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Candidate-centred systems, public banks and equity market restrictions in developing democracies

Bumba Mukherjee,1 Vineeta Yadav1 and Sergio Bejar2

1Department of Political Science, Pennsylvania State University, University Park, USA

2Department of Political Science, University of Texas-Pan American, Edinburg, USA

ABSTRACT

The pace of financial globalization across the developing world grew rapidly after developing country governments started reducing restrictions on foreign ownership of domestic equities. Studies suggest that the emergence of democracy in developing states played a critical role in facilitating the reduction of controls on foreign investment in domestic equities. Yet, the data reveals that although some developing country democracies have curtailed equity market restrictions, a significant share of developing democracies have increased barriers on foreign ownership of domestic equities. This raises an important question: when do democratic governments in the developing world raise restrictions on foreign ownership of the equities of domestic firms? We suggest that policymakers in candidate-centred developing democracies will increase equity market restrictions in response to pressure from market concentrated public sector banks. Specifically, we claim that highly market concentrated public banks have incentives and the capacity to lobby policymakers to keep the domestic equity market closed to foreign investors. We then argue that policymakers from candidate-centred—but not party-centred—developing democracies have political incentives to be responsive to such pressure, which will induce them to raise barriers on foreign ownership of domestic equities. Statistical results obtained from a comprehensive sample of developing country democracies support our hypothesis.
Governments across the developing world often adopted stringent financial market controls in the immediate aftermath of World War II. Foreign ownership of the equities of local firms was in particular highly restricted by developing country governments to insulate their economy from volatile global capital flows (Frieden, 1991; World Bank, 2008). Starting from the late 1970s, a few developing states in Asia began to tentatively reduce equity market restrictions. However, after the third wave of democratization in the developing world during the 1980s and early 1990s, a larger and more diverse set of developing countries such as Argentina, Romania and South Korea, which experienced a transition to democracy, took the lead in adopting policies that curtailed restrictions on foreign ownership of domestic equities (IMF, 1993; World Bank, 2001). It is thus not a coincidence that a study published by the International Monetary Fund (IMF) in 1993 stated that the ‘spread of democracy’ promotes financial reforms and ‘dismantling of equity market controls’ in developing states (IMF, 1993: 102). Additionally, numerous scholars find empirically that the emergence of democracy in developing countries helps to curb policies that prohibit foreign investment in domestic equities in these states (for example, Quinn, 2000; Abiad and Mody, 2005; Burgoon, Demetriades and Underhill, 2012). This finding complements other studies that show that democracy fosters trade and capital account liberalization in developing countries (for example, Quinn, 2000; Brune et al., 2001; Eichengreen and Leblang, 2008).

The empirical result that democracy is negatively correlated with equity market restrictions—defined here as restrictions on foreign ownership of domestic equities—in developing states is insightful as equities constitute an important capital market (Sobel, 1994; Mosley and Singer, 2008; Gourevitch, Pinto and Weymouth, 2011). But this result also paints the link between democracy and equity market controls with a broad brush. A careful examination of the data on equity market controls across 66 developing country democracies from 1980 to 2006 in fact shows that the degree of restrictions on foreign ownership of domestic equities varies significantly across these democracies (Figure 1). We also learn from Figure 2 that from 1980 to 2006, 39 per cent of the countries in the developing democracies sample raised barriers on foreign ownership of domestic equities by more than 40 per cent, another 18 per cent of the democracies also increased equity market controls by 17 per cent, and the remaining 43 per cent of the countries in the sample reduced equity market restrictions.1 The variation shown in Figure 1 and our finding that a significant share
of developing democracies (57 per cent) has increased barriers on foreign ownership of domestic equities is intriguing as extant studies mentioned earlier anticipate that democracy is conducive for the removal of equity market restrictions. It is also puzzling since governments in developing states (including developing democracies) recognized from the 1980s itself that allowing foreign investors to purchase domestic equities ‘provides a valuable source of capital for long-term economic development’ (Mosley and Singer, 2008: 406). Developing countries also have incentives to curb equity market controls as they often compete against each other to obtain foreign portfolio (that is, equity) investment (World Bank, 2008: 77–9). Notwithstanding such incentives, many—if not all—developing democracies have as mentioned above raised barriers to prevent foreign ownership of domestic equities. This variation thus leads to the following question addressed in this paper: when do democratic governments in the developing world raise restrictions on foreign ownership of domestic equities?

**Figure 1** Developing country democracies and equity market restrictions. Notes: Each point in the figure represents the mean of a 0 (minimum value) to 1 (maximum value) continuous measure of restrictions on foreign ownership of domestic equities for each developing democracy in our sample. Source: Authors’ calculation with data from Edison and Warnock (2003).
Various causal claims can be put forth to answer this question. Some scholars suggest that elected governments in the developing world became sceptical about the idea that open financial (including equity) markets are beneficial particularly after the financial crises of the late 1990s/early 2000s across some developing states, and this scepticism influenced them to increase financial market controls (Abdelal and Alfaro, 2003; Walter and Sen, 2009). Others suggest that elected governments may be tempted to raise barriers against foreign (equity) investment to protect workers in certain sectors that are hurt by such investment (for example, Scheve and Slaughter, 2004). While these causal claims are indeed plausible, we propose another theoretical story that builds on recent research that focuses not just on the impact of democracy on equity market reforms, but also how the preferences of the banking sector affects financial (including equity) market restrictions in developing states (for example, Frieden, 1991; Sobel, 1994; Haggard and Maxfield, 1996; Brooks, 2004; Kim and Kenny, 2007; Pepinsky, 2013). Our theoretical story, however, parts company with the previous literature by examining how the market concentration of public sector banks interacts with the electoral system in which policymakers operate to influence the degree to which foreign investors are prohibited from investing and owning domestic equities. Our key theoretical prediction is that politicians who operate under candidate-centred—but not party-centred—electoral systems in developing democracies will increase restrictions on foreign ownership of domestic equities in response to demands for stringent equity market controls by market concentrated public banks. Hence, we anticipate that the interactive effect of the market concentration of domestic public banks and candidate-centred electoral
institutions on the degree of equity market restrictions in developing democracies will be positive and substantial. The causal intuition that leads to this prediction is as follows.

To begin with, we claim that domestic public banks in developing states have incentives to lobby the elected government to prohibit foreign investment in domestic equities as foreign ownership of domestic equities hurts their economic interests. If the market concentration of public sector banks is sufficiently high, then these banks will overcome the collective action problems associated with lobbying. Higher market concentration of public banks in fact enhances their ability to credibly exert pressure on policymakers to raise barriers on foreign ownership of domestic equities. Lobbying by market concentrated domestic public banks is a necessary, but not sufficient, condition for governments to impose higher equity market restrictions in developing democracies.

Rather, we argue that in contrast to party-centred systems, candidate-centred electoral systems produce strong political and financial ties between individual politicians in these systems and domestic public banks that seek more equity market controls. These strong ties provide political incentives to politicians in candidate-centred systems to respond favourably to the demands of concentrated public banks by raising barriers on foreign ownership of domestic equities. Unlike candidate-centred democracies, we suggest that politicians in party-centred democracies have electoral incentives to resist demands for raising equity market controls by concentrated public banks. Policymakers in party-centred democracies will, therefore, be less susceptible to pressure from concentrated public banks that favour equity controls. Thus, we hypothesize that higher market concentration of domestic public banks will have a (statistically) significant positive effect on the degree of restrictions imposed on foreign ownership of domestic equities in candidate-centred (but not party-centred) developing democracies. Statistical results obtained from a pooled sample of 66 developing country democracies (1980–2006) provide robust support for our hypothesis.

This paper proceeds as follows. We first develop our theoretical arguments that lead to the main testable hypothesis stated above. We then present the data, the variables and the empirical results. We conclude by discussing the implications of our study and provide avenues for future research.

1. THEORETICAL FRAMEWORK

A vast literature examines when states are more likely to relax or retain financial market controls (for example, Frieden, 1991; Helleiner, 1994; Sobel, 1994; Haggard and Maxfield, 1996; Quinn, 2000; Lukauskas and Minushkin, 2000; Brooks, 2004; Abiad and Mody, 2005; Abdelal, 2007; Kim...
and Kenny, 2007; Brooks and Kurtz, 2012; Pepinsky, 2013; Gourevitch, Pinto and Weymouth, 2011; Burgoon, Demetriades and Underhill, 2012). While some of this research focuses on capital account policies,² political scientists have also analysed how domestic financial intermediaries from the banking sector influence financial (including equity) market policies in developing states, including developing democracies (Frieden, 1991; Sobel, 1994; Haggard and Maxfield, 1996; Brooks, 2004; Pepinsky, 2013). The precise effect of the banking sector on financial market policies in developing states has been debated among scholars (Haggard and Maxfield, 1996; Brooks, 2004; Pepinsky, 2013). But statistical evidence from a sample of emerging markets indicates that the size of the banking sector (which includes public sector banks) reduces the prospects for foreign ownership of domestic equities (Pepinsky, 2013).

Additionally, as discussed below, examples show that public sector banks have put pressure on governments in developing democracies such as the Philippines, Colombia, Poland and Turkey to impose more controls on foreign ownership of domestic equities (Bokros, Fleming and Votava, 2001; Keksin and Alparslan, 2002; Barth, Caprio Jr and Levine, 2006). It is, therefore, not unreasonable to think that lobbying by financial intermediaries such as public banks can influence equity market controls in developing democracies. We thus adopt—as a starting point for our theoretical framework—the insight from extant studies that domestic public banks in developing states exert pressure on governments to prohibit foreign ownership of domestic equities. However, we suggest that the market concentration of public sector banks combines with electoral systems (specifically, candidate-centred systems) to influence the degree of restrictions placed on foreign ownership of domestic equities in developing democracies.

To understand the causal intuition that leads to the claim posited above, first note that public sector banks in developing states typically favour high restrictions on ownership of domestic equities by foreign investors (World Bank, 2001, 2008; Hanson, Honohan and Majnoni, 2003). This is because of three main reasons. First, reports by the IMF (2005) and the World Bank (1999, 2009) show that reducing equity market restrictions allows foreign investors to purchase the equity of domestic firms, which includes existing domestic private non-bank financial intermediaries (which are non-depository institutions) such as ‘leasing, factoring and venture capital companies as well as various types of contractual savings and institutional investors’ (World Bank, 1999: 1). Moreover, according to the World Bank (2009) and a study by the financial economists Adams, Mathieson and Schinasi (1999), foreign portfolio investment in the equity of private non-bank financial intermediaries (NBFIs) across developing states in Africa, Asia, Eastern Europe and Latin America has ‘grown by a staggering 270% since the 1980s’ (Adams, Mathieson and Schinasi, 1999: 57). Their study also emphasizes that the shares of domestic private NBFIs are an ‘attractive
investment option for foreign investors as it tends to generate high returns for these investors’ (Adams, Mathieson and Schinasi, 1999: 59).

It is important to note here that in developing states, the NBFIs alluded to above ‘provide direct competition to public sector banks in the provision of financial services’ (World Bank, 2012: 117) such as credit to small and medium enterprises (SMEs), credit to individual consumers and households, investments (both collective and individual), money transmission, cheque cashing and even financing of government development activities (World Bank, 2008). Furthermore, when foreign investors purchase the equity of private NBFIs—this occurs when foreign ownership of domestic equities is allowed—the financial resources of these NBFIs grow rapidly, thus increasing their capacity to provide the services listed above. The main consequence of the rapid financial growth of NBFIs is that it allows these NBFIs to ‘outcompete public-sector banks in offering financial services such as credit to SMEs, consumer credit and financing of government development activities that were traditionally monopolized or conducted largely by public banks’. Such increased competition from domestic NBFIs, which emerges when equity market restrictions are low, erodes the revenue and the ‘rents’ that state-owned banks obtain from providing financial services to domestic firms, households and the government (Adams, Mathieson and Schinasi, 1999; World Bank, 2009). Lower revenue adversely affects the net profit of public banks that may hurt both the real income of their workers and their employment prospects, especially if the revenue losses incurred by public banks are substantial. Thus, public banks in developing states have incentives to support restrictions on foreign ownership of domestic equities as lowering equity market controls exposes them to serious competition from NBFIs.

Second, when equity market restrictions are relaxed and domestic firms issue stocks that can be purchased by foreign investors, financially large foreign investment firms such as foreign institutional investors (FIIs) may buy significant numbers of shares of domestic firms (Adams, Mathieson and Schinasi, 1999; World Bank, 2001, 2009). Purchasing substantial numbers of shares of domestic firms increases the financial leverage of FIIs. Such financial leverage can be exploited by FIIs to put pressure on governments (that relax equity market controls) to allow them to buy and own some proportion of the equities of public sector banks as investing in such equities may generate healthy returns for these investors (Adams, Mathieson and Schinasi, 1999; World Bank, 2008). Public banks will perceive such pressure from FIIs as a threat because if the government acquiesces to this pressure, then FIIs may own sufficient equities of public banks, which will provide an avenue for these FIIs to directly intervene in the daily activities and functions of state-owned banks. Public banks will thus oppose reduction of equity market controls as it increases the leverage of FIIs that can threaten their (the public banks’) interests.
Third, research in empirical finance reveals that substantial controls on foreign ownership of domestic equities prevents the possibility for ‘scrutiny by foreign investors of domestic equity markets and the adoption of better corporate governance practices’ (De La Torre, Gozzi and Schmukler, 2006: 8). This discourages transparency and prevents, as stated by Rajan and Zingales (2003: 18), ‘better disclosure rules and impartial enforcement’ in the financial sector of developing countries. Low levels of transparency in the financial sector make it easier for governments to provide ‘preferential treatment’ to public banks, which provides more opportunities for rent seeking by these banks (Barth, Caprio Jr and Levine, 2006; Beck, Demirgüç-Kunt and Peria, 2007). Rajan and Zingales (2003) also point out that the lack of disclosure rules and impartial enforcement in the financial sector—which results from a high level of equity market control—allows ‘incumbent financiers’ such as state-owned banks to ‘preserve their privileged access to finance in underdeveloped financial systems’ (2003: 18). Consequently, such ‘incumbent’ public banks not only ‘enjoy some rents in the markets they operate in, but also end up appropriating most of the returns from new ventures’ (Rajan and Zingales, 2003: 18). In short, given that public banks gain from equity market controls, it is not difficult to discern why these banks favour imposition of substantial restrictions on foreign ownership of domestic equities.

Because public sector banks favour pervasive equity market controls, they have incentives to lobby elected politicians to raise restrictions on foreign ownership of domestic equities. Yet, as shown in studies on the banking system in developing countries, the incentives of public banks are not sufficient to ensure that they will successfully coordinate and collectively lobby politicians (Freixas and Rochet, 1997; World Bank, 2001; Hanson, Honohan and Majnoni, 2003). These studies in fact suggest that multiple public banks may find it challenging to collectively organize to put pressure on policymakers as it requires ‘large-scale coordination and exchange of information between these banks about their collective interests, objectives and mobilization strategies that may be costly and difficult to achieve’ (Freixas and Rochet, 1997: 83). This collective action problem gets exacerbated when the banking system contains a large number of small public banks, where the ratio of the financial assets of each public bank to the total financial assets in the banking sector is relatively low (Freixas and Rochet, 1997; World Bank, 2001). The presence of a large number of small public banks ‘magnifies’ coordination and information problems between these banks, which increases the possibility that collective action by these banks will be susceptible to free-riding (World Bank, 2001; Hanson, Honohan and Majnoni, 2003).

Despite the collective action problem discussed above, public sector banks in democracies such as the Philippines and Colombia have successfully coordinated and lobbied legislators to raise restrictions on
foreign ownership of domestic equities. However, state-owned banks in South Africa, for example, failed to undertake such collective lobbying action (Freixas and Rochet, 1997; Hanson, Honohan and Majnoni, 2003). The possibility that public banks may succeed in collectively lobbying politicians in some cases, but not others, thus raises the following question: when are public banks more likely to successfully coordinate their lobbying efforts to pressure elected politicians to increase equity market controls? We argue that public banks in developing democracies will overcome their collective action problems and thus coordinate their lobbying efforts when the market concentration of these banks is high. Three main reasons account for this claim.

The first is that higher market concentration of domestic public banks implies an oligopolistic market structure where the sum of the financial assets of a small number of public sector banks constitutes a relatively large share of the total financial assets in the country’s banking sector. Since the gains are larger and monitoring costs lower for the smaller number of banks, market concentrated public banks will be less susceptible to collective action problems like free-riding. Second, employees in public banks in developing states—who also favour equity market restrictions—are often unionized unlike their counterparts in private banks (World Bank, 2001; Hanson, Honohan and Majnoni, 2003). Higher market concentration of public banks facilitates collective action by unionized employees from these banks, which enhances their capacity to conduct strikes at the national level (Barth, Caprio Jr and Levine, 2006). This allows employees from concentrated public banks to credibly threaten policymakers that they will paralyse the banking sector via national strikes if policymakers ignore their demands to raise equity market controls. The credibility of the employees’ threat in this will influence governments with concentrated public banks to increase restrictions on foreign ownership of domestic equities.

Third, cross-national research on banking systems shows that governments in developing states (including developing democracies) often rely on public sector banks as a primary revenue source for (a) financing public works programmes that create jobs and (b) providing loans and other forms of monetary transfers to ‘favored’ constituents for the purpose of vote buying (World Bank, 2001; Hanson, Honohan and Majnoni, 2003; Barth, Caprio Jr and Levine, 2006). The higher the market concentration of public banks, the more dependent elected policymakers will be on these banks to fund these social and political goals as the financial assets of concentrated public banks will be substantially larger than those of private financial intermediaries. The fact that market concentrated public banks are a critical source of revenue for funding the political goals of elected policymakers gives them substantial discretionary powers over the economy (Hanson, Honohan and Majnoni, 2003; Barth, Caprio Jr
and Levine, 2006). Greater dependence on concentrated public banks for funding by policymakers and the discretionary economic powers of these banks increases the public banks’ political leverage. Such leverage allows public banks to credibly coerce policymakers to raise barriers on foreign ownership of the equity of domestic firms.

Some examples corroborate the claims posited above. For instance, the moving average of the Hirschman–Herfindahl index of the market concentration of domestic public banks (a well-known measure of bank concentration) in the Philippines (a developing democracy) was 0.64 during the 1990s; this is high considering that this index ranges from a minimum of 0 to a maximum of 1.6 Research on the politics of financial policies in the Philippines reveals that the high market concentration of prominent public banks such as the Philippine National Bank (PNB) and the Development Bank of the Philippines (DBP) helped these banks to coalesce into an interest group called the Bankers’ Association of the Philippines (Vos and Yap, 1996; Hutchison, 1997). The PNB and the DBP used this ‘association as a front to lobby politicians from various political parties in the legislature’7 to introduce legislation that prohibited foreign ownership of domestic equities (Hutchison, 1997; Guinigundo, 1999).

Likewise, the Hirschman–Herfindahl index of market concentration of domestic public banks such as Banco de Bogotá, Caja Social and Bancamía in Colombia was as high as 0.61 in the early to mid-1990s.8 This made it easier for these banks to first organize into an interest group called Asobancaria and then collectively lobby incumbent legislators to increase controls on foreign ownership of domestic equities. The high degree of the Hirschman–Herfindahl index of market concentration of public banks (0.57) in Turkey provided these banks the ‘capacity for collective action and leverage to lobby successive governments to not open the equity market to foreign investors’ (Yildirim, 1999: 11) during the 1990s. Market concentrated public banks in Argentina, Bangladesh9 and Poland10 have also lobbied politicians to raise equity market controls.

While concentrated public banks are more likely to lobby politicians to keep the equity market closed to foreign investors, it is worth noting that politicians do not always respond favourably to the lobbying pressure exerted by these banks. Lobbying by powerful public banks in the Philippines, for example, influenced legislators in the country to design and vote for legislation that led to higher equity market restrictions (Vos and Yap, 1996; Hutchison, 1997). But successive governments in Argentina and Turkey reduced equity market restrictions even though concentrated public banks put pressure on policymakers from these states to increase equity market restrictions (Yildirim, 1999; Santiso, 2003; Hanson, Honohan and Majnoni, 2003). Our data from 66 developing democracies from 1980 to 2006 also reveals that higher market concentration of domestic public banks has a positive effect on the level of restrictions on foreign ownership
of domestic equities in 56 per cent of these 66 democracies, but not in the remaining 44 per cent of the countries in the sample.

Why did policymakers in some, but not other, developing country democracies increase equity market restrictions in response to pressure from concentrated banks as suggested by the examples and data described above? Various claims can answer this question. As mentioned earlier, some scholars point out that by the late 1990s, developing country governments became disillusioned with the idea that financial (including equity) market liberalization is beneficial given that such liberalization was often followed by full-scale economic crises in some developing states (Abdellal and Alfaro, 2003; Walter and Sen, 2009). Elected governments in the developing world may have become less enthusiastic about the idea that open equity markets are beneficial once the IMF relaxed its stance against capital and equity market controls (IMF, 2005). Serious doubts about the idea that open equity markets result in economic gains may have prompted some policymakers to become more receptive to the need for raising equity market controls advocated by certain domestic interest groups.

While the plausible claims posited above require further research, we propose an alternative causal story that examines how electoral systems shape the response of politicians when interacting with concentrated public banks that seek higher levels of equity market restrictions. To answer the question posited in the preceding paragraph, we claim that in contrast to party-centred democracies, policymakers that operate in candidate-centred electoral systems in developing countries will have political incentives to respond favourably to the concentrated public banks’ demand for prohibiting foreign ownership of domestic equities. To understand the rationale that leads to this argument, we first list below the main candidate-centred and party-centred electoral systems and then develop our aforementioned theoretical claim in detail.

To start with, extant studies on party systems define candidate-centred systems as electoral systems that encourage electoral competition between individual candidates, rather than between parties (Carey and Shugart, 1995; Samuels, 1999). This occurs because candidate-centred systems (a) allow members from the same party to campaign against each other (which engenders intra-party competition) and (b) award seats to politicians on the basis of their individual vote totals (Hicken, 2006). Electoral systems that exhibit these political features and are thus candidate-centred include the following systems: open-list proportional representation (open-list PR), single non-transferable vote (SNTV), single transferable vote (STV), block vote (BV) and single-member district (SMD) plurality systems with open ballot, which allow multiple candidates from the same party to run in a district (Carey and Shugart, 1995; Hicken, 2006). These candidate-centred systems are distinct from party-centred (that is, non-candidate centred) systems, which produce inter-party competition and highly centralized
parties (Hicken, 2006). These party-centred systems include, for example, the closed-list PR and the SMD plurality with party ballot control (Hicken, 2006; Hankla, 2006).

How do the main political features of candidate-centred electoral rules shape the response of politicians in these systems to demands for imposing equity market restrictions by public banks? To answer this question, first observe that candidate-centred democracies have weak political parties that are characterized by low intra-party unity (Carey and Shugart, 1995; Hix, 2004; Hicken, 2006). Low intra-party unity generates candidate-centred competition where prospective political candidates and legislators have incentives to ‘eschew party-oriented campaign strategies in favor of cultivating their personal vote’ (Hicken, 2006: 51). Cultivating their personal vote is not costless. Individual candidates and legislators in fact require support and resources from powerful interest groups to build their personal vote (Hankla, 2006; Hicken, 2006). It is precisely the political incentive for politicians, rather than parties, in candidate-centred systems to obtain resources, that drives them to seek the support of narrow interest groups such as highly concentrated public banks (Hankla, 2006; Hicken, 2006). In response, concentrated public banks support candidates and legislators, instead of parties, in candidate-centred systems as it is individual candidates and incumbent legislators who solicit their (the banks’) assistance. Interest groups like concentrated public banks also prefer supporting politicians, instead of parties, in candidate-centred systems as individual politicians are more easily influenced and are more receptive than parties to the interests of these banks (Hicken, 2006; Hicken and Simmons, 2008).

An example of the phenomenon described above is the Philippines, which is candidate-centred as it employs the SMD plurality rule with open ballot where multiple candidates from the same party compete against each other within districts. Since the Philippines is candidate-centred, it is not surprising that the candidates and legislators there secure their own funds to finance their campaigns:

Philippine elections are notoriously expensive, but the funds that candidates need to finance successful campaigns do not filter through political parties. Instead prospective candidates and incumbent legislators alike must secure funding on their own (Eaton, 2002: 98).

Note that political candidates and legislators in the Philippines secure funds by ‘seeking the support of interest groups in the financial sector like the Bankers’ Association of the Philippines’,11 which represents the interests of market concentrated public banks in the country. The Bankers Association of the Philippines responds by ‘actively financing the
campaigns of politicians that appeal to the banks for assistance’ (Guingundo, 1999: 8). This leads to a ‘close, mutually beneficial relationship directly between public banks and politicians in Philippines’ (Torrijos and Dumlao, 1999: D1). A second example is Colombia, which used the personalist-list PR rule from the 1960s to 2003, which produced a candidate-centred system in the country till 2003 (Botero and Rennó, 2007). During the years in which Colombia was observed as a candidate-centred system, ‘high-levels of intra-party competition forced candidates to build their personal vote at the expense of the party . . . and . . . obtain funds from powerful financial groups like Asobancaria’,12 which comprised market concentrated public banks in Colombia. Asobancaria was thus ‘prominent in the financing of electoral campaigns of politicians in Colombia prior to 2003’.13 Lastly, since politicians in Bangladesh’s candidate-centred democracy14 cater to the interests of concentrated public banks, ‘mutually dependent relationships develop between state banks and politicians instead of parties at the national level’ (Ahmed, 2001: 47).

The examples and theoretical claims in the preceding paragraph thus indicate that strong ties emerge between public banks and candidates as well as legislators (rather than parties) in candidate-centred systems. We argue here that it is precisely these strong ties that induce legislators in candidate-centred systems to be responsive to the public banks’ demands for imposing substantial controls on equity ownership by foreign investors. The rationale that leads to this claim is two-fold. First, dependence on concentrated public banks for funds will make politicians in candidate-centred systems more susceptible to the lobbying pressure exerted by these banks. Such susceptibility will make it easier for concentrated public banks to influence financial, including equity market, policies in candidate-centred systems. It will also incentivize politicians in candidate-centred systems to respond favourably to the banks’ demands for equity market controls.

Second, since politicians in candidate-centred democracies solicit the support of concentrated interest groups (Hankla, 2006), they have incentives to implement policies that are targeted to satisfy the policy preferences of concentrated public banks. Targeting policies to satisfy the policy preferences of concentrated public banks leads to a symbiotic relationship between these banks and politicians in candidate-centred systems. This relationship encourages market concentrated public banks in candidate-centred democracies to exert more pressure on politicians to raise equity market controls as they rationally expect politicians to be responsive to their demands in this case. The symbiotic relationship described above drives politicians in candidate-centred systems to commit themselves to increasing controls on foreign ownership of domestic equities. This promise is credible ex ante as these politicians rely on the support of concentrated public banks to win or retain office. We thus claim that politicians in

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candidate-centred systems will follow through with their commitment and take concrete steps towards imposing substantial controls on foreign ownership of domestic equities.

To see the claims posited above in the context of an example, recall that in the Philippines’ candidate-centred system, the Bankers’ Association of Philippines (BAP), which represents the interests of market concentrated public banks, lobbied candidates and legislators to increase equity market controls. We also stated earlier that prospective incumbents and legislators obtain financial support from the BAP, which results in close ties between the BAP and individual politicians. A key consequence of such close ties is that in response to the BAP’s lobbying efforts to keep equity markets closed to foreign investors, legislators who received the BAP’s support sponsored three key legislative bills from 1995 to 1997—specifically, Senate Bill Nos 589, 635 and 642— which were each designed to increase restrictions on foreign ownership of domestic equities (Hutchison, 1997; Guinigundo, 1999). Each of these three legislative bills were ‘enthusiastically voted for by more than two-thirds of all incumbent legislators in the Philippines National Congress which laid the foundations for more stringent equity market controls’.15 This outcome on the legislative floor of the Philippines National Congress is intuitive from our theoretical perspective, given that candidates and legislators in the Philippines rely on the BAP’s support to build their personal vote. Moreover, in our sample defined below, the mean level of restrictions on foreign ownership of domestic equities in the Philippines prior to the passage of the three aforementioned bills was equal to a fairly high value of 0.60 on a continuous 0 (low) to 1 (high) scale of equity (market) restriction described in the next section. It is also worth mentioning that the level of equity market restrictions was not lowered in the Philippines before the passage of these bills. After these three bills were approved by the legislature, equity market restrictions in the Philippines increased to 0.74, or, in other words, by 23.3 per cent.

Likewise, recall candidate-centred Colombia (till 2003), where the association of concentrated public banks (Asobancaria) lobbied incumbent legislators to increase equity market controls during the early 1990s. We noted earlier that candidates and legislators in Colombia relied on support from interest groups such as Asobancaria to cultivate their personal vote. It is thus not surprising that a majority of legislators in Colombia responded to Asobancaria’s lobbying effort by ‘proposing and voting for two main legislative bills in 1994—Law No.61 and Law No.143—that led to higher controls on foreign investment and ownership of domestic equities’.16 Hence, the degree of equity (market) restrictions increased from a high average of 0.54 prior to 1995 to an even higher value of 0.66 after the ratification of these two legislative acts in 1994.17 Put together, the theoretical arguments and examples presented in the preceding paragraphs lead to:
**Hypothesis 1:** Higher market concentration of domestic public sector banks will increase the level of restrictions on foreign ownership of domestic equities in developing country democracies when the electoral system in these democracies is candidate-centred.

Similar to state-owned banks in candidate-centred systems, concentrated public banks in party-centred democracies will have economic incentives to lobby their government to impose controls on foreign ownership of domestic equities. Yet, unlike politicians in candidate-centred systems, two key features of party-centred electoral systems (for example, closed-list PR system) will encourage leaders from these systems to resist such lobbying pressure from public banks. The first feature is that party leaders in party-centred systems ‘control nominations or access to the party label’ (Hicken, 2006: 51). This produces strong, centralized parties in which party leaders exert substantial control over individual party members who ‘toe the party line and adopt a party-centered strategy’ (Hicken, 2006: 51). Second, scholars find that high party centralization and control of party members by party leaders work together to bind the fates of parties in party-centred systems to that of the national electorate, rather than to narrow interests (Nielsen, 2003; Hankla, 2006). Parties in party-centred democracies are thus disproportionately accountable to the national electorate as a whole, rather than to narrow interest groups.

Three reasons explain why the two features of party-centred systems discussed above provide incentives for policymakers in these systems to resist demands from public banks for prohibiting foreign ownership of domestic equities. First, since party-centric dynamics make parties in party-centred systems accountable to a national electorate, the electoral benefits of aiding narrow interest groups such as concentrated public banks are low for parties in these systems (Hankla, 2006). Policymakers in party-centred systems will—in contrast to their counterparts in candidate-centred systems—thus lack the overriding political incentives to cater to the public banks’ demands for imposing equity market controls. This will weaken the public banks’ ability to influence equity market policies. Second, it is plausible that national electorates may punish parties for keeping equity markets closed to foreign investment to placate concentrated public sector banks.

This is because keeping equity markets closed to foreign investors—as shown in extant research on financial development in developing countries—leads to lower economic growth, generates lower income from stock dividends for domestic investors and households, depresses economic output and, thus, adversely affects welfare (Allen and Gale, 2000; Rajan and Zingales, 2003; De La Torre, Gozzi and Schmukler, 2006; Carletti, 2008). Citizens and domestic investors (in other words, voters) may, according to these studies, recognize that keeping equity markets closed could ‘hurt their pocketbook, reduce their employment prospects and have a negative impact on growth’ (Carletti, 2008: 454). This, in turn, may
induce voters to vote against parties that implement financial policies (for example, preventing foreign investment in domestic equities) that ‘restrict economic development and . . . hurt their economic welfare’ (Fry, 1995: 46; also see Allen and Gale, 2000; IMF, 2008). Indeed, studies that examine democracies in South-East Asia and Eastern Europe reveal that domestic citizens in these states recognize that closing equity markets to foreign investors generates rents for vested interests (concentrated public banks in our context) and ‘undermines economic development that hurts job creation’ (Carletti, 2008: 457; World Bank, 2001; Barth, Caprio Jr and Levine, 2006). Citizens in developing democracies, thus, do not hesitate to vote against parties that are responsible for a weak job market by adopting policies that restrict foreign investment in domestic equities (Fry, 1995; Carletti, 2008).

Note that the threat of electoral punishment mentioned above is likely to be perceived as credible by parties in party-centred systems as they are more accountable to the national electorate. Parties in party-centred systems will thus resist imposing more equity market controls to protect public banks in order to avoid broad-based electoral punishment. Third, parties in party-centred systems focus on winning elections by making broad partisan appeals to the national electorate, rather than relying on providing transfers to narrow constituencies (Hicken, 2006; Hankla, 2006). This reduces their dependence on obtaining funds from market concentrated public banks and provides an added disincentive to increase equity market controls to protect concentrated state-owned banks.

An example that corroborates the claims posited above is Turkey, which is a party-centred democracy since it employs the closed-list PR electoral rule. We mentioned earlier that the market concentration of these banks during the 1990s was high, which thus allowed them to coordinate and lobby successive governments to raise equity market controls (Yildirim, 1999; Keksin and Alparslan, 2002). However, the government headed by Prime Minister Mesut Yılmaz as well as the Erbakan-led and the Ecevit-led governments in Turkey did not respond favourably to the public banks’ pressure for increasing equity market restrictions as these governments feared that ‘job-growth much needed by Turkish citizens would be hurt by increasing equity market controls’ and that ‘voters would (thus) punish the government for appeasing public banks that wanted to prevent foreign investment in the stocks of domestic companies’ (Yildirim, 1999: 37). Another example is Argentina, which is also party-centred as it employs the closed-list PR electoral rule. Market concentrated public banks in Argentina also put substantial pressure on the Menem-led government during 1996–97 to increase restrictions on foreign ownership of domestic equities (Fanelli, 2003; Pastor and Wise, 2004). However, the Menem-led government did not acquiesce to this pressure as it was concerned that increasing ‘equity market controls would impose economic costs and . . .
voters would not forgive the government for protecting the interests of state banks at the expense of the country’s economy’ (Fanelli, 2003: 41). Thus, as a corollary to Hypothesis 1, we anticipate from the preceding discussion that policymakers in party-centred democracies will be less inclined to impose more restrictions on foreign ownership of domestic equities even if concentrated public banks put pressure on them to do so.

2. **SAMPLE, DEPENDENT VARIABLE AND STATISTICAL METHODOLOGY**

We compile a time-series cross-sectional (TSCS) sample of 66 developing countries that are observed as democracies during the period from 1980 to 2006 to test Hypothesis 1 since this hypothesis focuses on democracies in the developing world. The democracies in our sample—listed in Table 1—satisfy Cheibub, Gandhi and Vreeland’s (2010) criteria for a democracy, which are: (a) the chief executive and legislature must be directly elected; (b) there must be more than one party in the legislature; and (c) incumbents must allow a lawful alternation of office if defeated in elections. We focus on reporting below the results from our sample, which includes all developing country democracies (as per the Cheibub, Gandhi and Vreeland [2010] criteria) observed during the 1980–2006 period for which data to operationalize the dependent and independent variables (described below) are available. Our results remain robust if countries are coded as democracies when their Polity score is greater than or equal to +4, +5 and +6 in the -10 (full autocracy) to +10 (full democracy) Polity scale.

We need to measure the extent to which foreign investors are restricted from owning the equity of domestic firms for each country-year to operationalize the dependent variable in Hypothesis 1. Our main measure of the dependent variable is drawn from Edison and Warnock (2003), who operationalize the degree of restrictions on foreign ownership of domestic equities by using data from two indices: the International Finance Corporation (IFC) global index that is intended to represent the market, and the IFC investable index, which is a subset of the IFC global index that represents the portion of the equity market available to foreigners. This country-year measure is defined as

\[
equity\ restriction = 1 - \frac{MC_{IFCI, i,t}}{MC_{IFCG, i,t}}
\]  

(1)

where the market capitalization at time \(t\) of country \(i\)’s (a) IFC investable index is \(MC_{IFCI, i,t}\) and (b) IFC global index is \(MC_{IFCG, i,t}\). The ratio of the market capitalization of the constituent firms comprising the IFC Investable Index to those that comprise the IFC global index for each country-year
Table 1 List of countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>Country</th>
<th>Period</th>
<th>Country</th>
<th>Period</th>
</tr>
</thead>
</table>

Notes: The time period in the columns indicate the years in which each country is observed as a democracy as per Cheibub, Gandhi and Vreeland’s (2010) democracy criteria.
(MC\textsuperscript{IFCI}_{i,t} / MC\textsuperscript{IFCG}_{i,t}) measures the extent to which foreign investors can purchase the stock of domestic firms (Bekaert, Harvey and Lundblad, 2009). Thus, 1 minus the MC\textsuperscript{IFCI}_{i,t} / MC\textsuperscript{IFCG}_{i,t} ratio, which is the equity restriction (our dependent variable) measure in (1), operationalizes the level of restrictions on foreign ownership of domestic equities and is available for our entire developing democracies sample. The continuous equity restriction measure varies from 0 to 1, with 0 representing a completely open market with no restrictions on foreign ownership of domestic equities, and a value of 1 indicating that the equity market is completely closed to foreign investors.

We check the robustness of our results by employing two alternative measures of the dependent variable that directly capture policy restrictions on foreign ownership of domestic equities. The first main alternative measure is constructed from the continuous index of stock market liberalization developed by Bircan, Hauner and Prati (2012). They use information on security market policies adopted by governments from primary sources to operationalize for each country-year the extent to which such policies permit foreign ownership of domestic equities. This continuous index ranges from a minimum of 0 (policies do not allow any foreign ownership of domestic equities) to a maximum of 1 (foreign investors are allowed to fully own the equities of domestic firms). Since we are interested in equity market restrictions, our first main alternative measure of the dependent variable (stock restriction) is operationalized as 1 minus the score of the Bircan, Hauner and Prati (2012) index for each country-year. Stock restriction ranges from 0 to 1, with 0 indicating that security market policies permit full ownership of the equities of domestic firms, and a value of 1 indicating that foreign investors are not allowed to purchase domestic equities. This measure is available for our full sample.

Our second alternative dependent variable is an ordered measure constructed from Abiad, Tressel and Detragiache (2008). Specifically, Abiad, Tressel and Detragiache (2008) have coded information on equity market policy measures adopted by governments to construct an ordinal variable of the extent to which equity markets are open to foreign investors. Their ordinal measure is scaled from 0 (no foreign equity ownership is allowed) to 2 (majority equity share of foreign ownership is allowed). Given our focus on equity market restrictions, we rescale Abiad, Tressel and Detragiache’s (2008) variable such that our second alternative dependent variable (equity closed) is an ordered measure which is operationalized as follows: 0 = when a majority share of equity ownership is allowed, 1 = when foreign equity ownership is allowed, but there is less than 50 per cent foreign ownership, and 2 = when no foreign equity ownership is allowed. The data for equity closed is available for 56 of the 66 developing democracies in the sample.
Our sample is TSCS and the dependent variables, *equity restriction* and *stock market restriction*, are each continuous. We thus test Hypothesis 1 in TSCS regression models that are each estimated with the lag of the dependent variable (to account for temporal dependence in the dependent variable)\(^20\) as well as country and year fixed effects. The models are estimated with standard errors clustered by country; the results reported below are similar if the models are estimated with panel corrected standard errors (pcse). Country fixed effects are included to account for unobserved country heterogeneity. We include year fixed effects to broadly control for the possibility that equity market restrictions may have increased especially (but not only) in the late 1990s and early 2000s because, as mentioned earlier, many governments became disillusioned with the idea that open equity markets are beneficial during this time period. That said, we also assess whether our results for our two main continuous dependent variables hold when we exclude country and year fixed, but retain the lagged dependent variable, in the specification.

Some scholars suggest that in addition to temporal dependence, geographic (that is, spatial) proximity may affect financial (for example, capital account and equity market) policies adopted by governments as such policies—which include restrictions on foreign ownership of domestic equities—are often influenced by the policy actions of neighbouring countries (Simmons and Elkins, 2004; Way, 2005; Brooks and Kurtz, 2012). We thus account for this spatial and temporal dependence by also estimating the spatiotemporal autoregressive lag model (the ‘STAR lag’ model) to test Hypothesis 1. This model is defined (see Franzese Jr and Hays, 2007) as:

\[
y = \rho Wy + \phi My + X\beta + \epsilon
\]  

(2)

where \(y\) is an \(NT \times 1\) vector of observations (\(N = \) units, \(T = \) time) on the dependent variable stacked by unit, \(X\) is an \(NT \times K\) matrix of observations on \(K\) independent variables, \(\beta\) is a \(K \times 1\) vector of coefficients on \(K\), \(\epsilon\) is an \(NT \times 1\) residual vector, and \(\rho\) is the spatial autoregressive coefficient. \(W\) is an \(NT \times NT\) block-diagonal spatial-weighting matrix, with elements \(w_{ij}\) reflecting the relative degree of connection from unit \(j\) to \(i\). \(Wy\) is thus the spatial lag. \(My\) in (1) is the first order temporal lag of the dependent variable and \(\phi\) is the temporal autoregressive coefficient.\(^{21}\)

Since geographic proximity may influence equity market restrictions, we operationalize elements \((w_{ij})\) of the spatial weights matrix in the STAR lag model by employing the inverse distance between states \(i\) and \(j\) (where \(w_{ij} = 1/d_{ij}\)) as a measure of spatial contiguity. As the distance between \(i\) and \(j\) increases (decreases), \(w_{ij}\) decreases (increases), giving less (more) spatial weight to the state pair when. We use Gleditsch and Ward’s (2006) ‘minimum distance database’ of the shortest distance between the two
closest physical locations for every pair of independent polities in the world to operationalize spatial contiguity. The results remain robust when using directed trade-flow shares of country $j$ in country $i$’s total as measures of spatial contiguity. We also check whether the results remain consistent in a dynamic panel ‘system-GMM’ model, which corrects for potential endogeneity problems. Lastly, when employing the ordinal $stock\ closed$ dependent variable, we use a spatial ordered probit model (in which we include the lag of $stock\ closed$) developed by Wang and Kockelman (2009) to account for potential spatial dependence when evaluating Hypothesis 1. The elements $(w_{ij})$ of the spatial weights matrix in the spatial ordered probit (SOP) model is also given by the inverse distance between states $i$ and $j$.\textsuperscript{22}

3. INDEPENDENT AND CONTROL VARIABLES

We interact the following two independent variables to test the interactive effect posited in Hypothesis 1: the market concentration of domestic public sector banks for each country-year and a dummy variable for countries in our sample that are candidate-centred systems. We suggested earlier that democracies that employ any of the following four electoral rules are candidate-centred: open-list PR, SNTV system, STV system, SMD plurality system with primary elections, and SMD plurality systems that allow multiple candidates from the same party to run in a district. We thus code the latter independent variable mentioned above as a dummy variable labelled as $candidate$ (that is, for candidate-centred democracies), which is coded as 1 for country-years that employ any of the four electoral rules listed above. Countries that do not use any of these four electoral rules (that is, countries that are not candidate-centred), but rather employ party-centred electoral rules (for example, the closed-list PR system) are therefore the reference category.\textsuperscript{23}

We operationalize the market concentration of public banks by using the 0–1 Hirschmann–Herfindahl index of market concentration of public sector banks in each country’s banking sector. Following Bikker (2004), the Hirschmann–Herfindahl index of market concentration of public sector (that is, state-owned) banks—which we label as $concentration$—is defined for each country-year as $\sum_{i=1}^{n} s_{it}^2$, where $s_{it}$ is the share of each state-owned bank’s financial assets in the total financial assets of the banking sector per year for each country. The financial assets of public sector banks in this case refers to their cash assets, government securities and equity investments, but not deposits since bank deposits are liabilities. The Hirschman–Herfindahl index is thus the sum of the squared market shares in terms of financial assets of public sector banks in the banking sector. The $concentration$ variable ranges from a minimum value of 0 to a
maximum value of 1. We interact concentration with candidate and introduce concentration × candidate in the specification to test the interactive effect posited in Hypothesis 1 and control for the individual components of this interaction term. We also use an alternative measure for the market concentration of domestic public sector banks (bank index) derived from Bikker (2004) for robustness tests. This alternative measure is operationalized for each country-year as bank index = s_{1t} + \sum_{i=1}^{n} s_{2i t}(1 + (1 - s_{it})); this expression is equal to the sum of the market share of the largest public sector bank (s_{1t}) in the economy plus the sum of the squared market shares of public banks (s_{2i t}), weighted by a multiplier reflecting the proportional market size of the rest of the banking industry. We interact bank index with candidate and then introduce bank index × candidate centred in the specification to test Hypothesis 1 as well as control for the individual components of this interaction term. We anticipate from Hypothesis 1 that concentration × candidate and bank index × candidate will have a statistically positive effect on the dependent variable. Data to operationalize concentration and bank index has been drawn from Beck, Demirgüç-Kunt and Levine (2006), Barth, Caprio Jr and Levine (2006), Bank for International Settlements (BIS) (2011), the Bankscope database and the Compustat Global database.

We include several control variables in the specifications drawn from the relevant literature. To conserve space, we largely list these control variables below. With respect to economic controls, we include the following variables which, according to scholars, influence equity market restrictions: trade openness, foreign direct investment flows as a percentage of GDP (FDI), log GDP per capita, log inflation, stock market turnover, capital account openness (capital open), government spending on social security and welfare as a percentage of GDP (welfare), banking sector size as a percentage of GDP (banking sector size) (see, for example, Frieden, 1991; Brooks, 2004; Kim and Kenny, 2007; Pepinsky, 2013; Burgoon, Demetriades and Underhill, 2012). We incorporate the dummy variable currency crisis, which is coded as 1 when countries suffer from a currency crash, and is coded as 0 otherwise. We do so because by the late 1990s, for example, it became apparent to policymakers in the developing world that financial (including equity market) liberalization can lead to full-scale currency crises. As such, policymakers from particularly developing states that suffered from currency crises became disenchanted with the idea that equity market openness is beneficial and this may have prompted these policymakers to increase equity market restrictions to avert further currency crises (Abdelal and Alfaro, 2003; Chwieroth, 2007; Walter and Sen, 2009). We include the dummy IMF programme that is coded as 1 when the IMF assists developing states under any of eight main types of programmes; it is coded as 0 otherwise. We control for IMF programme as Chwieroth (2008) suggests that the IMF has encouraged borrowing states
to reduce capital account and other financial market (that is, equity market) controls.

With respect to political controls, we first control for Henisz’s (2010) measure of veto players (polcon-iii) since the number of veto players in government may influence financial liberalization and, thus, the extent to which governments impose restrictions on equity markets (Kastner and Rector, 2003; Chwieroth, 2007). Some scholars suggest that government partisanship influences equity market (and capital account) policies, which may influence financial market development (Brooks and Kurtz, 2012; Kastner and Rector, 2005; Quinn and Toyoda, 2007; Gourevitch, Pinto and Weymouth, 2011; Burgoon, Demetriades and Underhill, 2012). We thus include a measure of government partisanship from the World Bank’s Database of Political Institutions (DPI) (2011), which codes the occupant of the executive’s office as either left, centre or right. We include a dummy variable, first year, that is coded as 1 for the year in which a government initially assumes office as studies postulate that a new government will maintain significant financial market restrictions during its first year in office (Abiad and Mody, 2005; Burgoon, Demetriades and Underhill, 2012). Following recent studies on equity market policies (see Kim and Singal, 2000), the dummy legal origin is included: it is coded as 1 for countries with a British legal origin and is 0 otherwise. Note that in the absence of missing data, the total number of country-year observations in our sample is 1782. Missing data is fortunately not a serious problem for our tests since the number of observations in our fully specified estimated models is (as shown in Table 2 below) 1327, which is roughly 74.5 per cent of 1782 observations. Yet, as discussed below, we check whether our results hold in our dataset when it is imputed by using Amelia II (Honaker and King, 2010).

4. RESULTS

Figure 3 plots the mean level of equity restriction for each decile of our public bank concentration measure separately for (a) candidate-centred and (b) party-centred systems in our sample. Specifically, one can note that—at least among the higher decile values of concentration such as those ranging from deciles 6th to 10th—there is a strong upward trend in the degree of equity market restrictions observed among candidate-centred developing democracies, but no such upward trend exists among party-centred systems.28 The illustration in Figure 3 roughly confirms our theoretical argument, but is not sufficient to assess our hypothesis.

Table 2 thus reports the results from the models (estimated with standard errors clustered by country) in which the dependent variable is equity restriction. Model 1 in this table presents the estimates from a baseline specification that includes the lag of the dependent variable, country and year fixed effects (which are not reported in the table because
Table 2 Results for equity restriction

<table>
<thead>
<tr>
<th></th>
<th>Clusters std errors</th>
<th>Star-lag w = 1/dij</th>
<th>Clusters std errors</th>
<th>Star-lag w = 1/dij</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Model 1</td>
<td>Full Model 2</td>
<td>Full Model 3</td>
<td>Full Model 4</td>
</tr>
<tr>
<td>Lag equity restriction</td>
<td>.798***(.030)</td>
<td>.712***(.019)</td>
<td>.681***(.020)</td>
<td>.502***(.080)</td>
</tr>
<tr>
<td>Spatial AR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FDI</td>
<td>−.194(.224)</td>
<td>−.141(.155)</td>
<td>−.115(.316)</td>
<td>−.133(.208)</td>
</tr>
<tr>
<td>Log GDP per capita</td>
<td>−.006***(.002)</td>
<td>−.004**(.002)</td>
<td>−.010***(.002)</td>
<td>−.005***(.001)</td>
</tr>
<tr>
<td>Stock market turnover</td>
<td>.150(.224)</td>
<td>.126(.192)</td>
<td>.115(.188)</td>
<td>.128(.193)</td>
</tr>
<tr>
<td>Log inflation</td>
<td>.067(.096)</td>
<td>.059(.063)</td>
<td>.035(.080)</td>
<td>.025(.033)</td>
</tr>
<tr>
<td>Banking sector size</td>
<td>.056(.046)</td>
<td>.060(.068)</td>
<td>.051(.054)</td>
<td>.047(.054)</td>
</tr>
<tr>
<td>Currency crisis</td>
<td>.024** (.010)</td>
<td>.037*** (.009)</td>
<td>.025** (.011)</td>
<td>.032** (.016)</td>
</tr>
<tr>
<td>Welfare</td>
<td>−.053*** (.106)</td>
<td>−.032** (.015)</td>
<td>−.033** (.016)</td>
<td>−.033** (.016)</td>
</tr>
<tr>
<td>Trade openness</td>
<td>−.120*** (.039)</td>
<td>−.094*** (.023)</td>
<td>−.056*** (.021)</td>
<td>−.063*** (.025)</td>
</tr>
<tr>
<td>Capital open</td>
<td>−.223 (.195)</td>
<td>−.130 (.141)</td>
<td>−.157 (.181)</td>
<td>−.207 (.144)</td>
</tr>
<tr>
<td>Concentration</td>
<td>.633 (.214)</td>
<td>.419 (.707)</td>
<td>.182 (.993)</td>
<td>.370 (.621)</td>
</tr>
<tr>
<td>Bank index</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentration × candidate</td>
<td>.152*** (.036)</td>
<td>.138*** (.047)</td>
<td>.117*** (.025)</td>
<td>.107*** (.043)</td>
</tr>
<tr>
<td>Bank index × candidate</td>
<td>.063 (.162)</td>
<td>.094 (.121)</td>
<td>.025 (.179)</td>
<td>.033 (.180)</td>
</tr>
<tr>
<td>Candidate-centred</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partisanship</td>
<td>−.038** (.015)</td>
<td>−.029** (.014)</td>
<td>−.027** (.015)</td>
<td>−.030** (.015)</td>
</tr>
<tr>
<td>First year</td>
<td>.037 (.034)</td>
<td>.028 (.033)</td>
<td>.012 (.077)</td>
<td>.027 (.038)</td>
</tr>
<tr>
<td>IMF programme</td>
<td>−.022** (.011)</td>
<td>−.014** (.008)</td>
<td>−.015** (.009)</td>
<td>−.018** (.010)</td>
</tr>
<tr>
<td>Legal origin</td>
<td>−.015 (.024)</td>
<td>−.005 (.006)</td>
<td>−.003 (.004)</td>
<td>−.001 (.000)</td>
</tr>
<tr>
<td>Polcon-iii</td>
<td>−.061** (.029)</td>
<td>.045*** (.022)</td>
<td>.055*** (.031)</td>
<td>.032** (.015)</td>
</tr>
<tr>
<td>Constant</td>
<td>.351*** (.082)</td>
<td>.438*** (.125)</td>
<td>.416*** (.123)</td>
<td>.417*** (.123)</td>
</tr>
<tr>
<td>Country fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of countries</td>
<td>66</td>
<td>66</td>
<td>66</td>
<td>66</td>
</tr>
<tr>
<td>Observations (country-year)</td>
<td>1485</td>
<td>1327</td>
<td>1327</td>
<td>1327</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.43</td>
<td>0.49</td>
<td>0.53</td>
<td>0.60</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>−1522.43</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: ***, **, * : 1%, 5%, 10% levels of significance. Country and year fixed effects not reported in the table for Models 1, 3, 4, 5 and 6 because of space constraints.
of space constraints), and the following controls: log inflation, trade openness. Model 2 reports the results from the full specification (includes all controls) in which we include the lagged dependent variable, but exclude the country and year fixed effects. The estimates from the full specification that includes the lagged dependent variable as well as country and year fixed effects are reported in Model 3.

The estimated effect of concentration × candidate on equity restriction is positive and significant at the 1 per cent level in Models 1, 2 and 3, which statistically corroborates Hypothesis 1. With respect to the individual components of concentration × candidate, we find that the estimate of the individual concentration measure and the candidate-centred dummy variable are each statistically insignificant in Models 1–3. Thus, it is indeed the interaction of the two independent variables, rather than each variable individually, that has a statistically significant positive effect on equity restriction.
To derive substantive effects, we use the estimates from Model 3 to compute with 95 per cent confidence intervals the marginal effect of concentration on equity restriction for candidate-centred democracies across the entire range of concentration in the sample. The result from this exercise, which is illustrated in Figure 4, demonstrates that when the candidate-centred dummy is set equal to 1 (indicating a candidate-centred democracy in our sample) and all other variables in the specification are held at their sample mean, a one standard deviation increase in concentration from its mean in the sample yields an approximately 19 per cent increase in the level of equity restriction for candidate-centred democracies. This substantive effect is statistically significant at the 95 per cent confidence level, which indicates that there exists strong substantive statistical support for our hypothesis. We compute and illustrate in Figure 5 the marginal effect of concentration on equity restriction for party-centred democracies across the entire range of concentration with 95 per cent confidence intervals. Figure 5 shows that for party-centred democracies in the sample, an increase in the level of concentration from its minimum to its maximum level has a statistically insignificant and substantively negligible (almost zero) impact on equity restriction. These two figures confirm our claim that greater market concentration of
As an initial econometric robustness test, we evaluate and find that the effect of concentration $\times$ candidate on equity restriction is positive and highly significant in the STAR-lag model (Model 4, Table 2). We also check whether the results remain robust when we replace concentration $\times$ candidate with bank index $\times$ candidate in the specification and control for the individual components of the latter interaction term. The effect of bank index $\times$ candidate on equity restriction is positive and significant at the 1 per cent level in (a) the full specification estimated with the lagged dependent variable, country and year fixed effects (Model 5) and (b) the STAR lag model (Model 6).

We obtain mixed results for the control variables. Log GDP per capita, partisanship and trade openness are each negative and significant. FDI, capital open, first year, stock market turnover, legal origin and log inflation are insignificant. Polcon-iii is positive and significant. This finding supports Chwieroth’s (2007) and Kastner and Rector’s (2003) claim that more veto players provide greater voice to domestic opposition to financial market openness. Welfare is negative and significant. Thus, states with well-funded social insurance mechanisms are more predisposed towards removing public banks statistically increases foreign ownership of domestic equities in candidate-centred, but not in party-centred, developing democracies.

Figure 5 Effect of concentration on equity restriction for party-centred democracies.
financial market controls as suggested by Brooks (2004) and Burgoon, Demetriades and Underhill (2012). IMF programme is negative, but weakly significant. This indicates that the IMF encourages borrowing states to reduce equity market controls.

The positive coefficient of currency crisis is significant at the 5 per cent or 10 per cent level in the specifications, and while we do not report the results from the year fixed effects in Table 2 (because of space constraints), we find that the following year fixed effect dummies are each positive and significant at the 5 per cent level: 1997, 1998, 1999, 2000 and 2001. The results for the currency crisis dummy and the year fixed effects listed above indicate that developing democracies increased equity market restrictions when (a) their country suffered from a currency crisis and (b) during the years (that is, 1997–2001) in which financial crises spread across developing countries in key regions that had embraced varying degrees of equity market liberalization. One plausible interpretation of the aforementioned results is that governments in developing democracies may (as suggested earlier) lose faith in the idea that equity market openness is beneficial when their country experiences a currency crisis and/or when they observe other developing countries (with open equity markets) suffering from a financial crisis. This loss of faith may lead them to believe that allowing foreign ownership of domestic equities may be costly and may consequently induce them to raise equity market restrictions. Finally, apart from the intriguing result discussed above, we find that the lag of the dependent variable (lag equity restriction) is positive and highly significant in all the specifications.

5. ROBUSTNESS TESTS AND DIAGNOSTIC CHECKS

We first check whether our results hold for the two alternative measures of the dependent variable described earlier: stock restriction and the ordinal equity closed measure. The effect of concentration × candidate on the continuous stock restriction variable is positive and highly significant in (a) the full specification (estimated with standard errors clustered by country) that includes the lagged dependent variable as well as country and year fixed effects (see Model 7, Table 3) and (b) the STAR lag model (Model 8). The effect of concentration × candidate on equity closed is also positive and highly significant in the spatial ordered probit model (Model 9). Hence, statistical support for Hypothesis 1 remains robust when we employ alternative measures of the dependent variable.

For the second robustness test, we include the following additional controls in the model: real GDP growth rate and the bank crisis dummy, which is drawn from Dell’Ariccia, Detragiache and Rajan (2008). We add these two variables as scholars suggest that banking crises increase equity and other financial market controls, while higher real GDP growth has a
### Table 3 Robustness tests

<table>
<thead>
<tr>
<th></th>
<th>Stock market restriction</th>
<th>Stock closed</th>
<th>Equity restriction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clustered std errors</td>
<td>STAR-lag $w_{ij} = 1/d_{ij}$</td>
<td>Spatial OP</td>
</tr>
<tr>
<td></td>
<td>Model 7</td>
<td>Model 8</td>
<td>Model 9</td>
</tr>
<tr>
<td>Lag dependent variable</td>
<td>.356*** (.084)</td>
<td>.421*** (.069)</td>
<td>.154*** (.045)</td>
</tr>
<tr>
<td>Spatial AR</td>
<td>.170** (.089)</td>
<td>.033** (.029)</td>
<td>.128 (.162)</td>
</tr>
<tr>
<td>FDI</td>
<td>−.170 (.188)</td>
<td>−.141 (.178)</td>
<td>−.047 (.099)</td>
</tr>
<tr>
<td>Log GDP per capita</td>
<td>−.002** (.000)</td>
<td>−.004** (.002)</td>
<td>−.002** (.001)</td>
</tr>
<tr>
<td>Stock market turnover</td>
<td>.128 (.077)</td>
<td>.197 (.273)</td>
<td>.010** (.005)</td>
</tr>
<tr>
<td>Log inflation</td>
<td>.125 (.079)</td>
<td>.036 (.079)</td>
<td>.000 (.000)</td>
</tr>
<tr>
<td>Banking sector size</td>
<td>0.071 (.230)</td>
<td>0.062 (.067)</td>
<td>0.004 (.005)</td>
</tr>
<tr>
<td>Currency crisis</td>
<td>.034*** (.016)</td>
<td>.041*** (.022)</td>
<td>.020*** (.010)</td>
</tr>
<tr>
<td>Trade openness</td>
<td>−.020*** (.003)</td>
<td>−.026*** (.008)</td>
<td>−.002*** (.001)</td>
</tr>
<tr>
<td>Welfare</td>
<td>−.017** (.008)</td>
<td>−.020** (.011)</td>
<td>−.012** (.007)</td>
</tr>
<tr>
<td>Capital open</td>
<td>−.184 (.229)</td>
<td>−.153 (.205)</td>
<td>−.049 (.180)</td>
</tr>
<tr>
<td>Concentration</td>
<td>.266 (.333)</td>
<td>.398 (.417)</td>
<td>.079 (.075)</td>
</tr>
<tr>
<td>Concentration $\times$ candidate</td>
<td>.109*** (.023)</td>
<td>.140*** (.041)</td>
<td>.047*** (.011)</td>
</tr>
<tr>
<td>Candidate-centred</td>
<td>.023 (.052)</td>
<td>.034 (.071)</td>
<td>.015 (.049)</td>
</tr>
<tr>
<td>Partisanship</td>
<td>−.067** (.023)</td>
<td>−.051** (.014)</td>
<td>−.010*** (.003)</td>
</tr>
<tr>
<td>First year</td>
<td>.037 (.034)</td>
<td>.038 (.033)</td>
<td>.005 (.017)</td>
</tr>
<tr>
<td>IMF programme</td>
<td>.040* (.022)</td>
<td>.024* (.014)</td>
<td>.009** (.004)</td>
</tr>
<tr>
<td>Legal origin</td>
<td>−.041 (.040)</td>
<td>−.049 (.067)</td>
<td>−.009 (.077)</td>
</tr>
<tr>
<td>Policm iii</td>
<td>.011** (.005)</td>
<td>.012** (.007)</td>
<td>.004** (.002)</td>
</tr>
<tr>
<td>Bank crisis</td>
<td>.003 (.042)</td>
<td>.003 (.033)</td>
<td>.016 (.030)</td>
</tr>
<tr>
<td>Real GDP growth rate</td>
<td>−.067 (.079)</td>
<td>−.049 (.038)</td>
<td>−.019 (.043)</td>
</tr>
<tr>
<td>Constant</td>
<td>.389*** (.050)</td>
<td>.162*** (.050)</td>
<td>−.197*** (.063)</td>
</tr>
<tr>
<td>Country fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>AR(1)</td>
<td>−2.389***</td>
<td>−1.564</td>
<td>0.120 (.631)</td>
</tr>
<tr>
<td>Hansen J-test (p-value)</td>
<td>0.120 (.631)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\mu_1$</td>
<td>−.391*** (.077)</td>
<td>.149*** (.076)</td>
<td></td>
</tr>
<tr>
<td>Number of countries</td>
<td>66</td>
<td>66</td>
<td>66</td>
</tr>
<tr>
<td>Observations: country-year</td>
<td>1327</td>
<td>1327</td>
<td>1119</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>−1740.06</td>
<td>−2975.3</td>
<td>−1659.2</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.37</td>
<td>0.51</td>
<td>0.65</td>
</tr>
</tbody>
</table>

Notes: *** : 1%, ** : 5%, * : 10% significance levels. Country and year fixed effects not reported in this table for Models 7, 8, 10, 11 and 12 because of space constraints.
negative impact on equity market controls.  

Concentration $\times$ candidate-centred is positive and highly significant in the models that include these additional controls (see Models 10 and 11). We also find that bank index $\times$ candidate-centred is positive and significant after including the additional controls.

We estimated more specifications after adding the following variables, which, according to extant research, influences financial market policies (including equity market restrictions) in developing countries: log of GDP, log of foreign exchange reserves, government consumption as a percentage of GDP, US interest rate, foreign aid from Organisation for Economic Co-operation and Development (OECD) countries, and the exposure of Group of Five (G-5) commercial banks to each borrowing country’s market. We do not report the results obtained after including these additional controls to save space, but our main results were unchanged. Further, as mentioned earlier, our results do not alter substantively or significantly (in the statistical sense) if the relevant models are estimated with panel corrected standard errors. We conducted some additional empirical exercises. First, we use Amelia II (Honaker and King, 2010) to impute missing values in our data. The estimated effect of concentration $\times$ candidate on each of the three measures of equity market restrictions employed here is positive and highly significant in the imputed dataset (results available on request). Second, as a ‘placebo’ test, we assessed the interactive effect of the candidate-centred dummy and the market concentration of non-state-owned banks on the three measures of equity market restrictions. This interactive effect is negative but statistically insignificant (not reported to save space). The interactive effect of the party-centred dummy and the concentration of non-state-owned banks on each equity market restriction measure are statistically insignificant.

Diagnostic tests from the empirical models reveal that none of the models suffer from severe multi-collinearity, serial correlation, and omitted variable bias. Finally, endogeneity may be a problem as higher equity market restrictions may reduce competition in the banking sector. This shields concentrated public banks from competition which may help to sustain their market concentration. Politicians may also alter electoral systems (for example, change from a party-centred to a candidate-centred system) to facilitate implementation of policies including equity market restrictions. F-statistics from Hurlin and Venet’s (2003) Granger causality test for the presence of endogeneity in panel data indicates that there is no endogeneity problem between each of the equity market restriction measures used here and each of the two independent variables: candidate-centred dummy and concentration.

Yet, out of an abundance of caution, we test Hypothesis 1 via a ‘system-GMM’ model that combines a regression in first-differences and a regression in levels, estimating the two equations (levels and differences)
in a single system leads to consistent and efficient estimates (Blundell and Bond, 1998). The system-GMM model corrects for potential endogeneity by using moment conditions to derive a set of valid instruments for the potentially endogenous explanatory variables. Concentration × candidate remains positive and highly significant in the system-GMM model (see Model 12, Table 3). The disturbances from the system-GMM model show no sign of serial correlation, and the Sargan test result obtained from this model fails to reject the null hypothesis of the validity of the instruments. The effect of concentration × candidate on each of the two continuous equity restriction measures is positive and significant in the second stage of the two-stage probit least squares (2SPLS) model (Alvarez and Glasgow, 1999), which corrects for potential endogeneity problems between a dummy independent variable (in this case, the candidate-centred dummy) and a continuous dependent variable (for example, equity restriction). Hence, our results are robust to potential endogeneity problems.

6. CONCLUSION

When do governments in developing democracies raise restrictions on foreign ownership of equities of domestic firms? Causal arguments such as growing doubts about the benefits of open equity markets or concerns about protecting workers in certain sectors that are hurt by foreign portfolio investment may induce elected policymakers to increase equity market controls. While these causal arguments are plausible, we presented another causal story in this paper. The main hypothesis that emerges from our causal story is that higher market concentration of domestic public banks will have a positive effect on the degree of restrictions imposed on foreign ownership of domestic equities in candidate-centred (but not party-centred) democracies. The statistical results provide robust support for this hypothesis.

The claims and results presented here have specific implications that speak to recent scholarship on the politics of financial market liberalization as well as broader substantive implications. With respect to specific implications, first note that existing studies have examined either how democracy (Quinn, 2000; Abiad and Mody, 2005; Burgoon, Demetriades and Underhill, 2012) or the interests of powerful domestic financial intermediaries (Frieden, 1991; Sobel, 1994; Haggard and Maxfield, 1996; Brooks, 2004; Pepinsky, 2013) affect financial market restrictions in developing states. Our paper builds on these studies, but also departs from extant research in that we examine how variations in electoral systems—specifically the distinction between candidate- and party-centred systems—combines with the market concentration of public sector banks to affect the degree of equity market restrictions. Focusing on how electoral institutions
shape the response of policymakers to pressure from public banks provides us with more theoretical leverage to understand when politicians in developing democracies will increase restrictions on foreign ownership of domestic equities. Additionally, while we concur with studies that show that the banking sector influences financial market policies, we suggest here that whether or not the financial intermediaries are public banks, the market concentration of these banks plays a crucial role in influencing equity market policies in developing states. This helps us understand not just whether, but rather which, domestic financial intermediaries have the capacity to successfully exert pressure on politicians to increase equity market controls.

The findings presented in this paper also have broad substantive implications that raise some intriguing issues that require further research. For instance, given that financial economists show that keeping equity markets closed hurts financial development, and thus economic growth, it may be tempting to predict that growth rates will remain low in candidate-centred systems with concentrated public banks—for example, the Philippines and Colombia—as politicians in such systems have political incentives to increase equity market controls. Yet, this prediction may be too simplistic. This is because some studies have shown that restrictions on foreign ownership of domestic equities reduce volatile foreign portfolio capital inflows into developing economies; this makes developing states (with closed equity markets) less vulnerable to financial (for example, currency) crises, which have disastrous effects on growth (Freixas and Rochet, 1997; World Bank, 2001). Thus, by keeping equity markets closed, candidate-centred systems with concentrated public banks may be less susceptible to financial crises and the sharp decline in economic growth that results from such crises. On the other side of the coin, party-centred developing democracies that, on average, have more open equity markets may be more exposed to the possibility of financial crises and low growth from such crises. Whether or not these claims are valid requires further research.

Second, recent research on electoral systems reveals that policymakers in developing democracies are increasingly adopting candidate-centred electoral rules such as the open-list PR rule or the SMD plurality rule with open ballots (Reynolds, Reilly and Ellis, 2005). If this is the case—and if the concentration of public banks remains high in such developing democracies—then equity controls may increase across developing states in the future. This may substantially reduce the pace and depth of financial globalization in the developing world. This prediction is in contrast to claims by the IMF (2005) and studies (for example, Allen and Gale, 2000), which posit that financial globalization will spread rapidly across the developing world in the early decades of the twenty-first century.

More research is needed to fully understand the determinants of equity market restrictions. We posited earlier that in the aftermath of financial
crises in the developing world during the late 1990s, governments in numerous developing countries became sceptical about ideas that propagate the benefits of open financial (that is, equity) markets. Evidence from Thailand’s recent experience with a devastating currency crisis in 1997 provides some support for this argument. Prior to the currency crisis in 1997, policymakers in Thailand dramatically reduced equity market controls that led to a sharp inflow of foreign portfolio investment into the country’s stock market (World Bank, 2001; IMF, 2005). This created a ‘bubble’ in Thailand’s financial sector that erupted into a currency crisis. In the aftermath of the currency crisis, Thai policymakers openly expressed to officials from the IMF and other foreign dignitaries that their beliefs in the neoclassical ideology of long-term economic growth that materializes from open financial markets was wrong . . . and (that) free-market ideology does not suit developing states like Thailand.41 Scepticism about economic ideologies that emphasized the benefits of open financial markets encouraged leaders in Thailand to increase controls on foreign investment in domestic equities (World Bank, 2001; Khan, 2004). Given this evidence, it is worthwhile for scholars to assess the role of ideas on equity market policies. Finally, it might be useful to analyse whether, and under what institutional settings, the interaction between politicians and public banks affects other financial policies like credit and interest rate controls.

NOTES

1 We use Edison and Warnock’s (2003) procedure to develop a continuous measure of equity market restrictions to plot the (a) mean level of this measure for each developing democracy in our sample in Figure 1 and (b) moving-average of this measure across the developing democracies in our sample in Figure 2. This measure is described in the paper’s empirical section. Cheibub, Gandhi and Vreeland’s (2010) criteria for a democratic regime is employed to construct the pooled sample of developing democracies—listed in Table 1—from which Figures 1 and 2 are derived.

2 See, for example, Li and Smith (2002); Kastner and Rector (2003); Simmons and Elkins (2004); Brooks (2004); Brooks and Kurtz (2012); Chwieroth (2007); Quinn and Toyoda (2007).

3 Adams, Mathieson and Schinasi (1999: 54).

4 This claim echoes Scheve and Slaughter’s (2004) argument, in which they (in a different context) posit that increased foreign investment in a sector can threaten the employment security of workers in the sectors and, consequently, induce these workers to resist foreign investment.

5 The Hirschman–Herfindahl index of bank concentration (employed in this paper) is often used by researchers to measure the market concentration of domestic banks (see Barth, Caprio Jr and Levine, 2006; Bikker, 2004). This index is defined as the sum of the squared market shares of financial assets of public sector banks in the banking sector and it accurately captures the degree of market concentration of these banks (Bikker, 2004).

6 The Hirschman–Herfindahl index of market concentration of domestic public banks in the Philippines is calculated from data drawn from Barth, Caprio Jr
and Levine (2006), Bank for International Settlements (BIS) (2011) and Bangko Sentral ng Pilipinas Selected Economic Indicators (various issues).

7 Hutchison (1997: 78).
8 The Hirschman–Herfindahl index of market concentration of domestic public banks in Colombia is calculated from data drawn from Barth, Caprio Jr and Levine (2006) and BIS (2011).
9 For details on the lobbying pressure exerted on incumbents by public banks to prevent foreign investment in domestic equities in (a) Argentina, see Clarke, Cull and Peria (2006) and (b) Bangladesh, see Ahmed (2001).
10 Market concentrated public sector banks such as Bank Gospodarstwa Krajobrego and Powszechna Kasa Oszczednosci Bank have collectively organized into Zwiiazek Bankow Polskich (ZBP) and have subsequently lobbied politicians in Poland for more equity market controls (Bokros, Fleming and Votava, 2001). Note that public sector banks in the ZBP, which was established in January 1991 and which operates under the Chambers of Commerce Act of 30 May 1989, are legally allowed to lobby policymakers under the country’s PL law section 2.
12 Correa and Steiner (1999: 37).
14 Bangladesh employs the SMD plurality rule with open ballots, where candidates from the same party are allowed to compete against other; this leads to a candidate-centred system in Bangladesh.
15 Guinigundo (1999: 17). These three bills were also not revised by an administrative process or executive order (Guinigundo, 1999; Torrijos and Dumlao, 1999).
16 Correa and Steiner (1999: 43).
17 Similar to the Philippines, the level of equity market restrictions was not lowered in Colombia prior to the ratification of these legislative acts. These acts were also not revoked by an executive order.
19 The moving average of the 0–1 Hirschman–Herfindahl index of market concentration of public banks in Argentina between 1991 and 1998 was greater than 0.5, which is quite high.
20 All the estimated models reported in the tables are corrected for panel-specific AR-1 autocorrelation. Some researchers suggest that the past level of equity market controls affects the current level of equity market controls (for example, Pepinsky, 2013), including the lagged dependent variable accounts for this possibility.
21 The STAR lag model is estimated in MATLAB by using a maximum likelihood estimator (MLE), which produces consistent and asymptotically efficient estimates.
22 The SOP model is also estimated in MATLAB.
23 The party-centred democracies in our sample do not use the candidate-centred electoral systems listed above, but rather employ the following party-centred electoral rules: the closed-list PR system, ordered-list PR system and SMD plurality with party ballot control (Carey and Shugart, 1995; Hicken, 2006).
24 Capital open is operationalized from Chinn and Ito’s (2008) continuous index of capital account openness. Stock market turnover is operationalized as the ratio of the value of stocks traded to stock market capitalization. Data for these and other economic controls are drawn from the IMF (2011) and the World Bank (2011).
Banking sector size is operationalized as deposit money bank assets as a share of GDP. The correlation between banking sector size and each of the two measures of public bank concentration employed here is statistically insignificant, thereby mitigating concerns about collinearity between these measures.

We use Kamin et al.’s (2001) criteria to code currency crisis; the data to code currency crisis is from IMF (2011).

These programmes include Stand-by and Extended Stand-by Arrangement, Supplementary Reserve Facility, Extended Fund Facility, Contingency Funding Facility, Buffer Stock Funding Facility, Currency Stabilization Facility, Structural Adjustment Fund, and the Poverty Reduction and Growth Facility.

As an empirical exercise, we checked the mean of our main 0–1 equity restriction measure for four developing democracies (Bolivia, Poland, Indonesia and Bangladesh) in our sample that (a) experienced a change from a party-centred to a candidate-centred system and (b) in which the market concentration of public banks is high (that is, between the 6th and 10th decile). Specifically, we assessed the mean of equity restriction for each of these democracies prior to their electoral system transition (when these countries are observed as party-centred systems) and after they made a transition to a candidate-centred system. Our analysis reveals that the mean level of equity market restrictions after each of these countries made a transition to a candidate-centred system is significantly (in the statistical sense) higher than the mean of equity restriction when these countries are observed as party-centred systems (confirmed by a difference-of-means test). This provides some support for our main theoretical prediction (result available on request).

We examined our data to check whether the candidate-centred democracies in our sample that increased equity market restrictions had previously lowered these restrictions. This exercise first revealed that our 0 to 1 continuous public bank concentration measure in all the candidate-centred democracies in our sample that increased equity restrictions ranged from the 7th to the 10th decile (the 10th decile is the highest decile of concentration); this supports our claim that higher market concentration of public banks has a positive effect on equity market controls in candidate-centred systems. We also find in the data that as many as 91 per cent of the aforementioned candidate-centred developing democracies, which have highly concentrated public banks and which increased equity market controls, had not previously lowered restrictions on foreign ownership of domestic equities.

The spatial–AR coefficient is significant in the STAR lag model (see Model 4). Concentration × candidate is positive and highly significant in the STAR lag model in which directed trade flows are used to operationalize the spatial weights matrix (not reported to save space).

The statistical effect of bank index × candidate on stock restriction and equity closed is also positive and highly significant (not reported owing to space constraints).

Edison and Warnock (2003); Burgoon, Demetriades and Underhill (2012).

Abiad and Mody (2005); Pepinsky (2013).

See, for example, Abiad and Mody (2005); Kim and Kenny (2007); Burgoon, Demetriades and Underhill (2012).

Results from these specifications are available on request.

The largest and mean VIF value from the models indicates that multicollinearity is not a problem. The Breusch-Godfrey LM test failed to reject the null of no serial correlation in the estimated models. The RESET test shows that there is no omitted variable bias problem.

It also corrects for serial correlation, controls for fixed effects and accounts for heteroskedasticity via White’s heteroskedasticity robust standard errors.
Bank index $\times$ candidate is positive and significant in the system-GMM model (not reported to save space).

See Haggard and Maxfield (1996); Brooks (2004); Pepinsky (2013).

Allen and Gale (2000); Rajan and Zingales (2003); De La Torre, Gozzi and Schmukler (2006).


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