	NO	65%	51%	65%	NO	65%	43%	65%
	YES	35%	49%	35%	YES	35%	57%	35%
Policies Cont.	NO	63%	57%	63%	NO	63%	74%	63%
	YES	37%	43%	37%	YES	37%	26%	37%

Notes: i) Weights are used. ii) Political connections refer to whether the owner/CEO/top manager/board member of the firm has ever been appointed to a political position in this country. iii) Decrees, votes, and policies contribution refer to the firms' perception of whether briberies and payments, gifts, or exchange of favours with parliamentarians to affect votes, with national government officials to affect decrees, and with local or regional government officials to affect policies have a direct impact on their business.

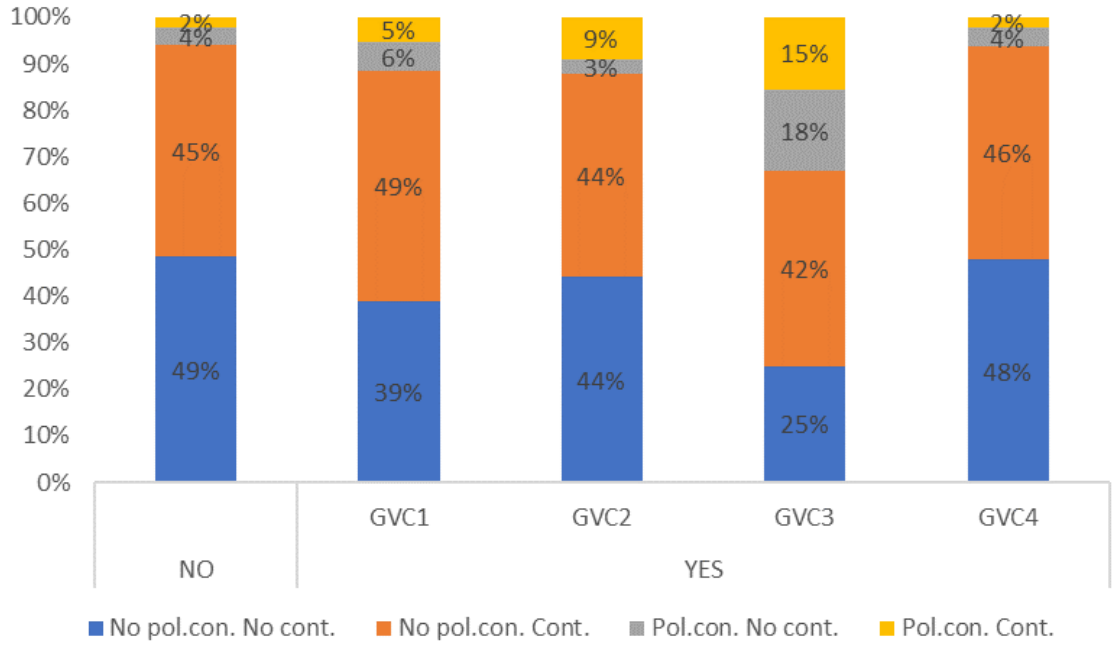
Source: Authors' own elaboration using the WBES

The second measure of political influence is "contributions" paid by firms to change decrees, votes, or policies. Among those firms participating in value chains, the share of firms considering that these contributions have a direct impact on their business is systematically higher than the share of firms with political connections. The share of firms privileging these "political contributions" also increased as the definition of GVC participation became more complex. For example, more than 50 per cent of those firms engaged in GVCs in the strictest sense (GVC4) saw that payments to influence decrees and votes had an impact on their business. By contrasting that share with that of politically connected firms, one can conclude that political connections are not the only way to influence decision- and policymaking, and that grand corruption is more widely used by firms to change laws and regulations for their benefit.

Finally, we interacted political connections and contributions/payments by mode of GVC participation (Figure 6). Across the four measures of GVC participation, a substantial share of firms was not politically connected but considered that contributions had an impact on their business. This share varied between 49 per cent for mode 1 and 42 per cent for mode 3. Interestingly, the share of politically connected firms was highest (33 per cent) for firms that

exported, imported, and had foreign ownership (GVC3). Nearly half of these firms were politically connected and potentially contributing and 74 per cent of firms exercised political influence through connections and (possibly) contributions, or both. Initially, there appears to be a correlation between political influence and foreign ownership in the MENA context. In Palestine, for example, many politically connected firms are affiliates of foreign establishments owned by Palestinian businessmen/politicians (Dana, 2014). In Egypt, Morocco, and Tunisia, the only way for foreign investors to overcome quasi-prohibitive entry barriers in specific markets may be by signing partnership deals with politically connected local investors.

Figure 6: Interaction between political connections and depth of GVC participation



Notes: Weights are used. i) No pol. con. No cont. stands for firms that are not politically connected and do not perceive contributions as having a direct impact on their business. ii) No pol. con. Cont. stands for firms that are not politically connected but consider contributions as having a direct impact on their business. iii) Pol. con. No cont. stands for firms that are politically connected but do not perceive contributions as having a direct impact on their business. iv) Pol. con. Cont. stands for firms that are politically connected and consider contributions as having a direct impact on their business.

Source: Authors' own elaboration using the WBES

The above analysis allowed for some preliminary assumptions that would require empirical validation. First, we found some primary evidence suggesting the validity of *P1*: as the definition of GVC participation becomes more complex, an increasing share of firms recognise lobbying effectiveness. A priori, this may imply that lobbying matters, at least for more complex forms of GVC participation. Second, the share of firms recognising the importance of corruption exceeds the share of politically connected firms. Initially, we can conclude that non-connected firms use corruption as a substitute to political connection, that is, as an alternative tool to influence policy. Nevertheless, we also find that a higher share of GVC firms was politically connected, but also recognised the importance of payments to increase their political influence. Thus, political connections and contributions may not be perfect substitutes; some firms may use them as complementary tools to influence policymaking and secure their integration in the world market.

4 Methodology

To examine the impact of lobbying, political connections, and corruption on firms' participation in GVCs, we define the following specification:

$$GVC_{ijct} = \alpha + X_{ijct}\,\rho + Pol_{ijct}\,\beta + \gamma_{jc} + \delta_{ijcgt} \qquad (1)$$

where *GVC* measures the different levels of firms' GVC participation using the four definitions explained previously. To measure GVC participation at the extensive margin, we follow Dovis and Zaki (2020) by constructing dummies indicating the export and import status, international certification, and foreign ownership. At the intensive margin, *GVC* measures the depth of participation in a value chain by calculating the share of exported products to firm sales and the share of imported intermediate inputs in a firm's total inputs. The subscripts *i*, *j*, *c*, and *t* denote firms, sector, country, and year respectively. X_{ijct} is a vector of firm-level characteristics that are expected to affect GVC participation, such as the firm's age, labour productivity, and share of government ownership. Firm age is measured by the difference between the year of the survey and the year in which the establishment began operation ($Ln(age)_{ijct}$) and has been positively linked to GVC participation (Roberts & Tybout, 1997; Aitken et al., 1997). $Ln(Share\ Gov.)_{ijct}$ is the share of government ownership. Government ownership in the MENA region was found to increase a firm's GVC participation at the extensive margin, but had a negative impact at the intensive margin (Aboushady & Zaki, 2019; Fakih & Ghazalian, 2014). $LabProd_{ijct}$ is labour productivity measured by sales over the total number of employees. Productivity is positively associated with an increased participation in global markets (Melitz, 2003; Bernard & Jensen, 2004). Finally, δ_{ijcgt} is the discrepancy term.

Our explanatory variable of interest, Pol_{ijct} features three main types of political influence found in the political economy literature. First, to test whether the Grossman-Helpman protection-for-sale model provides an appropriate framework for firm behaviour and performance in the MENA region, we introduce $Lobby_{ijct}$ as a first measure of political influence. $Lobby_{ijct}$ is a dummy variable that takes the value of one if the firm considers that collective lobbying is useful in influencing policy and zero otherwise. Second, we substitute lobbying with a measure of political connection $Pol.Con_{ijct}$. This is a dummy variable that takes the value of one if the owner/CEO/top manager/board member has ever been elected or appointed to a political position, and zero otherwise. Third, we measure political influence by introducing the three contribution variables that reflect the firms' perception of whether briberies and payments, gifts, or exchange of favours with parliamentarians to affect votes ($Votes_{ijct}$), with national government officials to affect decrees ($Decrees_{ijct}$), and with local or regional government officials to affect policies $Policies_{ijct}$) have a direct impact on their business.

To control for the possible endogeneity of firms' political connections, we run a Propensity Scores Matching (PSM) estimation method that compares a treated group (politically connected firms) to a control group (firms that are not connected, but have similar characteristics). Hence, our treatment will be the likelihood of being politically connected. Yet, it is important to note that, while the PSM estimation method assumes the conditional exogeneity of the treatment (political connections) or the selection on the observables, the endogeneity that is due to unobservables is not controlled for. This is why we opt for an instrumental variable (IV) approach where political connections are instrumented by a shift share variable of political connections aggregated by country-year-sector-geographical zone (where the firm is located) minus the firm's own connections. Political connection corrected from individual firm idiosyncrasies is expected to affect firms' connection without having a direct impact on GVC participation. The rationale is as follows: If a sector is, on average, more politically connected, this might generate some externalities and increase the connection of the firm in question.

Furthermore, we extend the analysis in three ways. First, to test whether political connections and contributions are complementary or substitutes, we create a categorical variable that takes

the value of 0 if the firm is neither connected nor recognising the importance of contributions; 1 if it recognises the importance of contributions but is not politically connected; 2 if it is politically connected but does not perceive contributions as important; and 3 if it recognises the impact of contributes and is politically connected. Second, we interact this categorical variable with different business obstacles, tariffs, and non-tariff measures (sanitary and phytosanitary (SPS) measures, TBT, and trade regulations). Generally, contributions and/or political connections are more likely to speed up procedures and reduce burdensome investment and trade-related regulations. Third, we estimate the effect of political connections and/or contributions on the firm's intensive and extensive margins of GVCs. This distinction is important, given that privileged firms may easily enter the global market, but may be unable to compete and remain in the market later on (Kim & Todo, 2019; Aboushady & Zaki, 2019). Therefore, we may find positive evidence at the extensive margin, but not necessarily at the intensive margin of GVC participation.

Three empirical remarks are worth mentioning: First, we pool data for different countries and years. Therefore, we include country*sector fixed effects ($\gamma_{jc},$) to control for unobservables at the country/sector levels as different sectors have different characteristics in each country (including political interests). Second, our estimations are run using a pooled Ordinary Least Squares (OLS) estimation method and a Linear Probability Model (when the dependent variable is binary). Finally, we use the four GVC variables as a dependent variable in our baseline regressions. In some of the extensions, however, we focus only on the two most important definitions (GVC1 and GVC4) as they show the two extremes of GVC participation.

5 Empirical results

5.1 Baseline regressions

The first baseline regression estimates the impact of lobbying on firms' GVC participation at the extensive and intensive margins. Results are summarised in Table 3.

Table 3: Baseline regression (I) – lobbying effectiveness and GVC participation

	GVC1	GVC2	GVC3	GVC4	Intensive
Lobbying	-0.00517	0.00514	0.00520	0.000802	-0.0107**
	(0.0104)	(0.00517)	(0.00441)	(0.00248)	(0.00527)
Lab. Prod.	0.0136***	0.00591***	0.00119	0.000650	0.0207***
	(0.00257)	(0.00128)	(0.00109)	(0.000612)	(0.00130)
Ln(Age)	-0.00221	-0.000655	0.00265	0.00270**	-0.0130***
	(0.00494)	(0.00246)	(0.00209)	(0.00118)	(0.00250)
Ln(Share Gov.)	0.0109	0.00848	0.0112	0.00435	0.0258**
	(0.0234)	(0.0116)	(0.00992)	(0.00559)	(0.0116)
Constant	-0.147***	-0.0658***	-0.0239	-0.0154*	-0.182***
	(0.0388)	(0.0193)	(0.0164)	(0.00926)	(0.0196)
Country x Sec. Dum.	YES	YES	YES	YES	YES
Observations	3,521	3,521	3,521	3,521	3,258
R-squared	0.206	0.174	0.087	0.078	0.309

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Source: Authors

The coefficient for the main variable of interest, lobbying, is insignificant for all four definitions of firms' GVC participation. This is not surprising in the MENA region given that collective lobbying is likely generally weak (whether business associations or trade unions). In addition, MENA countries do not have any lobbying regulation that might be important because it defines the legal limits of lobbying (Roark, 2018). This means that lobbying is unlikely to enable firms to participate in GVCs. At the intensive margin, the coefficient is significant at the 5 per cent level, but the sign of the coefficient is counter-intuitive.

As for our control variables, the coefficients mostly have the expected signs but are not always significant. Labour productivity has a positive impact on GVC participation, but this impact is only significant for GVC1 and GVC2 and at the intensive margin. The coefficient for firm age is only positive and significant for GVC4. Indeed, the longer the firm has been operating in the market, the more likely it engaged in deeper forms of GVC participation, including trade, foreign certification, and foreign ownership. However, the results for the intensive margin suggest a negative association between firm age and GVC participation, meaning that the participation of older firms in GVCs declines. This result implies that older firms may have a "comparative disadvantage" compared to younger, more innovative firms. Finally, the share of government ownership has a positive coefficient, but is only significant at the intensive margin. This result is not in line with previous findings on state ownership and firms' performance in the MENA region. In general, state ownership was more likely to facilitate a firm's entry in global markets. However, public sector firms were unable to compete internationally. Thus, labour productivity seems to be the most important determinant of GVC participation. This is in line with the heterogeneous firms' literature as the most productive firms should be able to overcome the fixed cost of entry into global markets.

The findings from the baseline regression allows us to reject P1. *We find that collective lobbying does not significantly affect the likelihood that a firm participates in a GVC.*

The second baseline specification includes the second measure of political influence; political connections at the firm level (Table 4). Our objective is to investigate whether political connections matter for a firm's participation in GVCs at the extensive and the intensive margin levels.

Table 4: Baseline regression (II) – political connections and GVC participation

	GVC1	GVC2	GVC3	GVC4	Intensive
Pol. Con.	0.0554***	0.0130*	0.0595***	0.00378	0.0430***
	(0.0139)	(0.00726)	(0.00647)	(0.00378)	(0.00755)
Lab. Prod.	0.0123***	0.00572***	0.00238***	0.00203***	0.0131***
	(0.00182)	(0.000952)	(0.000848)	(0.000495)	(0.00100)
Ln(Age)	-0.00218	-0.000668	0.00156	0.00175*	-0.0110***
	(0.00388)	(0.00203)	(0.00181)	(0.00105)	(0.00213)
Ln(Share Gov.)	0.0214	0.00142	0.0245***	-0.000367	0.0277***
	(0.0135)	(0.00706)	(0.00628)	(0.00367)	(0.00730)
Constant	-0.136***	-0.0604***	-0.0328**	-0.0299***	-0.100***
	(0.0277)	(0.0145)	(0.0129)	(0.00753)	(0.0152)
Country x Sec. Dum.	YES	YES	YES	YES	YES
Observations	5,105	5,105	5,105	5,105	4,779
R-squared	0.182	0.152	0.142	0.063	0.257

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Source: Authors

We find that political connections have a positive and significant impact on the likelihood that a firm exports and imports (GVC1) and that a firm exports, imports, and has a share of foreign capital (GVC3). The coefficient is also positive and significant at the intensive margin (measured by the share of exports in sales and imports in a firm's inputs). These results suggest that political connections at the firm level matter more than collective lobbying. Interestingly, the positive coefficient for GVC3 implies that politically connected firms are more likely have access to foreign capital. This result is in line with the literature on the MENA region, where key politicians run businesses abroad (such as in Palestinian businessmen established in the Gulf or the Mediterranean region) and seek to establish affiliates in the domestic market. The results could also imply that foreign investors seek partnership with politically connected businesspersons, or that such partnerships are their only gateway to the domestic market. The coefficient is also positive for GVC 2 (trade and international certification) but significant at the 10 per cent level. This result could imply that some firms may use their connections to access international certification based on quality claims that lack credibility (Augier et al., 2017).

As for the control variables, labour productivity has a positive and strongly significant impact on all modes of GVC participation at both margins. For firm age, the coefficient is only positive and significant for GVC4, and continues to produce negative results for the intensive margin. Thus, the longer the firm has been operating, the more likely it can participate in GVCs through two-way trade and international certification, and by attracting foreign investment. However, the effect of firm age is reversed once the firm is already engaged in GVCs. Finally, government ownership has a positive and significant effect on mode 3 of GVC participation (trade + foreign ownership) and on the intensive GVC margin. This means that state ownership increases the likelihood that a firm engages in trade and attracts foreign capital. These results may be driven by the partial sale of state-owned firms in the region to foreign investors. On another note, the results at the intensive margin could also be driven by imports. State-owned firms are more likely to overcome import restrictions and to import more than private sector firms. Our findings are in line with those of Rijkers et al. (2017a).

In the third baseline regression, we increase the scope of political influence by adding a measure of the importance of firms' contributions/payments to influence votes, decrees, and policies (Table 5). Overall, the explanatory power of the model (measured by the R-squared) increases, especially for the first definition of GVC participation (two-way trade). Similar to the results of the previous regression, political connections have a positive and significant impact on the first and third measure of GVC participation at the extensive margin (trade and trade plus foreign ownership). The second explanatory variable of interest, firms' contributions, has a positive impact on GVC participation, for GVC1 and GVC2 for all types of contributions. One of the possible explanations is that informal payments may help firms to overcome red-tape costs, may speed up procedures, and may influence trade-related laws and regulations. A positive and significant impact of corruption on international certification suggests that the latter may be obtained on the basis of false quality claims. Finally, the negative coefficient for GVC4 (related to policy contributions) is counter-intuitive and moderately significant.

Table 5: Baseline regression (III) – political connections, contributions and GVC participation at the extensive margin

	Decrees				Votes				Policy			
	GVC1	GVC2	GVC3	GVC4	GVC1	GVC2	GVC3	GVC4	GVC1	GVC2	GVC3	GVC4
Pol. Con.	0.0556***	0.0119	0.0604***	0.00328	0.0554***	0.0135*	0.0605***	0.00381	0.0581***	0.0122	0.0592***	0.00216
	(0.0146)	(0.00744)	(0.00691)	(0.00413)	(0.0148)	(0.00747)	(0.00707)	(0.00412)	(0.0146)	(0.00749)	(0.00708)	(0.00414)
Lab. Prod.	0.0123***	0.00556***	0.00225**	0.00240***	0.0119***	0.00523***	0.00244**	0.00233***	0.0125***	0.00538***	0.00238**	0.00236***
	(0.00205)	(0.00105)	(0.000971)	(0.000581)	(0.00207)	(0.00105)	(0.000991)	(0.000577)	(0.00207)	(0.00106)	(0.00100)	(0.000585)
Ln(Age)	-0.00565	-0.00166	0.000848	0.00191	-0.00415	-0.00139	0.00178	0.00193	-0.00442	-0.00139	0.00173	0.00219*
	(0.00428)	(0.00218)	(0.00202)	(0.00121)	(0.00431)	(0.00218)	(0.00206)	(0.00120)	(0.00427)	(0.00219)	(0.00207)	(0.00121)
Ln(Share Gov.)	0.0252*	0.00303	0.0276***	-0.000450	0.0207	0.00214	0.0239***	-0.000867	0.0219	0.00184	0.0230***	-0.00106
	(0.0149)	(0.00760)	(0.00705)	(0.00421)	(0.0147)	(0.00743)	(0.00703)	(0.00410)	(0.0146)	(0.00746)	(0.00705)	(0.00413)
Contribution	0.0402***	0.0170***	0.00108	0.00237	0.0268***	0.0112***	0.000844	0.00229	0.0519***	0.00835**	-0.00365	-0.00524**
	(0.00755)	(0.00385)	(0.00357)	(0.00213)	(0.00776)	(0.00392)	(0.00371)	(0.00216)	(0.00757)	(0.00388)	(0.00367)	(0.00214)
Constant	-0.151***	-0.0690***	-0.0289**	-0.0357***	-0.142***	-0.0623***	-0.0337**	-0.0348***	-0.165***	-0.0629***	-0.0304**	-0.0319***
	(0.0311)	(0.0159)	(0.0147)	(0.00880)	(0.0314)	(0.0158)	(0.0150)	(0.00874)	(0.0313)	(0.0160)	(0.0151)	(0.00885)
Country x Sec. Dum.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	4,422	4,422	4,422	4,422	4,424	4,424	4,424	4,424	4,408	4,408	4,408	4,408
R-squared	0.202	0.174	0.149	0.067	0.199	0.172	0.152	0.066	0.202	0.171	0.155	0.069

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.
i) Weights are used. ii) Contribution is measured by decrees, votes, and policy.

Source: Authors

Finally, the fourth baseline regression estimates the impact of political connections and contributions on the intensive margin of GVCs, measured as the share of exports to sales and the share of imports to inputs (Table 6). The control variables produce the same results as in the previous specifications. Both explanatory variables of interest – political connections and corruption – have a positive and significant impact on increasing firms' two-way trade along GVCs. Our findings suggest that political connections and corruption matter for firms to stay on the global market and to increase their trade activities. In other words, political connections and corruption help reduce variable costs and ensure that firms trade more smoothly across borders. This is in line with several studies that show that corruption has a multifaceted impact on trade (Thede & Gustafson, 2012) and that the "grease the wheels" view is verified, if low- and middle-income countries are taken into account (Gil-Pareja et al., 2019).

Table 6: Baseline regression (IV) – political connections, contributions and GVC participation at the intensive margin

	Decrees	Votes	Policy
Pol. Con.	0.0464***	0.0457***	0.0462***
	(0.00773)	(0.00779)	(0.00775)
Lab. Prod.	0.0102***	0.0110***	0.0106***
	(0.00110)	(0.00110)	(0.00111)
Ln(Age)	-0.0127***	-0.0130***	-0.0128***
	(0.00229)	(0.00229)	(0.00228)
Ln(Share Gov.)	0.0329***	0.0325***	0.0326***
	(0.00788)	(0.00771)	(0.00769)
Contribution	0.0123***	0.0162***	0.0186***
	(0.00401)	(0.00409)	(0.00401)
Constant	-0.0772***	-0.0879***	-0.0848***
	(0.0166)	(0.0166)	(0.0167)
Country x Sec. Dum.	YES	YES	YES
Observations	4,134	4,128	4,120
R-squared	0.258	0.259	0.263

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.
i) Weights are used. ii) Contribution is measured by decrees, votes, and policy.

Source: Authors

In a nutshell, we do not find evidence that collective lobbying matters for GVC participation in the region. Firms may pressure the government to implement specific policies that enhance their integration into global markets. However, they do this individually. Thus, firms use their connections to influence policymaking. Moreover, it may be necessary to "buy" influence through the means of payments, gifts, and the exchange of favours given that firms argue that these have a direct impact on their business.

To control for the endogeneity of firms' participation in GVCs, we run a PSM estimation method that compares a treated group (politically connected firms) to a control group (not connected, but having similar characteristics). More specifically, we first run a logit regression where the dependent variable takes the value of one if the firm is politically connected and zero otherwise. Thus, we obtain the propensity score measuring the predicted probability (p). We then match

each participant to one or more non-participants on the propensity score, using the "nearest neighbour matching" (using productivity, age, share of government ownership, country and sector dummies). The results of the PSM procedure are depicted in the Appendix, where Figure A1 shows that there is a high level of common support for the different definitions of GVC with an evidence of overlap in propensity scores.[7] Table 7 shows that political connections exert a positive and statistically significant effect on GVC (both at the extensive and intensive margins, with the exception of GVC4). As for the IV, our results hold for GVC3 and the intensive margin with an insignificant impact on the other measures and a counter-intuitive one for GVC1.

Table 7: PSM and IV – GVC and political connections

		GVC1	GVC2	GVC3	GVC4	Intensive
PSM	Pol. Con.	0.0772**	0.0474*	0.0200*	0.00666	0.0377***
		(0.0311)	(0.0272)	(0.0109)	(0.00678)	(0.0129)
IV	Pol. Con.	-0.193**	-0.0474	0.0845*	-0.0318	0.134***
		(0.0978)	(0.0499)	(0.0441)	(0.0260)	(0.0507)
	Observations	5,105	5,105	5,105	5,105	5,105

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1
A nearest-neighbour matching estimator has been used and Mahalanobis for the distance metric.

Source: Authors

In the next section, we run a number of extended regressions to explore further linkages between political connections and corruption at the firm level. After that, we introduce a set of trade barriers and obstacles from the business climate. The objective is to examine whether these barriers matter for the GVC participation of politically influential and non-influential firms alike, or whether influential firms are able to overcome these barriers using connections, corruption, or both.

5.2 Extensions: interaction between political connections and contributions

In this section, we explore how political connections interact with corruption at the firm level. We also explore the joint implications of both variables on firms' participation in GVCs. Tables A4 and A5 (see Appendix) depict the main results at the GVC extensive and intensive margins respectively. In these extensions, we introduce an interactive term including political connections and each type of contribution (payments to influence decrees, votes, policies) separately. At the extensive margin (Table A4), our findings on political connections and firm contributions are largely similar to findings from the baseline regression. As for the interaction term including political connections and contributions, the results suggest that corruption adds to the effect of political connections. Out of 12 coefficients of GVC participation, 8 are positive. This means that a politically connected firm that recognises the impact of (and possibly pays) bribes has a higher likelihood of participating in GVCs compared to a politically connected firm that do not find bribes necessary. The remaining 4 coefficients are positive but insignificant, meaning that, for these four modes of GVC participation, bribes may not contribute significantly to politically connected firms' integration in the global market. At the GVC intensive margin (Table A5), political connections and contributions have positive and significant effects on the

7 Table A2 presents the estimates of the average treatment of the treated and shows that all GVC definitions are statistically significant. Moreover, Table A3 shows that the difference between the treated and the control groups is statistically insignificant for all the variables used in the matching process.

increase of firms' activity along GVCs. As for the interaction term including connections and measures of corruption, the coefficients are negative, and only weakly significant for one measure of corruption (votes). These results suggest that, for the intensive margin of trade, politically connected firms with different perceptions of the importance of bribes do not perform differently. Overall, these results are more in line with the general literature on heterogeneous firms, where fixed entry costs (including preferential access to information and rights, and so on) matter more for the extensive margin of trade. In this case, corruption would not significantly add to the firm's ability to increase its global market share.

In the same vein, we test the complementarity between political connections and the importance of contributions by constructing a simpler categorical variable of political influence that takes the value of 0 if the firm is neither politically connected nor recognising the importance of contributions[8] (reference category); 1 if it is not politically connected but recognises the importance of contributions; 2 if it is politically connected but does not recognise the importance of contributions; and 3 if it is politically connected and recognises the importance of contributions. Table 8 summarises the main findings.

Table 8: Interaction between political connections and contributions on GVC – extensive and intensive margins

	Extensive				Intensive
	GVC1	GVC2	GVC3	GVC4	
No pol. Con. Cont.	0.0540***	0.0114***	-0.000619	-0.00103	0.0128***
	(0.00761)	(0.00388)	(0.00368)	(0.00215)	(0.00405)
Pol. Con. No cont.	0.0578***	-0.00102	0.0559***	-0.00427	0.0508***
	(0.0180)	(0.00919)	(0.00870)	(0.00509)	(0.00952)
Pol. Con. Cont.	0.121***	0.0536***	0.0666***	0.0160**	0.0483***
	(0.0254)	(0.0129)	(0.0123)	(0.00718)	(0.0134)
Lab. Prod.	0.0127***	0.00549***	0.00273***	0.00242***	0.0107***
	(0.00207)	(0.00106)	(0.00100)	(0.000586)	(0.00111)
Ln(Age)	-0.00539	-0.00130	0.00170	0.00210*	-0.0126***
	(0.00428)	(0.00218)	(0.00207)	(0.00121)	(0.00229)
Ln(Share Gov.)	0.0213	0.00145	0.0233***	-0.00145	0.0336***
	(0.0146)	(0.00746)	(0.00706)	(0.00413)	(0.00770)
Constant	-0.170***	-0.0674***	-0.0363**	-0.0347***	-0.0848***
	(0.0314)	(0.0160)	(0.0152)	(0.00889)	(0.0167)
Country x Sec. Dum.	YES	YES	YES	YES	YES
Observations	4,406	4,406	4,406	4,406	4,120
R-squared	0.211	0.175	0.154	0.069	0.261

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.
i) Weights are used.

Source: Authors

8 A firm recognises the importance of contributions if it recognises at least one of the three types of payments (votes, decrees, policies).

Indeed, the categorical measure of political influence produces interesting results: In the absence of political connections, corruption increases the likelihood of a firm's participation in GVCs through two-way trade (GVC1) and two-way trade with certification (GVC3). At the intensive margin, corruption also increases firms' activities in value chains (firm's shares of exports and imports in total sales and total inputs, respectively). Next, political connections (without considering payments) increase firms' likelihood of participating in GVCs through two-way trade (GVC1) and a more complex form involving firm's foreign ownership (GVC3). It also increases GVC participation at the intensive margin. Finally, firms that are politically connected and perceive payments as important are more likely to participate in GVCs across all definitions. The coefficients are also larger in magnitude than the coefficients of the other categories of political influence. The impact on the intensive margin is also positive and significant.

These results are interesting for several reasons. First, political connections are associated with more complex forms of GVC participation that include foreign ownership. FDI in the MENA region is often subject to complex investment laws with restrictions on entry and operation of foreign entities. Executive regulations include complicated – and sometimes prohibitive – licensing procedures, security approvals, and so on. Therefore, the association of politically connected firms with modes of GVC participation including FDI has several implications. It may indicate that connected firms, thanks to better access to information and to government officials, are more likely to overcome these bureaucratic and security hurdles and successfully secure foreign capital shares. It may also indicate that markets with politically connected firms are highly protected, so that the entry of potential foreign investors is only possible through one of the domestic firms. For example, in the presence of sector-specific restrictions on the share of foreign ownership, the only way for a multinational firm to establish an affiliate is to find a domestic partner, who is most likely politically connected. Second, we find that in the absence of political connections, GVC participation is only significantly different from the reference category for simpler modes including trade and foreign certification (GVC1 and GVC2). Bribery does not seem to offer non-connected firms any advantages related to foreign ownership, compared to non-connected firms that do not perceive payments as necessary. Third, the joint effect of political connections and corruption suggests that both are complementary tools that increase firm's power and leverage over other firms across the four definitions of GVC participation.

Overall, the results from the first extensions show that corruption matters, even for politically connected firms. Our findings add to the small but growing literature on official and unofficial contributions (Francis & Kubinec, 2022; Tovar, 2011) and are more in line with those of Tovar (2011) who argues that official campaign contributions buy access to the policymaker, but other substantial informal costs must be borne to maintain these relations. We extend this conclusion by suggesting that political connections may generally help maintain privileged relations with the policymaker, but corruption may buy additional firm leverage by securing "case-by-case" access to special rights, exemptions from specific restrictions, or help tailor a specific law or decree to one firm's individual benefit. Therefore, we do not suggest that connections and contributions are perfect substitutes. Politically non-connected firms may resort to side-payments as an alternative tool to influence policies. However, politically connected firms may jointly use their connections and their payments to gain more leverage.

5.3 Extensions: political influence, trade barriers, and obstacles from the business environment

In the second group of extensions, we introduce trade-related barriers, regulations and obstacles from the overall investment climate that are likely to affect firms' participation in GVCs. Our objective is to investigate how these barriers affect firm's participation in GVCs when these firms are politically connected, perceive bribes as necessary, or both. In this extension, we

choose to focus on GVC1 and GVC4 as our dependent variables at the extensive margin. These reflect the simplest mode of GVC participation (exports of products and imports of intermediates) and the most complex form (two-way trade, certification, and FDI). Initially, we expect these barriers to weigh less on firms' participation in GVCs when these use some measure of political influence. Firms can use their political connections, bribes, or both, to escape specific trade regulations (such as controls at the border) or to speed up customs procedures. They can also benefit from a less stringent application of TBT and SPS measures. The nature of these regulations makes them easy to manipulate to benefit a narrow set of firms. Likewise, obstacles from the business climate, such as licensing and permits, tax administration, and access to land can be used to protect politically connected firms from competitors. Some of these regulations, such as permits, could be granted exclusively to politically connected firms. Therefore, we expect that political connections, bribes, or both, dampen the impact of these obstacles on firms' participation in GVCs, at least at the extensive margin. Investment-related barriers represent rather fixed costs that affect firms' productivity, hence also their likelihood to enter the global market.

To test the impact of trade barriers on GVC participation across different levels of firms' political influence, we use the same categorical variable from the previous extension, and interact it with trade regulations, tariffs, TBT, and SPS measures. Table 9 depicts the results at the extensive and intensive margin.

Our findings suggest that the impact of trade barriers and regulations on firms' GVC participation is not significantly different across unconnected firms, whether they perceive bribes as necessary or not. This result holds for both definitions of GVCs (GVC 1 and GVC4). At the intensive margin, all coefficients are negative, but only those of trade regulations and SPS measures are significant. This means that bribes may help non-connected firms to dampen the effect of trade regulations and NTMs (SPS measures) on their trade along GVCs.

As for the interaction term including politically connected firms that do not consider bribes as important, only trade regulations have a negative and significant coefficient on GVC1. This suggests that trade regulations matter less to this category than to the reference category. In other words, being politically connected weakens the effect of trade regulations on the likelihood that a firm participates in two-way trade along GVCs.

Finally, for politically connected and potentially contributing firms, the results are mixed. At the extensive margin, TBT matter less for GVC 1 and GVC4, and tariffs matter less for GVC4. At the intensive margin, SPS measures matter less. These results are generally in line with the literature on politically connected firms (Kruse et al., 2021). These firms are more capable of evading tariffs by underreporting their imports, and benefit from an inconsistent and biased implementation of trade regulations and NTMs to their benefit. However, some interactions produce positive and significant coefficients, suggesting that these barriers weigh heavier on firms' participation in GVCs when the firm is politically connected and finds bribes necessary. However, these mixed results could imply that political connections cost more than bribery alone. With reference to Francis and Kubinec (2022), it may be cheaper for unconnected firms to pay bribes than to be politically connected, if the cost of corruption is less than what politically connected firms must additionally pay in exchange for political support. In our case, this may indicate that some trade barriers are more costly to deal with, when a firm is known for its political connections and readiness to pay bribes.

Table 9: Impact of political connections, contributions and trade restrictions on firms' GVC participation – extensive and intensive margin

	GVC1			
	Trade regulations	TBT	SPS	Tariff
Obs*No. Pol. con, Cont.	0.0210	0.00169	-0.00431	6.00e-05
	(0.0223)	(0.00111)	(0.00290)	(0.000288)
Obs*Pol. con. No cont.	-0.175***	0.00310	0.00702	-0.000118
	(0.0613)	(0.00567)	(0.0237)	(0.00891)
Obs*Pol. con. Cont.	0.154***	-0.0123***	0.0188*	0.00110
	(0.0581)	(0.00437)	(0.0109)	(0.00461)
Observations	4,098	2,098	855	2,536
R-squared	0.233	0.292	0.250	0.376
	GVC4			
	Trade regulations	TBT	SPS	Tariff
Obs* No pol. con. Cont.	-0.00255	-0.000105	0.000445	-3.56e-06
	(0.00641)	(0.000396)	(0.000720)	(9.40e-05)
Obs*Pol. con. No cont.	0.00135	0.000192	0.000753	-0.00112
	(0.0176)	(0.00202)	(0.00588)	(0.00291)
Obs*Pol. Con. Cont.	0.0834***	-0.00334**	0.00963***	-0.00301**
	(0.0167)	(0.00155)	(0.00271)	(0.00150)
Observations	4,098	2,098	855	2,536
R-squared	0.077	0.134	0.096	0.128
	Intensive			
	Trade regulations	TBT	SPS	Tariff
Obs*No pol. con. Cont.	-0.0435***	-0.000384	-0.00988***	-1.19e-05
	(0.0117)	(0.000629)	(0.00158)	(0.000154)
Obs*Pol. Con. No cont.	0.00472	0.00284	-0.00438	-0.000806
	(0.0312)	(0.00320)	(0.0129)	(0.00476)
Obs*Pol. con, Cont.	-0.0388	-0.000144	-0.0109*	0.00176
	(0.0296)	(0.00247)	(0.00595)	(0.00245)
Observations	3,818	2,098	855	2,436
R-squared	0.303	0.344	0.333	0.374

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.
i) Weights are used.

Source: Authors

Finally, Dovis and Zaki (2020) argue that business climate variables are an important determinant of GVC integration. Thus, we extend this analysis and test the impact of obstacles from the investment climate on access to value chains by the status of a firm's political influence. Table 10 depicts the main findings. Obstacles related to the business climate are extracted from

the Enterprise Surveys and include access to electricity, access to land, efficiency of courts, tax rates, tax administration, permits, and access to finance. Like the previous regressions, we investigate whether these obstacles matter less for GVC participation by politically connected firms, firms recognising the importance of contributions, and firms that are/do both. To do so, we interact the different obstacles with the categorical variable of political influence and test the effect on firms' participation in GVC1, GVC4, and on the intensive margin.

For the first category (non-connected firms that recognise the importance of bribes), we find that the effect of permits on their GVC participation (GVC1) is reduced. For the same category, bribes seem to reduce the impact of electricity on firms' GVC participation in the most restrictive definition (GVC4). Corruption seems to be an efficient tool for firms to obtain permits and access to electricity. At the intensive margin, barriers related to electricity, court procedures, permits, and access to finance seem to matter less for firms that recognise the importance of bribes. The second measure of political influence includes politically connected firms that do not see the importance of paying bribes. For these firms, access to finance matters less for their participation in GVCs through exports and imports (GVC1). At the intensive margin, tax rates and permits also matter less than for the reference category. Finally, for firms that are both politically connected and recognise the importance of contributions, obstacles related to access to electricity, access to finance, and obtaining permits weigh less on their engagement in two-way trade at the extensive and intensive margin.

Overall, these results are largely in line with the literature on politically connected firms, especially those in the MENA region. Politically connected firms enjoy more privileges and more exemptions than their non-connected peers do. In general, obstacles from the business environment should matter less for these firms and provide them with a cost advantage over their potential competitors. Consequently, this cost advantage should positively influence their decision to enter the global market. We are able to validate this assumption for a number of interactions. However, our conclusions on the impact of trade barriers are not clear-cut. Some interactions produce positive and significant coefficients, implying that politically connected and/or potentially contributing firms suffer more (than non-connected, potentially non-contributing firms) from specific obstacles when they decide to participate in value chains. Two possible reasons can explain such a finding. First, political connections sometimes cost more. Second, more integrated firms trade more and have more frequent interactions with governmental institutions and might thus report more barriers, compared to non-integrated firms.

Table 10: Impact of political connections, contributions and the business environment on firms' GVC participation – extensive and intensive margin

			GVC1				
	Electricity	Land	Courts	Tax rates	Tax administration	Permits	Finance
Obs*No. pol. con. Cont.	-0.00103	0.0120	0.0154	0.0396**	-0.00749	-0.111***	0.0122
	(0.0179)	(0.0263)	(0.0412)	(0.0173)	(0.0211)	(0.0260)	(0.0198)
Obs*Pol. con. No cont.	0.148***	-0.0405	0.118	-0.0591	-0.154	-0.150*	-0.128***
	(0.0408)	(0.127)	(0.169)	(0.0634)	(0.120)	(0.0905)	(0.0492)
Obs*Pol. con, Cont.	-0.176***	-0.0424	0.309***	0.0434	-0.0830	-0.188***	-0.103*
	(0.0537)	(0.0669)	(0.0740)	(0.0506)	(0.0536)	(0.0584)	(0.0535)
Observations	4,405	4,263	4,324	4,345	4,152	4,362	4,367
R-squared	0.231	0.217	0.224	0.228	0.210	0.223	0.222
			GVC4				
	Electricity	Land	Courts	Tax rates	Tax administration	Permits	Finance
Obs*No pol. con. Cont.	-0.0249***	-0.00336	0.00711	-0.000286	-0.00161	0.00601	-0.00228
	(0.00512)	(0.00647)	(0.0101)	(0.00498)	(0.00606)	(0.00746)	(0.00564)
Obs*Pol. con. No cont.	-0.0160	-0.00302	0.00290	0.00685	0.00457	0.00885	0.00449
	(0.0117)	(0.0313)	(0.0413)	(0.0182)	(0.0345)	(0.0260)	(0.0140)
Obs*Pol. con. Cont.	0.0203	0.0792***	0.0728***	0.0279*	0.0620***	0.0325*	0.0679***
	(0.0154)	(0.0164)	(0.0182)	(0.0146)	(0.0154)	(0.0168)	(0.0152)
Observations	4,405	4,263	4,324	4,345	4,152	4,362	4,367
R-squared	0.076	0.100	0.100	0.071	0.082	0.072	0.074
			Intensive margin				
	Electricity	Land	Courts	Tax rates	Tax administration	Permits	Finance
Obs*No pol. con. Cont.	-0.0347***	-0.0213	-0.0632***	-0.00613	-0.00171	-0.0478***	-0.0278***
	(0.00976)	(0.0143)	(0.0223)	(0.00922)	(0.0114)	(0.0139)	(0.0108)
Obs*Pol. con. No cont.	0.0728***	-0.108	-0.118	-0.0962***	-0.0844	-0.115**	0.0454*
	(0.0218)	(0.0688)	(0.0897)	(0.0334)	(0.0638)	(0.0479)	(0.0260)
Obs*Pol. con. Cont.	-0.0974***	-0.0333	-0.0169	-0.0475*	0.0747***	-0.118***	-0.0671**
	(0.0286)	(0.0361)	(0.0396)	(0.0267)	(0.0285)	(0.0307)	(0.0283)
Observations	4,119	3,981	4,038	4,062	3,866	4,076	4,081
R-squared	0.275	0.255	0.264	0.272	0.259	0.265	0.272

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. i) Weights are used.

Source: Authors

Third, another potential explanation of these mixed results could stem from the definition of political connections. In the survey, politically connected firms are defined as those whose top manager/board member/CEO/owner has ever been appointed to a political position. This definition includes present and past cronies, that is, politically connected businesspersons from the era of Mubarak and Ben Ali, and businesspersons who were previously appointed as politicians in the rapidly changing governments in Jordan and Lebanon, for example. One possible explanation is that some politically connected firms who find bribes necessary are owned by old cronies, while politically connected firms that do not, could be owned/managed by present cronies. For firms with previous political connections, their history may not be enough to secure advantages. To the contrary, these firms may find it even harder to operate and to trade because of power shifts to new business elites. Therefore, they may resort to paying bribes to influence policies, votes, and decrees. Some trade and investment barriers may also act as an additional burden on these firms' participation in global markets.

With regard to P2, *we find no clear-cut evidence that politically connected firms face lower barriers to entry, operation, and trade, compared to non-connected firms. Thus, the final impact of such barriers on the entry of politically connected firms in GVCs, compared to non-connected firms, remains unknown.*

6 Conclusions

The objective of this paper was to investigate the impact of lobbying, political connections, and corruption on firms' GVC participation. Using firm-level data from the World Bank Enterprise Surveys for six MENA countries, we drew from the protection-for-sale framework (Grossman & Helpman, 1994) and from the literature on politically connected firms to investigate the effectiveness of different measures of political influence on MENA firms' participation in global markets. We also explored whether trade and investment barriers mattered for firms' GVC participation across different categories of firms' political influence.

Our findings suggest that collective lobbying through business associations is ineffective for firms' participation in GVCs. Firms lobby for favourable trade and investment policies. However, they are likely to lobby alone, that is, they use their own political connections to influence policies to their benefit. The results suggest that political connections matter for firms' participation in GVCs at the extensive and intensive margins. Most importantly, political connections matter for firms' GVC participation modes including foreign ownership. One possible explanation is that markets with politically connected firms are often highly protected, so that foreign investors seeking establishment in these markets opt for partnerships with domestic politically connected firms. Additionally, we suggest that political connections are not enough. Politically connected firms may also resort to bribes, gifts, and exchanges of favours to influence policies, votes, or decrees. This increases their likelihood of joining GVCs in a more comprehensive way (including, in addition to trade, foreign ownership and international certification). At the same time, non-connected firms that potentially make informal payments (as they perceive corruption as necessary) are more likely to participate in GVCs, yet in rather shallow ways (two-way trade and, possibly, international certification).

Finally, we are unable to find conclusive evidence on the impact of trade and investment-related barriers on firms' GVC participation across several categories of political influence. Surprisingly, many trade and investment barriers matter more for firms that are politically connected and perceive bribes as necessary. While these mixed findings may result from the narrow sample size or the strict definition of political connections, they may also reflect the unobserved difficulties firms with previous political connections encounter due to power shifts to other business elites.

From a policy perspective, our results highlight three important implications: First, while most of the MENA countries are WTO members and committed to trade liberalisation, political connections are likely to represent a hidden protectionist tool. This conclusion has also been suggested by several other country case studies on the region. In this context, non-connected firms are less likely to integrate into GVCs despite the free trade regime in place. In other words, hidden protectionism from political connections is likely to offset the liberalisation efforts and investment-related reforms carried out by MENA countries in the past. Second, increasing transparency and levelling the playing field for firms investing in MENA countries is a precondition for better integration into international markets. This would require deep and long-term institutional reforms. Last but not least, our results should be interpreted with caution, as they build on specific frameworks that may simplify the question of protective policies by focusing on firms' political influence as the main variable of interest. However, there may be other reasons for protection and other forms of political connections that we have not taken into account in this paper. From a public-good perspective, for example, infant-industry protection; protection of "strategic" sectors with spillover potentials; or protection of sectors relevant to national sovereignty may be justified. While these arguments stem from a different literature, it is important to note that some firms may reveal a certain degree of connection to the policymaker that does not necessarily reflect a rent-seeking behaviour.

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Appendix

Table A1: Survey questions and data

Item	Survey question	Type
Organised sector	Is this firm part of a business membership organisation, trade association, chamber of commerce or other business support group?	A dummy variable that takes the value of one if the answer is yes and zero otherwise.
Lobbying effectiveness	Referring to the most important business association the firm is part of, how useful is influencing regulatory decision-making processes or "lobbying"?	A dummy variable that takes the value of one if the answer is somewhat useful or useful and zero otherwise.
Political connection	Has the owner/CEO/Top Manager/Board Member of the firm ever been appointed to a political position in this country?	A dummy variable that takes the value of one if the answer is yes and zero otherwise.
Informal payments: votes	It is often said that firms make gifts or informal payments to public officials to gain advantages in the drafting of laws, decrees, regulations or other binding government decisions. To what extent [have] payments, gifts, or exchange of favours with parliamentarians to affect votes had a direct impact on this establishment?	A dummy variable that takes the value of one if the impact is major or moderate and zero otherwise.
Informal payments: decrees	It is often said that firms make gifts or informal payments to public officials to gain advantages in the drafting of laws, decrees, regulations or other binding government decisions. To what extent [have] payments, gifts, or exchange of favours with parliamentarians to affect votes had a direct impact on this establishment?	A dummy variable that takes the value of one if the impact is major or moderate and zero otherwise.
Informal payments:policies	It is often said that firms make gifts or informal payments to public officials to gain advantages in the drafting of laws, decrees, regulations or other binding government decisions. To what extent [have] payments, gifts, or exchange of favours with parliamentarians to affect votes had a direct impact on this establishment?	A dummy variable that takes the value of one if the impact is major or moderate and zero otherwise.

Source: WBES; for more information, see https://www.enterprisesurveys.org/en/enterprisesurveys

Table A2: PSM results – treated and controls

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
GVC1	Unmatched	0.240	0.106	0.134	0.017	7.710
	ATT	0.240	0.127	0.113	0.030	3.810
GVC2	Unmatched	0.129	0.049	0.081	0.012	6.570
	ATT	0.129	0.062	0.067	0.022	3.020
GV3	Unmatched	0.084	0.019	0.065	0.008	7.830
	ATT	0.084	0.032	0.051	0.018	2.900
GVC4	Unmatched	0.046	0.010	0.036	0.006	5.860
	ATT	0.046	0.003	0.043	0.011	3.800
Intensive	Unmatched	0.184	0.104	0.080	0.009	9.190
	ATT	0.184	0.148	0.036	0.016	2.290

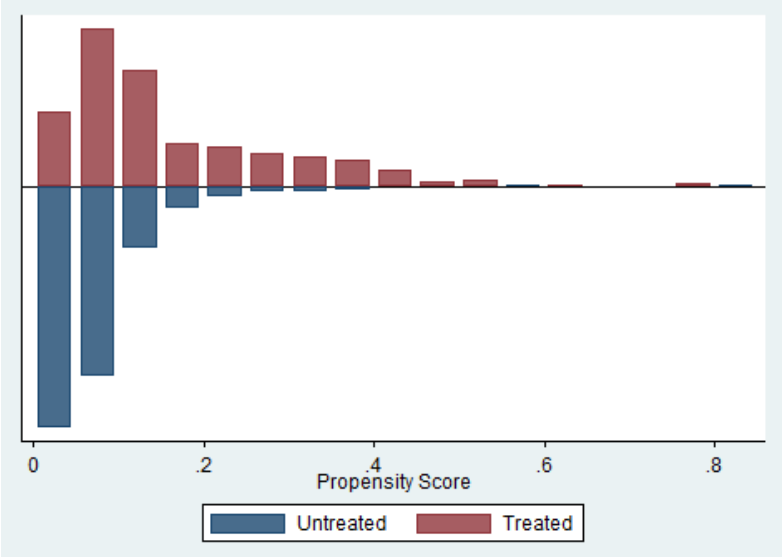
Source: Authors' own elaboration using Stata

Table A3: PSM results – matching variables

	Mean			t-test	
	Treated	Control	%bias	t	p>|t|
Lab. Prod.	12.491	12.105	13.7	1.84	0.066
Ln(Age)	3.009	3.031	-2.6	-0.35	0.725
Ln(Share Gov.)	0.139	0.071	13	1.53	0.127

Source: Authors' own elaboration using Stata

Figure A1: On-support region



Notes: In the on-support region, we have 4,184 that are untreated and 371 treated, no observations off-support.

Source: Authors' own elaboration using Stata

Table A4: Interaction between political connections and contributions on GVC participation at the extensive margin

	Decrees				Votes				Policy			
	GVC1	GVC2	GVC3	GVC4	GVC1	GVC2	GVC3	GVC4	GVC1	GVC2	GVC3	GVC4
Pol. Con.	0.0456***	-0.00463	0.0573***	-0.00476	0.0412**	0.00467	0.0496***	-0.00171	0.0499***	-0.00318	0.0560***	-0.00658
	(0.0171)	(0.00868)	(0.00806)	(0.00481)	(0.0167)	(0.00843)	(0.00798)	(0.00465)	(0.0169)	(0.00865)	(0.00819)	(0.00479)
Lab. Prod.	0.0125***	0.00574***	0.00228**	0.00249***	0.0119***	0.00523***	0.00245**	0.00233***	0.0126***	0.00556***	0.00242**	0.00246***
	(0.00206)	(0.00105)	(0.000972)	(0.000581)	(0.00207)	(0.00105)	(0.000990)	(0.000577)	(0.00207)	(0.00106)	(0.00100)	(0.000585)
Ln(Age)	-0.00551	-0.00143	0.000892	0.00202*	-0.00373	-0.00112	0.00210	0.00210*	-0.00426	-0.00108	0.00179	0.00237**
	(0.00428)	(0.00218)	(0.00202)	(0.00121)	(0.00431)	(0.00218)	(0.00206)	(0.00120)	(0.00427)	(0.00218)	(0.00207)	(0.00121)
Ln(Share Gov.)	0.0243	0.00159	0.0273***	-0.00115	0.0192	0.00119	0.0228***	-0.00146	0.0213	0.000735	0.0228***	-0.00169
	(0.0149)	(0.00760)	(0.00706)	(0.00421)	(0.0147)	(0.00744)	(0.00704)	(0.00410)	(0.0146)	(0.00746)	(0.00706)	(0.00412)
Contribution	0.0384***	0.0140***	0.000502	0.000914	0.0240***	0.00953**	-0.00127	0.00122	0.0504***	0.00570	-0.00421	-0.00675***
	(0.00772)	(0.00393)	(0.00365)	(0.00218)	(0.00791)	(0.00399)	(0.00378)	(0.00220)	(0.00771)	(0.00394)	(0.00373)	(0.00218)
Pol. Con.*Contr.	0.0367	0.0606***	0.0116	0.0294***	0.0644*	0.0401**	0.0493***	0.0251**	0.0319	0.0594***	0.0124	0.0338***
	(0.0322)	(0.0164)	(0.0152)	(0.00909)	(0.0352)	(0.0178)	(0.0168)	(0.00981)	(0.0329)	(0.0168)	(0.0159)	(0.00931)
Constant	-0.152***	-0.0705***	-0.0292**	-0.0365***	-0.142***	-0.0623***	-0.0338**	-0.0348***	-0.166***	-0.0649***	-0.0308**	-0.0331***
	(0.0311)	(0.0158)	(0.0147)	(0.00879)	(0.0314)	(0.0158)	(0.0150)	(0.00873)	(0.0313)	(0.0160)	(0.0151)	(0.00884)
Country x Sec. Dum.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	4,422	4,422	4,422	4,422	4,424	4,424	4,424	4,424	4,408	4,408	4,408	4,408
R-squared	0.203	0.177	0.149	0.069	0.200	0.173	0.153	0.067	0.203	0.173	0.155	0.072

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.
i) Weights are used. ii) Contribution is measured by decrees, votes, and policy.

Source: Authors

Table A5: Interaction between political connections and contributions on GVC participation at the intensive margin

	Decrees	Votes	Policy
Pol. Con.	0.0498***	0.0534***	0.0465***
	(0.00904)	(0.00880)	(0.00897)
Lab. Prod.	0.0102***	0.0110***	0.0106***
	(0.00110)	(0.00110)	(0.00111)
Ln(Age)	-0.0127***	-0.0133***	-0.0129***
	(0.00229)	(0.00229)	(0.00229)
Ln(Share Gov.)	0.0332***	0.0334***	0.0326***
	(0.00789)	(0.00772)	(0.00769)
Contribution	0.0129***	0.0177***	0.0186***
	(0.00410)	(0.00417)	(0.00409)
Pol. Con.*Contribution	-0.0125	-0.0349*	-0.00112
	(0.0170)	(0.0185)	(0.0174)
Constant	-0.0768***	-0.0879***	-0.0847***
	(0.0166)	(0.0166)	(0.0167)
Country x Sec. Dum.	YES	YES	YES
Observations	4,134	4,128	4,120
R-squared	0.258	0.260	0.263

Notes: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.
i) Weights are used. ii) Contribution is measured by decrees, votes, and policy.

Source: Authors