THE NETWORK OF GLOBAL CORPORATE CONTROL: IMPLICATIONS FOR PUBLIC POLICY

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ABSTRACT

To what extent do transnational companies (TNCs) have the capacity to influence public policy? This article uses the results of a major new study of TNC ownership to shed light on this issue. It is found that TNC ownership and control is extremely concentrated and that there is an inner core of TNCs with strong co-ownership links that is overrepresented in the membership of major business organisations. It is concluded that these factors enhance the potential for TNCs in general, and core TNCs in particular, to influence public policy.

INTRODUCTION

In democracies the decisions of governments are supposed to be determined by citizens through elections in which parties run on sets of policy promises that they then implement if elected to office. In reality this is a partial picture at best. Voters are not the only influence on governments. One of the most significant other sources of influence, if not the most significant, is business. Because their own fortunes are affected by government decisions at every turn, firms are constantly trying to nudge public policy in a more business-friendly direction. While pluralists see business as just one group among others, elitists maintain that business is more powerful than any other group. Lindblom argues that business has a privileged position because governments are held responsible for the economy and a healthy economy requires business investment that cannot be compelled but must be attracted by inducements. For Marxists the issue is often whether the state has any autonomy from business at all.[1]

If we take the view that business power is something to be established empirically, one factor to consider is the degree of business unity. The extent to which business is united, if at all, is one of the main issues dividing pluralists from elitists, but both assume that unity does or would enable business to exert more influence on public policy. Dahl, for example, makes the logical point that

[1] See, for example, Dahl 1959, 27-28; Mills 1956, Domhoff 2010; Lindblom 1977, chapter 13; Miliband 1983.

an elite cannot rule if it is divided on what it wants.[2] Dreiling and Darves argue that 'when unified, the resources of corporations simply crowd out the resources of all other societal interests.'[3] Issues on which business is united can be taken up by representative organisations that cannot afford to push policies opposed by any significant part of their membership. Where firms are united they are likely to react similarly to what governments do even without conscious coordination, thereby giving bigger rewards to governments that do what they want and inflicting more severe punishments on those that don't. Although Smith argues that business in the United States is not very influential on issues on which it is united because these issues are also ideological, partisan, and salient to voters and the media,[4] he is not arguing that unity as such is unimportant or counterproductive: unless business unity causes issues to become more ideological, partisan or salient, business united is still likely to do better than business divided.

A key factor here is the extent to which business ownership is concentrated. In such cases fewer firms need to agree on aims and tactics for an effective consensus to be formed. Among other things this makes it easier for firms to agree on action by their representative organisations. Dominant firms in industries with concentrated ownership have stronger incentives to take political action because their share of any consequent economic gains would be bigger than for equivalent firms in less concentrated industries. Such firms may also be in a position to discourage other firms from free-riding on such actions.[5] Although the empirical evidence in this area does not speak directly to this question, American studies have found that concentration is one of a number of factors linked to corporate political action.[6] In the late 1980s, for example, similar political behaviour by members of an industry, in this instance contributions to Political Action Committees, was linked to 'concentration of common stock ownership of firms in an industry and common memberships on the boards of financial institutions.'[7]

How concentrated is business ownership? This breaks down into two questions. What proportions of individual firms have controlling shareholders? And to what extent is control of firms in general concentrated in the hands of a few big shareholders?

Inferring control from ownership is not simple. Even 50 percent of voting shares is not enough if regulations stipulate super-majorities for important

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[2] Dahl 1958, 465; Vogel 1996, 158; Smith 2000: 5; Domhoff 2010, xii; see also Olson 1965, 59.
[3] Dreiling and Darves 2011, 1557.
[4] Smith 2000.
[5] Mizruchi 1988, 288; Schuler, Rehbein and Cramer 2002, 662.
[6] Getz 1997, 37-38; Schuler, Rehbein and Cramer 2002.
[7] Mizruchi 1988, 300.

decisions, for example. And substantial minority shareholdings can bring control where there are no other significant shareholdings. Some studies employ thresholds as low as 10 percent of voting shares.

Empirical investigations into the ultimate ownership of corporations using a 20 percent threshold find a mixed picture: dispersed control in Britain, Ireland, the United States and Japan but family control in other West European countries and in East Asian countries.[8] In addition, the percentage of corporate assets owned by the top 15 families was lower in Britain and Japan than in other European and East Asian countries.[9] The message of these studies is that considerable concentration of corporate ownership and control is the norm in industrialised countries. Britain, Ireland, the United States and Japan are exceptions – significant exceptions, to be sure, but if we take firms country by country they are exceptions nevertheless.

But what about firms that transcend national borders: transnational corporations (TNCs)? Are TNCs united enough for this to make a difference to their influence on public policy? What exactly is the structure of ownership and control among TNCs? Until recently, lack of reliable data made it impossible to study this in any systematic quantitative manner. But good data is now available, and a pathbreaking study by systems analysts in Zurich has used this to analyse patterns of ownership and control among TNCs.[10]

This aim of this article is to use the results of this study to test the proposition that the capacity of TNCs to influence public policy is greater than previously thought because TNC ownership and control is not only extremely concentrated but also extremely centralised. This is an issue on which good information has not been available until now. The first section states the theoretical argument as to why it is reasonable to expect that high levels of business concentration and centralisation strengthen the capacity of firms to influence public policy. The second sets out and evaluates the new data in order to evaluate the extent to which it supports the hypothesis that TNC ownership and control is in fact very concentrated and centralised. The third tests a hypothesis based on the idea that there is an elite core of TNCs that dominates relevant business organisations, namely that these core TNCs are overrepresented in the membership of representative business organisations. The final section discusses the results and draws conclusions.

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[8] La Porta, Lopez-de-Silanes and Shleifer 1999, 491, 511; Claessens, Djankov and Lang 2000, 103; Faccio and Lang 2002, 373, 378; Goergen 2012, 39; Gadhoum, Lang and Young 2005, 352; La Porta, Lopez-de-Silanes and Shleifer 1999, 472.
[9] Claessens et al 2000, 108; Faccio and Lang 2002, 393.
[10] Glattfelder 2010; Vitali, Glattfelder and Battiston 2011.

CONCENTRATION, CENTRALISATION AND INFLUENCE

What reasons are there to expect that concentration and centralisation of TNC ownership and control add to the capacity of TNCs to influence public policy?

Concentration

Numerous authors argue that economic concentration increases the political power of business by increasing the potential for political cohesion: 'other things being equal, the smaller number of actors in a given situation the easier it is to establish a consensus.'[11] This may not be true in all cases, but it would be difficult to deny that, in general, concentration makes it easier for firms to reach agreement on political action, that is, facilitates action that is supported by a broad range of firms and not opposed by any significant proportion of firms. In doing so it would also make it easier for representative organisations to get involved in lobbying. It is also argued that concentration facilitates action by making it easier to develop a common culture and organisation among those in charge.[12] The assumption behind all these arguments is that taking political action brings more influence over public policy than not taking political action.

A further argument is that concentration increases the likelihood of political action because the largest firms in a concentrated industry stand to receive a bigger share of any economic benefits of political action because, other things being equal, their share of industry sales, revenue and profits is bigger than it would be if the industry were not so concentrated. For this reason their cost-benefit analyses of prospective political action are likely to be more positive towards political action than if the industry was less concentrated. It is also thought that such firms are better able to spread the costs of taking action by discouraging smaller firms from free-riding: collecting the benefits of political action without contributing to it. And it is argued that firms in concentrated industries are more likely to gain access to policy makers because policy makers are more receptive to lobbying groups that are representative of their constituents.[13]

Although these arguments have mainly been applied to concentration based on firm size and measured by indicators such as sales or market capitalisation, they also apply to concentration of TNC ownership and control measured in terms of shareholdings. This includes the argument that concentration makes it easier to agree on political action because fewer firms need to agree for an effective consensus to be formed, with the proviso that the major stockholding TNCs are

[11] Mizruchi 1988, 288.
[12] Mizruchi 1988, 288.
[13] Schuler, Rehbein and Cramer 2002, 662

both able and willing to make the TNCs in which they have shareholdings accept any agreements reached on political action and contribute where appropriate to that action. In other words it presupposes not only that ownership translates into possession of the means of control, understood as 'the power to determine the fundamental elements in corporate behaviour, centred on the power to determine the composition of the ruling body of corporate leaders',[14] but also that possession of the means of control translates into active control: using these levers to influence what the controlled TNCs do.

The assumption that ownership gives one possession of the means of control is obviously valid where majority shareholdings are concerned. It is also valid where a TNC (or coalition of TNCs) owns a substantial minority of shares and all other shareholders are small and unaligned. A striking illustration of this dynamic is the finding that in a company with a thousand voting shares as few as six percent of shares will place the owner on the winning side of shareholder votes 96 percent of the time if all other shareholders are small and indifferent. Under such conditions shareholdings of as little as 10 percent can give effective control.[15] The assumption that ownership brings control is also valid where groups of TNCs jointly own a controlling shareholding even when they are not cooperating in a coalition insofar as they are likely to act in parallel if whatever broad interests they share are threatened – that is, insofar as they are likely to act as if they were in coalition. Taking into account both coalitions and constellations of interest[16] significantly increases the number of TNCs defined as having controlling shareholders.

The literature divides the mechanisms that controlling shareholders can use to exert influence into two main types. Firms based in continental European countries and Japan tend to intervene directly through means such as appointing directors to boards, voting at shareholder meetings, and making implicit or explicit threats to use these devices. Firms in English-speaking countries tend to exert influence through implicit or explicit threats to increase the risk of a hostile takeover of the owned firm through making that firm's shares cheaper by selling their shareholdings.[17] This threat is especially potent in the area of corporate governance because institutional investors often use indices of corporate governance by ratings agencies such as Moody's to decide which shares to buy,[18] as this means that they are likely to respond en bloc to perceived shortcomings in a firm's corporate governance. On the other hand, the efficacy of this strategy for

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[14] Scott 1997, 36.
[15] Florence 1953, 195; Scott 1997, 44.
[16] Scott 1997, 48-50.
[17] Noteboom 1999, 846.
[18] Lysandrou and Stoyanova, 1074-1076.

investors is limited by the fact that selling large amounts of stock depresses the price these investors get for it, a consideration that in many cases may prompt them to opt for direct intervention instead. [19]

While some owners prefer a hands-off approach, and indeed may not even see themselves as owners,[20] it is clear that controlling shareholders can and do use devices such as these to influence the firms they control. A study of the machine tool industry in Switzerland, for example, found that institutional investors can and will replace CEOs and directors, use their majority shareholdings to win votes against the management position, and take over firms entirely. Other studies find evidence that institutional investors have influenced both corporate investment decisions and the nature of corporate governance in the firms they control.[21]

Nevertheless it is clear that investors do not always exercise the control to which their shareholdings entitle them. In such cases the argument that concentration facilitates united business action does not apply because the ‘controlled’ firm may fail to cooperate: concentration of ownership and control facilitates united business action only when it is active control that is concentrated.

Centralisation

Centralisation facilitates united business action by creating a tendency for TNC attitudes towards public policy to become more similar.

An industry is centralised in this context to the extent that the biggest firms are connected by a dense web of controlling cross-shareholdings. The point here is that where A and B have controlling shareholdings in each other, and are willing to use these to exert control over each other – active control - the result is that the actions of each, including actions designed to influence public policy, are constrained by the preferences of the other and thereby become more similar.

This argument also applies where A is part of a coalition of TNCs that has a controlling shareholding in B at the same time as B is part of a coalition that has a controlling shareholding in A: to the extent that the preferences of coalition members are the same, as they must be some extent because otherwise they would not be in coalition, and the coalition is willing to act accordingly, these shared preferences will constrain the actions of the controlled firm where the two come into conflict. Where each coalition is united on its orientation towards public policy, with the coalition of which A is a member pressing its preferences on B

[19] Useem 1996, 267-269, cited in Mizruchi 2004, 605.
[20] Hendry, Sanderson, Barker and Roberts 2006, Davis 2008.
[21] See, for example, Widmer 2011, Clark and Hebb 2005, 2027, Aggarwal, Erel, Ferreira and Matos 2011, Helwege, Intinoli and Zhang 2012.

while the coalition of which B is a member presses its preferences on A, the likely result is that what A and B do to try to influence public policy become more similar.

And it applies where A is part of a constellation of interests consisting of TNCs that has a controlling shareholding in B at the same time as B is part of a constellation of interests that has a controlling shareholding in A: to the extent that the interests of members of the constellation are the same, which to some extent they must be if it is a constellation of interest, and these interests are sufficiently important for members to act in parallel if they are threatened, these shared interests will constrain the actions of the controlled firm where the two come into conflict. Where these shared interests relate to public policy, once again the result will be convergence: the actions of B in relation to public policy will become more similar to those of the constellation of which A is a part while the actions of A will become more similar to those of the constellation of which B is a part.

Controlling shareholders do not directly alter what controlled firms do to try to influence public policy. Instead they constrain their actions by means of explicit or implicit messages that change the attitudes of the managements of controlled firms to public policy and what can be done about it, for example by changing the perceived cost-benefit ratio of different possible courses of action. Attitudes are ways of thinking or feeling about something, in this case public policy, that can be expressed in forms such as statements, decisions, strategies, messages and actions.

In the case of influence based on direct interactions, changes in attitude are expressed in changes in what the controlled firms do to try to influence public policy. Where larger numbers of TNCs, coalitions of TNCs and constellations of interest are involved, so that interactions are often mediated by two or more links composed of controlling shareholdings, actions will be constrained by changing the attitudes of a succession of downstream TNCs: a billiard ball effect.

Where a group of TNCs, coalitions and/or constellations of interest are all connected both ways, directly or indirectly, by controlling shareholdings used to exert active control, the attitude of each TNC will be constrained by the attitudes of all the others. The result is likely to be that the attitudes and actions relating to public policy of the TNCs in the group will tend, over time and via mutual constraint, to become more similar.

TNC ownership and control is centralised to the extent that one of these networks of controlling shareholdings is much bigger than the others and includes among its members many if not most of the largest owners. In such cases the attitudes to public policy of these core TNCs, and of the TNCs they control through one-way controlling shareholdings, are likely to be more similar than would otherwise be the case.

Concentration, centralisation and public policy

We have seen that a high degree of concentration of active control makes it easier for TNCs to agree on political action while a high degree of centralisation is likely to lead to greater unity among TNCs in their attitudes to public policy. The result must be an enhanced capacity to influence public policy.

First, the resources provided by firms for lobbying will be combined behind unambiguous messages rather than being split between different campaigns. Better resourced and more single-minded lobbying with less opposition should be more successful lobbying.

Second, relevant representative organisations are more likely to become involved where firms are more united. In the case of TNCs these would include organisations such as the Business Roundtable and Financial Services Roundtable in the United States, and the European Roundtable and European Financial Services Roundtable in Europe. This is because the actions of representative organisations must reflect a broad consensus among their members if they are not to antagonise and lose members.[22]

Third, we would expect TNCs to be more likely to react similarly to what national governments do. One consequence of this is likely to be a greater tendency to shift investment in the same direction at the same time in response to policy developments. This would mean bigger investment flows in response to the actions of governments and therefore bigger rewards for governments that do what TNCs want and more severe sanctions for those that don’t.

There are good reasons for believing that concentration and centralisation of TNCs would increase their capacity to influence public policy, other things being equal, provided that it is active control that is concentrated and centralised, not just ownership or possession of the means of control. The question now is to ascertain the extent to which the new data on TNC ownership and control support the proposition that active control of TNCs is in fact very concentrated and centralised.

[22] Smith 2000, 39-40.

THE NETWORK OF GLOBAL CORPORATE CONTROL

A new discovery

The data to be used is drawn from a recent quantitative study of TNC ownership by Vitali, Glattfelder and Battiston.[23] This is part of a generation of 'big data' studies that are extending the reach of researchers in a wide range of fields.

At first glance it seems clear that the findings of Vitali, Glattfelder and Battiston strongly support the hypothesis that high levels of concentration and centralisation have enhanced the capacity of TNCs to influence public policy, as they indicate that in 2007 80 percent of total global TNC operating revenue was notionally controlled by just 737 shareholders, of which 298 were TNCs, and that nearly 40 percent of TNC operating revenue was controlled by an interconnected core of 295 TNCs, just 0.7 percent of all the TNCs included in the study.

But is this really the case? To make an informed judgement it is necessary to understand how the study was carried out.

The authors' first move was to pick out the 43,060 TNCs from the 30 million firms on the commercial ORBIS database, TNCs being defined as firms which hold at least 10 percent of the shares of a firm located in another country, and trace the patterns of their shareholdings in order to put together a map of all the ownership pathways originating from and pointing to TNCs. This revealed that a small interconnected group of mainly American and European TNCs owns a disproportionate share of TNCs in general.[24] The authors use the image of a bow tie to organise our understanding of the broad pattern of these ownership relations.

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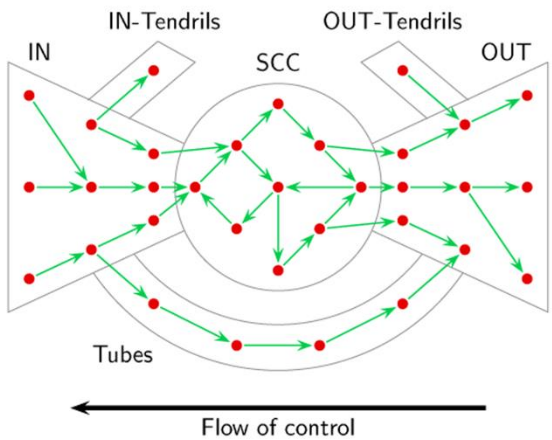
[23] Vitali, Glattfelder and Battiston 2011. More detail is given in Glattfelder 2010.
[24] Glattfelder 2010, 92-93.

Figure 1. The bow-tie topology of ownership and control



Source: Vitali, Glattfelder and Battiston 2011, 4

This reveals the following:[25]

- The knot of the bow tie, or strongly connected component (SCC), is defined as the CORE and consists of 295 TNCs connected by a network of cross-shareholdings so dense that three quarters of the shares of these CORE firms are owned by other CORE firms. Together the operating revenue of this group of firms constitutes 19 percent of the total operating revenue of all TNCs put together;
- The right-hand OUT section of the bow tie consists of firms that are owned at least in part by CORE firms but do not themselves have shares in CORE firms. The 6,488 TNCs here account for just under 60 percent of total global TNC operating revenue;
- The left-hand IN section consists of 282 TNCs that own shares in CORE firms but in which CORE firms themselves do not own shares. These account for just 2 percent of total global TNC operating revenue;
- The semi-detached tube and tendril (T&T) extensions to the bow tie consist of 8,246 TNCs that can be said to be connected to the CORE by ownership pathways only if you ignore the direction of ownership: if you follow an ownership pathway between the CORE and these TNCs you find a point at which the firm indirectly owned by one or more CORE firms does not own shares in the next firm but instead is part-owned by this firm. T&T firms account for 14 percent of global TNC operating revenue;

[25] Glattfelder 2010, 100, 103.

- The 27,569 TNCs that are not connected to the core at all account for just 6 percent of global TNC operating revenue.

So we have a core (the CORE) of just under 300 interconnected TNCs that have ownership stakes in about 6,000 other TNCs. Together these CORE and OUT TNCs account for nearly 80 percent of the operating revenue generated by TNCs worldwide.

But to what extent do these ownership links represent real control? The authors tackle this question by applying three distinct models for inferring control from ownership. Their preferred threshold model makes the reasonable assumption that ownership of over 50 percent of a firm's voting shares generally brings 100 percent control. In such cases other shareholders are deemed to have zero control. Where there are no majority shareholders, the percentage of control is deemed to be the same as the percentage of voting shares owned.[26]

This threshold model is applied as follows: [27]

1. Identify the percentage of voting shares represented by each ownership link;
2. Use the threshold model to derive a figure for the percentage of control represented by each link;
3. Calculate the percentage of control held by each shareholder (TNC or non-TNC) in each TNC over which it has some measure of control (downstream TNC) by multiplying the figures for percent control of all the links connecting them (if A controls 40 per cent of B while B controls 40 per cent of C, for example, it follows that A controls 16 per cent of C);
4. Obtain a measure of the economic value controlled by each shareholder by multiplying the figures for percentage control by the operating revenue of each downstream TNC, adding these figures together, and expressing the result as a percentage of the total operating revenue of all TNCs in the study.

Applying this procedure reveals that, using the authors' definition of control, TNCs are extremely concentrated: 80 percent of the operating revenue of TNCs worldwide is controlled by just 737 shareholders, of whom 298 are TNCs. These topholders are mostly from the CORE and IN parts of the bow tie. Most of the biggest topholders are either American or British, and most of the rest are European. Over three quarters of the topholders are in financial services.

The results also indicate that TNCs are very centralised: 39 per cent of total global TNC operating revenue is controlled by a group of 295 TNCs connected by a network of cross-shareholdings so dense that three quarters of the shares of these CORE firms are owned by other CORE firms.

[26] Glattfelder 2010, 50.
[27] Glattfelder 2010, 20, 52, 93, 106, 113.

The ten topholders with the largest individual shares of control, all of which are in financial services, jointly control nearly 20 percent of global TNC operating revenue. Seven of these are CORE firms. The biggest, Barclays, was found to control four percent of global TNC operating revenue all by itself: [28]

1. Barclays (CORE, UK)
2. The Capital Group Companies (IN, US)
3. Fidelity Investments (IN, US)
4. AXA (CORE, France)
5. State Street Corporation (CORE, US)
6. JP Morgan Chase (CORE, US)
7. Legal and General Group (CORE, UK)
8. Vanguard Group (IN, US)
9. UBS (CORE, Switzerland)
10. Merrill Lynch (CORE, US)

To sum up, the results indicate that in 2007 control of TNCs worldwide was extremely concentrated and centralised. It is this pattern that the study's authors refer to as the network of global corporate control. But to what extent is it controlling shareholdings that are being measured? And to what extent do the figures for concentration and centralisation refer to active control?

Controlling shareholdings

The argument that concentration and centralisation enhance the capacity of TNCs to influence public policy depends on TNCs being able to exert control over other TNCs due to their possession of controlling shareholdings. It is therefore essential that the figures for concentration and centralisation are based on links that consist of controlling shareholdings. But this is not always the case.

For a start, the data does not include all TNCs. Neither does it include all the shareholdings of the TNCs that are included. The ORBIS database is the best source of information we have for this sort of analysis, as it gathers together and organises publicly available information from company annual reports, correspondence with companies, filings with the US Securities and Exchange Commission, stock exchange records, national-level providers of financial information from annual accounts filed with official registers, company websites, phone calls to companies, and press news. By 2007, when the study was carried out, it covered over 30 million firms.[29] It includes more TNCs than any other database and its ownership figures are verified by checking them across different

[28] Glattfelder 2010, 113-115.
[29] Bureau van Dijk 2007, 2012.

sources.[30] But the number of companies for which Bureau van Dijk has ownership data is much smaller than the total number of firms in the ORBIS database, and ORBIS itself is not universal in its coverage. In 2011 there were 20 million companies in the ownership database compared with 75 million in ORBIS. There is also an issue of missing values, as Bureau van Dijk does not claim to have collected all the ownership links of all firms in the ownership database.[31]

Having said this, the size and extensive ownership links of large TNCs means that they show up in many records all around the world and are unlikely to be left out. It is relatively small TNCs that may be overlooked. For this reason the lack of comprehensive coverage of TNCs is unlikely to affect the results much.

Omitting some of the shareholdings of TNCs included in the study is unlikely to make a significant difference either, as in general it would only mean a few extra shares here and there. Only in some cases would omitting some of a TNC's shareholdings push another TNC's shareholdings above the 50 per cent mark, which would mean that the figure for control for that TNC would more than double from below 50 per cent to 100 per cent. Alternatively, omitting some of a TNC's shareholdings could pull its total shareholdings below the 50 per cent mark, thereby halving its apparent control.

The second source of error is the possible inclusion of some non-voting shares when it is only voting shares that are relevant to the exercise of control. Although the share data is supposed to indicate percentages of voting shares only, the database documentation states that 'when there are 2 categories of shares split into *Voting/Non voting shares*, the percentages that are recorded are those attached to the category *Voting shares*'.[32] This means that where a source does not distinguish between voting and non-voting shares, the ORBIS figures may in some instances count non-voting shares as voting shares. To the extent that this occurs, it could lead to inferring control where none exists, in cases where some of the shares held by the supposedly controlling firm are non-voting shares, or to missing relations of control that do exist, where real majority shareholdings are pushed into apparent minority positions by other shareholdings inflated by non-voting shares.

The question is how widespread these errors are likely to be. In the absence of data from Bureau van Dijk concerning which sources do not make the voting/non-voting distinction, we have to make an estimate based on studies of firms at national level. The latest available figures, from the late 1990s, tell us that the problem is restricted mainly to just a few countries. Firms did not issue

[30] Pinto Ribeiro, Menghinello and Backer 2010, 12-13.
[31] Bureau van Dijk 2012.
[32] Bureau van Dijk 2008, 1, 6.

multiple class shares at all in Belgium or the Netherlands in Europe; in China, India, Japan, Indonesia, Israel, Malaysia, Philippines, Taiwan, Thailand, Saudi Arabia or Singapore in Asia; or in Argentina; and they are rare in Australia, Chile, France, Hong Kong, Luxembourg, Mexico, New Zealand, Spain, Turkey and the United States. The proportion of firms issuing them was higher in Austria (23 percent), Britain (24 percent), Ireland (28 percent), Germany (18 percent) and Norway (13 percent). But only in some countries was this practice widespread: Sweden (66 percent of firms), Switzerland (51 percent), Italy (41 percent) and Finland (38 percent). It was also frequent in Denmark, Canada, Brazil, Korea and South Africa.[33] Furthermore, counting non-voting shares as voting shares will not always lead to erroneous attributions or denials of control. For these reasons I conclude that the existence of this type of error does not invalidate the overall findings.

Third, the models for inferring control from ownership all lead the authors to over-estimate the incidence of controlling shareholdings. This is because all three ascribe some measure of control to shareholdings that are very small. Their preferred threshold model equates percentage control with percentage ownership where there is no majority shareholder even where these shareholdings are very small. But a shareholding of, say, one per cent does not give a shareholder any control. This means that not all of the shareholdings counted as controlling shareholdings are in fact controlling shareholdings. These models thereby impart an upwards bias to the figures for concentration and control.

Somewhat surprisingly this upwards bias is at least partly offset by the fact that the study takes no account of the fact that TNCs with small shareholdings can form coalitions or, where they have similar interests but are less organised, constellations of interests, both of which can as units have controlling shareholdings in other TNCs. This means that many of the small shareholdings that alone would bring no control form part of controlling shareholdings. In such cases small shareholdings should also be counted as controlling shareholdings because they do enable their owners – as part of a coalition or constellation of interests – to exert control over the owned firm.

This means that use of the threshold model does not overstate the incidence of controlling shareholdings as much as it first appears to. While omitting all non-controlling shareholdings held by individual TNCs could leave a core that is much smaller, or even two or more cores not connected by reciprocal controlling shareholdings, adding the controlling shareholdings of coalitions and constellations of interests would bring back many of these small shareholdings.

[33] Percentage figures from Faccio and Lang 2002, 386 and Gadhoum, Lang and Young 2005, 348; otherwise Nenova 2003, 327-328.

Unless there are in fact very few coalitions and constellations of interests, which seems unlikely, the ultimate result may well be, as the study finds, a single core.

Active control

The other condition for concentration and centralisation to influence public policy, as we saw earlier, is that TNCs with controlling shareholdings use them to influence the firms they own. It is active control that matters, not just possession of the means of control.

Here the study's results give us no guidance because the data on which they are based contain no information on the extent to which owners use, or are prepared to use, the control levers at their disposal. We therefore have to fall back onto what we already know: TNCs, coalitions of TNCs and constellations of interests often do exert influence through using or threatening to use the voting power they possess by virtue of their holdings, but they do not always choose to exercise these powers. Investors based in English-speaking countries in particular often prefer a hands-off attitude.

But this doesn't necessarily mean that no control is exercised: if firms wish to keep their share price buoyant, for example because they fear a hostile takeover if the price plummets, they have to take seriously threats by large shareholders to sell their shares if the firm doesn't do what the shareholder wants it to do. In many cases they will respond by falling into line. This is not control in quite the same sense as using your voting power, since in the case of threatened share sales it is open to the firm not to cooperate whereas shareholder votes have legal force, but to the extent to which firms do yield the result is the same: influence is exerted and the firm does things differently.

Nevertheless, it is clear that at least some investors choose not to exercise either of these options: they remain passive, and the firms in which they have controlling shareholdings remain autonomous. What this means is that active control is not as extensive as control measured in terms of possession of controlling shareholdings. It follows that the study's figures for concentration and centralisation of control are higher than they would be if they measured active control.

The results stand

Close analysis of the study's results has revealed that concentration and centralisation of active control of TNCs based on possession of controlling shareholdings is in fact lower than the results indicate. However there is no reason to believe that it is much lower. It seems unlikely that the lack of comprehensive coverage of TNCs and their shareholdings affects the results much. Some non-voting shares may be included as voting shares, but this is only a problem – if indeed it is a problem – for shareholdings in firms based in just a few countries. The inclusion of small shareholdings as if they give some control means that the figures for concentration and centralisation are overstated, as does failing to take into account the fact that at least some shareholding TNCs are passive owners, but this effect is balanced to some extent by the study's failure to take into account control exerted by small shareholders via coalitions of TNCs and constellations of interests. It is also reasonable to assume that the degree of concentration and centralisation of active control is correlated with the degree of concentration and centralisation of the means of control. It follows that active control today is more concentrated and centralised than if the means of control were not so concentrated and centralised.

We cannot exclude the possibility that these sources of error lead to the calculation of figures that are grossly misleading. However the more obvious conclusion is that the figures for concentration and centralisation are biased upwards but not so much that they invalidate the study's conclusion that TNC concentration and centralisation is very high. The main risk is that correcting all these errors could reveal more than one core.

The appropriate conclusion to draw is that while TNC concentration and centralisation is not as high as the study indicates, it is nevertheless still very high.

For this reason the argument that concentration and centralisation increases the capacity of firms to influence public policy can be applied to TNCs. TNCs are concentrated and centralised in the relevant sense of active control. Concentration means that it is easier to agree on united political action. Centralisation means that the attitudes to public policy of CORE TNCs and the TNCs they control are more similar than they would otherwise be. Consequently these TNCs, and by extension TNCs as a whole, are more united, and this enhances their capacity to influence public policy because TNC lobbying is more single-minded and better-resourced, representative organisations are more likely to get involved, and TNCs are more likely to react similarly to what governments do, which means bigger rewards for governments that do what they want and more severe sanctions for those that don't.

CENTRALISATION AND THE CAPACITY FOR BUSINESS UNITY

The study by Vitali, Glattfelder and Battiston has established that TNC ownership and control is very concentrated and centralised. In particular it has established that there is a single core of interconnected TNCs: one of the networks of TNCs connected by reciprocal controlling shareholdings includes far more TNCs than any of the others. And there is the theory that TNCs exerting active control over each other will result in their attitudes and actions in relation to public policy becoming more similar. To the extent that this occurs, the size of the core means that it is core attitudes that are likely to form the basis for any broad consensus on public policy among TNCs. To the extent that the attitudes of business organisations are aligned with a broad consensus of TNCs, which is what we would expect of representative organisations, they would therefore also be aligned with the attitudes of core TNCs. This would enhance the ability of core TNCs to influence public policy.

But are the attitudes of business organisations in fact aligned with those of the core? Perhaps the theory is mistaken, or any homogenising effect is too weak to make a real difference to TNC attitudes.

Although it is not possible to investigate this question directly, due to lack of data on the attitudes to public policy of TNCs and business organisations, it is possible to get an indirect indication of whether there is any such alignment.

If the attitudes to public policy of representative organisations are aligned with those of core TNCs, we would expect the attitudes of these organisations to be more congenial to core TNCs and the TNCs they control than to other TNCs. For this reason we would expect a greater proportion of core and associated TNCs than other TNCs to join these organisations.

The hypothesis to be tested is therefore that a significantly greater proportion of core and associated TNCs than other TNCs are members of relevant business organisations

While confirmation of this hypothesis would not prove that core and business organisation attitudes are aligned, as the attitudes themselves are not observed, it would be what the centralisation theory leads us to expect. For this reason it would increase our confidence that this theory reflects reality even though it would not be conclusive. Disconfirmation would indicate that the theory needs to be amended or discarded.

The proposition that core and associated TNCs are overrepresented in the memberships of representative organisations can be tested by comparing the membership in TNC-relevant business organisations of CORE and OUT TNCs, on the one hand, and IN and T&T TNCs, on the other. Although analysis of the findings of Vitali, Glattfelder and Battiston has shown that they do not provide a completely accurate view of the topology of TNC ownership and active control, there is no indication that it is seriously misleading. Core TNCs and the TNCs they control can therefore be represented by CORE and OUT TNCs, while independent TNCs can be represented by IN and T&T TNCs.

The operational hypothesis is therefore that the proportion of CORE and OUT TNCs which are members of business organisations is significantly higher than the proportion of IN and T&T TNCs.

This was tested by looking at the membership in business organisations of the set of 737 topholding TNCs that together control 80 percent of global TNC income. Of the 737 topholders, 176 are core in this broad sense (147 CORE plus 29 OUT) while 561 are independent (342 IN plus 219 T&T). This means that core TNCs constitute 24 percent of topholders while independent TNCs constitute 76 percent. If we remove state authorities, individuals, and families from the dataset, as we would not expect these to be members of business organisations, the proportion of core firms rises to 28 percent while the proportion of independent firms falls to 72 percent.

It follows that if the proportion of core topholders (CORE plus OUT) who are members of a mainstream business organisation is the same as the proportion of independent topholders (OUT plus T&T) who are members - the null hypothesis - then on average we should expect about three independent topholders to be members for each core topholder. The specific hypothesis is therefore that the proportion of core topholders who are members of relevant business organisations is significantly higher than a third of the number of independent topholders who are members of the same organisations.

Relevant business organisations can be divided into two main types. First, CEO clubs: the Business Roundtable and Financial Services Roundtable in the United States, and the European Roundtable and European Financial Services Roundtable in Europe. These are mainstream organisations in the sense that within their areas there are no rival CEO roundtables. Second, there are other establishment business organisations: the Institute of International Finance (IIF), the Bilderberg Conferences, the World Economic Forum (WEF) and the Trilateral Commission. Other business organisations that might seem to be relevant, such as the International Chamber of Commerce and the World Business Council for Sustainable Development, are disregarded because it is not clear that they are mainstream. Employers’ federations such as BusinessEurope are omitted because TNC membership of these is indirect via industry and national federations.

Table 1 shows that core topholders outnumber independent topholders among the members of these organisations by a considerable margin, as predicted. This is true not only for organisations with global reach but also for each of the distinctively American and European organisations.

Table 1. Core and independent topholder members of business organisations

Business organisation	Number of core/independent members	Core members as a percentage of core plus independent members
Business Roundtable 2012	11/2	85
European Roundtable 2008	9/1	90
Financial Services Roundtable 2009	26/7	79
European Financial Services Roundtable 2012	16/0	100
Institute of International Finance (IIF) members 2011	45/6	88
IIF Board 2011	14/2	88
World Economic Forum (WEF) Industry Partners 2012	41/16	80
WEF Strategic Partners 2012	24/4	86
Bilderberg Steering Committee 2012	4/1	80
Trilateral Commission 2012	50/3	94

Core firms = CORE plus OUT firms. Independent firms = IN plus T&T firms.

Core firms constitute 28 percent of the 737 topholder TNCs on which the calculations are based. Figures are for 2008 or 2009 where possible to match the time period with that covered by the study. The three results for samples big enough for significance tests were all significant at the 0.001 level.[34]

Sources: Vitali, Glattfelder and Battiston, undated, Business Roundtable 2012, European Round Table of Industrialists 2012, Financial Services Roundtable 2012, European Financial Services Round Table 2011, Institute of International Finance 2012a, 2012b, World Economic Forum 2012a, 2012b, Bilderberg 2012, Trilateral Commission 2012.

The possibility that core TNCs are over-represented due to their size, or because they are disproportionately financial firms, was checked by re-running the test controlling for both sector and size. NACE codes were used to restrict the

[34] Wessa 2012.

set of topholders to financial TNCs. Core and independent financial topholders were then matched according to the proportion of worldwide TNC operating revenue they control: each independent TNC was allocated a similarly sized core TNC until the eligible core TNCs (the ones similar in size to independent TNCs) ran out. The remaining unallocated independent TNCs were then removed from the dataset. Comparing the numbers of members of financial business organisations from the relevant matched sets reveals that core TNCs are still over-represented even when size and sector are controlled.

Taken together these results provide strong support for the hypothesis that a significantly higher proportion of CORE and OUT TNCs than IN and T&T TNCs are members of business organisations. The samples may be small, but core TNCs far outnumber independent TNCs in all of them. While these findings do not prove that the attitudes of business organisations are aligned with those of core TNCs, as we lack data on these attitudes, they are what we would expect if there is such an alignment: the theory that attitudes are aligned, and that therefore centralisation increases the capacity of core TNCs to influence public policy, passes this empirical test.

CONCLUSION

This article has shown that there are good reasons to believe that the capacity of TNCs to influence public policy is greater than previously thought due to the discovery that TNC ownership and control is extremely concentrated and centralised. The high degree of concentration makes it easier for TNCs to agree on political action. The high degree of centralisation makes the attitudes of core TNCs, and by extension TNCs in general, more similar than they otherwise would be. The results of analysing the membership of business organisations provide support for the idea that they are dominated by a core of interconnected TNCs in the sense that the attitudes to public policy of these organisations are aligned with those of core TNCs.

The obvious next step in this line of research would be to replicate the study by Vitali, Glattfelder and Battiston in order to find out how the patterns of TNC ownership and control have changed since 2007, with particular reference to the financial crisis of 2008. Do we see the same concentration and core-periphery structure? How does the picture change if only shareholdings above a certain level are deemed to translate into control? Further investigation could also shed light on broader issues such as the nature of transnational elites and the extent to which it is meaningful to speak of the emergence of a transnational capitalist class.[35] The underlying theory that concentration increases influence on public policy could be tested further by investigating whether industrial sectors with high concentration

[35] See, for example, Sklair 2001; Carroll 2010.

of ownership and control are also the sectors with the most business-friendly government policies.

A further possibility would be to investigate why financial institutions are much more prominent in the network of global corporate control than they are in networks of firms connected by transnational board interlocks.[36] It is not surprising that financial institutions own a lot of shares: industrial firms issue shares in order to raise money to invest in production while financial institutions invest in the shares of industrial firms in order to make money from dividends and movements in the prices of shares. They also invest in shares issued by each other and thereby become involved in networks of cross-ownership. As globalisation progresses, at some point the increasing number of transnational shareholdings must start to form transnational networks of cross-ownership that eventually merge into a single global network of cross-holdings dominated by financial institutions. The issue is why financial institutions are not also heavily involved in transnational board interlocks given that representation on the boards of owned firms is one of the main ways in which controlling shareholders can exercise their power. The obvious explanation is that they prefer to exercise power through implicit or explicit threats to sell their shares when a firm displeases them, but this remains to be confirmed.

Finally, it would be worth comparing the actual attitudes to public policy of business organisations and CORE TNCs in order to test directly the extent to which these are aligned. The test reported in the previous section provides some support for this view but does not prove it to be true. The main difficulty would be in obtaining accurate data on the attitudes of core TNCs and business organisations.

The degree to which TNCs are concentrated and centralised was not anticipated. The implication that this increases their capacity to influence public policy is good news for business but bad news for politicians, officials and voters.

[36] Nollert 2005: 298; Heemskerk 2013; Carroll 2010: 226.

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