Thomas Prendergast

Best Dissertation Prize Winner

MSc Comparative Politics 2019/20

gov.msc@lse.ac.uk

VARIETIES OF EXPORTS, VARIETIES OF GROWTH: THE INSTITUTIONAL DETERMINANTS OF GROWTH MODEL VARIATION AMONG COORDINATED MARKET ECONOMIES

A dissertation submitted by Thomas Prendergast

to the Department of Government,

the London School of Economics and Political Science,

in part completion of the requirements for the MSc in Comparative Politics

Word Count: 10,269

Abstract

What explains the disparity in growth models between countries typically labelled as Coordinated Market Economies (CMEs)? As has been highlighted by Baccaro & Pontusson (2016), economies in that category markedly differ in the relative importance that they place on consumption and exports in GDP growth. They attribute this phenomenon to differences in the price sensitivity of their export profiles – exports with greater price sensitivity require repression of consumption to remain competitive, while those that are less sensitive do not require such repression. This poses a challenge to the orthodox Varieties of Capitalism view in political economy, which holds that the incentives for innovation within the CME category breed essentially similar forms of comparative advantage and specialisation.

This research project will suggest that variation in growth models among CMEs can be explained by the manner with which some economies have liberalised in particular spheres since the 1980s and 90s, creating new combinations of liberal and coordinated institutions which encourage differing patterns of innovation. Specifically, it hypothesises that combinations of coordinated industrial relations and firm hierarchies with otherwise liberal economic institutions can create "beneficial constraints" encouraging specialisation in high-tech exports. The lower price sensitivity of these exports in turn allows for higher consumption, explaining differences in growth models.

Mixed methods will be used to test this assertion, conducting a fuzzy-set Qualitative Comparative Analysis (fsQCA) supported by multivariate quantitative methods on a dataset collecting institutional and macroeconomic indicators for 29 OECD countries over the 1991-2015 time period. Mixed evidence is ultimately found for the hypothesis: although the hypothesised institutional configuration of "beneficial constraints" is shown to be a sufficient condition for an export-led growth model even in combination with high consumption, only Finland, Sweden and Norway are found to conform to that category. As such, only tentative institutional conclusions can be drawn due to the numerous historical, cultural, and geographic affinities between that group which may act as potential confounders.

1. Introduction

1.1 Opening Remarks

Since the publication of Baccaro & Pontusson's (2016) influential analysis of growth models among developed economies, Comparative Political Economy (CPE) has developed a renewed focus on the strategies used and trade-offs made when managing effective demand. Many applications of this taxonomy have placed it in dialogue with Hall & Soskice's (2001) widely utilised Varieties of Capitalism (VoC) typologies, connecting Baccaro & Pontusson's "consumption-led" growth model to Liberal Market Economies (LMEs) such as the United Kingdom, and their "export-led" model to Coordinated Market Economies (CMEs) such as Germany (Hope & Soskice, 2016; Hall, 2018, 4).

Key to the growth model perspective is the suggestion that a trade-off often exists between pursuing a consumption-led or an export-led demand strategy, as the real exchange rate appreciation and wage increases brought about by excessive consumption weakens the competitiveness of exported goods (Baccaro & Pontusson, 2016, 14-15). It is due to this apparent trade-off, the contemporary VoC literature argues, that we observe concentrations of export-driven growth among CMEs and consumption-driven growth among LMEs. Specifically, the coordinated wage bargaining institutions trademark of CMEs lend themselves to competitiveness-boosting (and consumption-dampening) wage restraint, which when pitted against the fragmented and often inflationary wage-setting processes of liberal economies offers a comparative advantage in manufacturing exports (Hall, 2018, 4).

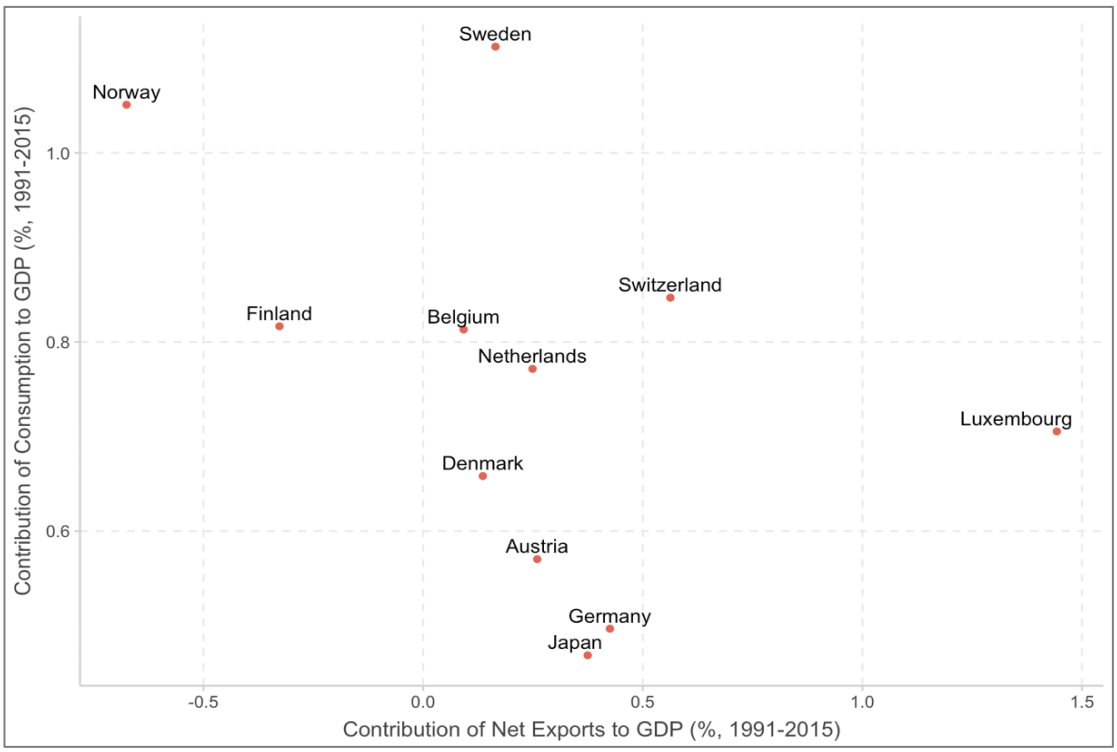


Figure 1.1: Mean contribution to GDP growth of consumption and exports for countries labelled CMEs in Hall & Soskice (2001) for the period 1991-2015. Percentages were calculated by multiplying the annual net exports/consumption growth rate by net exports/consumption share of GDP in year t-1. Source: OECD, 2020, in constant prices on OECD base year 2015.

As can be seen in Figure 1.1, this trade-off is clearly evident over the 1991-2015 time period in ideal-type CMEs such as Germany and Austria, where consumption has been radically suppressed and exports provide the bulk of growth (Fuller, 2018, 186). Otherwise, this relationship is not quite as straightforward. Consumption however contributed notably more to growth in other CMEs such as Finland, Norway, Switzerland, and Sweden. This seems to have come without a significant sacrifice in terms of export-driven growth – although both Norway and Finland have seen less of a growth contribution from exports, Switzerland and Sweden all exhibit contributions within a single standard deviation (0.53%) of Germany's. Sweden's mean contribution of consumption to GDP growth over that time period is closer to the United Kingdom's than Germany's, despite the UK being both an archetypical LME and consumption-led growth model (Figure 1.2). [1]

[1] An obvious outlier visible in this graph is Ireland, typically designated as an LME. It can be argued that its unusually high scores for export-derived growth is driven by its tax haven status making it the nominal home of

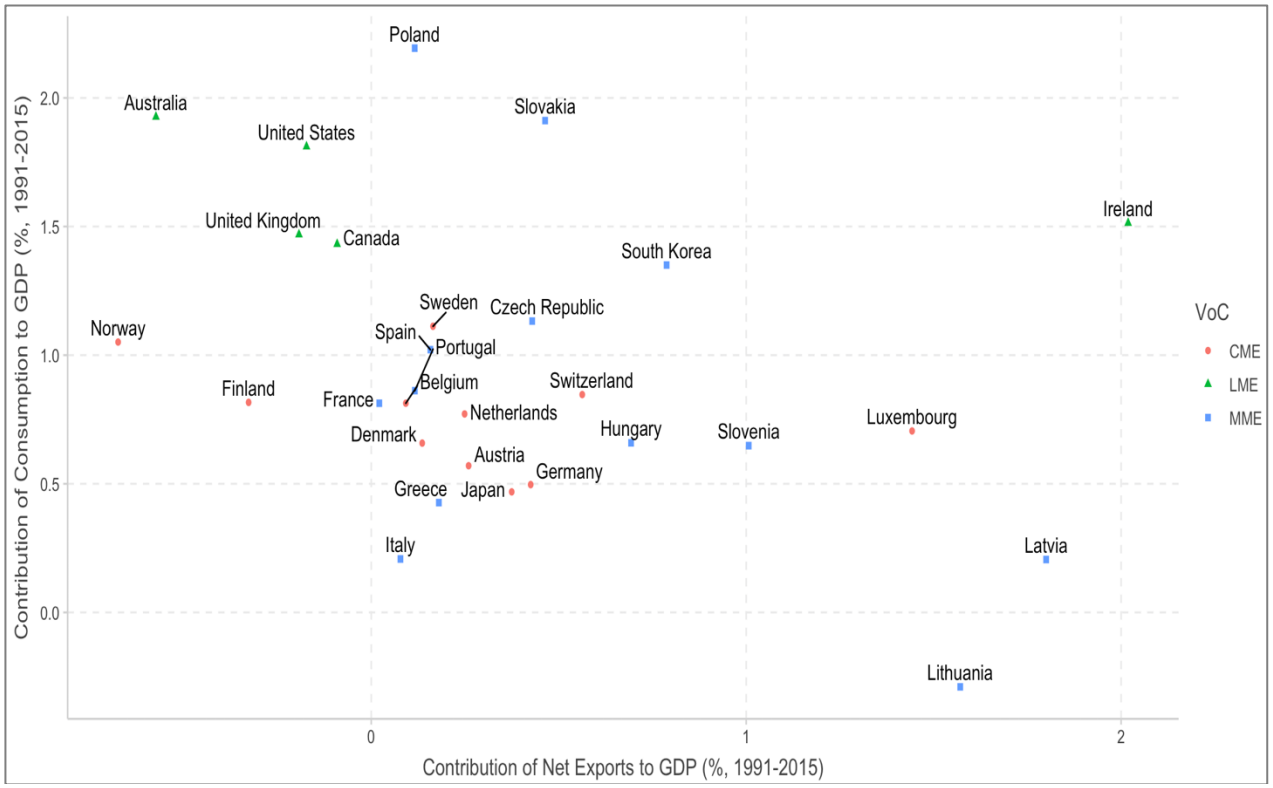


Figure 1.2: Mean contribution to GDP growth of consumption and exports for 29 OECD countries for the period 1991-2015. Sources and calculations as Figure 1.1.

The most convincing explanation for these disparities, suggested by Baccaro & Pontusson (2016) to account for the case of Sweden, is that exports vary in price sensitivity in a way that allows for more flexibility with regard to real exchange rate appreciation in some economies than others.[2] Exports with a lower elasticity in terms of price both allow for greater unpunished consumption and provides less motivation for unions to concede wage restraint in the interest of competition. However, this assertion poses something of a challenge to the traditional VoC perspective as a prism for understanding growth models: a key assumption of that literature is that the patterns of innovation and specialisation that define comparative advantages and export profiles are essentially similar within the

several valuable US multinationals (Krugman, 2017). This outlier position is not maintained when measuring the relative importance of exports by current account balance as % of GDP, where Ireland instead tightly clusters with other LMEs in the high-consumption, low-exports quadrant: see Appendix A.1.

[2] It must be noted that this is a claim that has been subject to substantial criticism, in particular from Hope & Soskice (2016, 216-217). These criticisms will be summarised and addressed in the Literature Review.

institutional families (Hall & Soskice, 2001, 38). With this anomaly in mind, this study will address the following research question:

What explains the variation in growth models among Coordinated Market Economies (CMEs)?

In particular, it seeks to explain why some political economies typically designated as CMEs establish more balanced consumption- and export-led growth models, while others develop purely export-led models at the expense of domestic consumption.

This research project will suggest that this variation in growth models can be explained by relaxing VoC's assumption of comparative advantage primarily arising from the "institutional complementarities" of entirely liberal or entirely coordinated political economies (Hancké, Rhodes, & Thatcher, 2007, 14; Hall & Gingerich, 2009, 463). It instead will propose that institutional diversity among CMEs is greater than may be initially apparent, and that particular combinations of liberal and coordinated institutions can generate "beneficial constraints" which allow for higher levels of consumption while maintaining export competitiveness (Streeck, 1997, 200; Boyer, 2004, 10; Schneider & Paunescu 2012, 745). Specifically, it will draw from Witt & Jackson (2016, 784) to suggest that institutional configurations which combine coordinated employment relations and firm hierarchies with otherwise liberal institutions can create a comparative advantage in high-tech industries and therefore lower the price sensitivity of exports.

To assess this hypothesis, this study will conduct a fuzzy-set Qualitative Comparative Analysis (fsQCA), supported by principal components analysis, on a dataset compiling institutional and macroeconomic indicators for 29 OECD countries over the 1991-2015 period.

1.2 Project Goals

This project has four primary goals. The first of these goals is to establish the salient institutional differences between economies typically designated as CMEs which give rise to the evident variation in growth models between them, in doing so investigating the empirical consistency of the category across cases and time.

A second goal is to extend Baccaro & Pontusson's (2016) growth model typologies across a greater time period and range of cases, the dataset being created for this project standing as a resource for examining how their claims fare applied across time and space. This extension addresses the criticism of Hope & Soskice (2016, 214) that Baccaro & Pontusson's conclusions are biased by the limited time period that they selected for their analysis, providing a foundation for assessing the external validity of their theory. The utility of undertaking this project's proposed fsQCA does not only lie in the specific results it yields, then, but also in using the compiled data and empirical patterns observed as a springboard for further theory development.

A third aim is to stress the continuing relevance of the liberal-coordinated axis and institutional spheres highlighted by the Varieties of Capitalism literature, while asserting the benefits of relaxing its assumption of comparative advantage primarily arising from institutional complementarities which meet the LME or CME ideal types. In particular, it aims to demonstrate that reading VoC through Baccaro & Pontusson's growth model typologies – and vice-versa – can illuminate aspects of capitalist diversity which the two perspectives may not have identified individually, the explanatory power of the two together being greater than the sum of their parts. The purpose here is to affirm that the growth model perspective is not simply a reformulation of VoC from a demand-side perspective, but that the institutional dimensions raised in the VoC framework are nonetheless highly consequential for growth model selection.

A final goal of this research project is to demonstrate the utility of Qualitative Comparative Analysis as a method in Comparative Political Economy. CPE as a discipline often concerns itself with typologising institutional configurations and analysing the outcomes brought about by these institutions acting in concert. QCA (and by extension fsQCA) is explicitly designed to detect "multiple conjunctural causation" (Braumoeller, 2003, 210) in a way that conventional regression analysis has trouble achieving, making it ideally suited to the complex institutional hypotheses of political economy. The method has seen substantial use for similar hypotheses in business studies (Schneider et al., 2010; Jackson & Ni, 2013), but has been less prevalent in political economy despite its clear affinity for the subject.

1.3 Roadmap

This study will begin by summarising the explanations provided for growth model variation by the growth model perspective and Varieties of Capitalism literatures, before outlining the gap in the literature which it aims to fill. It will then explain the theoretical position taken to answer that research question, and propose two hypotheses based on that perspective. Following this, the methodological process behind compiling this project's dataset and conducting its central fsQCA will be outlined. Finally, the results of the fsQCA will be presented, interpreted, and discussed, before potential future avenues for research based on this study's conclusions will be considered.

2. Literature Review and Hypotheses

2.1 Literature Review: Supply- and Demand-Side Political Economy

This literature review will first provide brief overviews of how the growth model and Varieties of Capitalism (VoC) frameworks explain variations in demand-management strategies, before addressing key VoC criticisms of the growth model perspective. It will then outline the gap in the literature which this research project aims to fill.

2.1.1 The Growth Model Perspective

Attempts to explain diversity among advanced capitalist economies have often revolved around building typologies describing consistent patterns of institutional similarities and variation between political economies (see: Amable, 2003; Crouch & Streeck, 1997; Hall & Soskice, 2001; Whitley, 1999;). Baccaro & Pontusson's (2016) "growth model" conception of Comparative Political Economy constitutes one of the more recent, and influential perspectives in this field. The key criteria for typologising forms of advanced capitalism, they suggest, lie in the particular components of aggregate demand from which economic growth is drawn, and the effects which emphasising these different components has on the income distribution.

Drawing from the seminal contributions of Kalecki (1943, 1944) and Bhaduri & Marglin (1990), Baccaro & Pontusson suggest that contemporary capitalist economies can be typified based on the relative priority they place on encouraging growth based on consumption, and growth emanating from exports (2016, 12). Prior to the 1970s, all of these economies exhibited an essentially "Fordist" growth model, where growth was fuelled by a robust base of consumer demand kept afloat through full employment and generous wages (Baccaro & Pontusson, 2016, 10; Block, 2011, 33-34). Since the demise of this arrangement

in the stagflationary crises of the 1970s, countries have attempted to replace the "wage-driver" of growth in differing ways. Of the four empirical examples invoked, the United Kingdom is singled out as being led by debt-financed consumption, while Germany solely prioritises exports – in contrast, Sweden is shown to have attained a relatively balanced growth profile between exports and consumption, while Italy is designated as having failed to find a substitute for Fordist wage-led growth (Baccaro & Pontusson, 2016, 2).

Employing a Kaleckian model of political economy, Baccaro & Pontusson suggest that variation in these growth models largely depends on the outcomes of several macroeconomic processes. The feasibility of a given growth model, in this perspective, depends upon the effect that a change in the wage/profit share has on the various aspects of aggregate demand in different contexts.

A Fordist growth model is possible in a context where an increase in the wage share does not lead to a decrease in investment, as its positive effect on consumption outweighs its negative effect on profits. If the effect of a wage increase negatively affects investment, consumption may be either supplemented from alternative sources (such as through credit rather than excessive wage rises), or a greater emphasis placed on capturing foreign demand through competitive exporting to maintain growth. The degree to which these two can be balanced depends on the relationships between consumption, net exports, and the real exchange rate: when real exchange rate appreciation has a strongly negative effect on net exports, any consumption surge that may cause such appreciation (whether through wage rises or credit bubbles) must be discouraged if exports are to contribute to growth. A key variable, then, is the price sensitivity of exports – Sweden's mixed growth model is here attributed to the increasing importance of high-end services and ICT in its export profile, granting it more leeway for exchange rate-appreciating consumption compared to the more traditionally manufacturing-based Germany (Baccaro & Pontusson, 2016, 17).

Many institutional analyses which draw from similar Kaleckian and post-Keynesian grounds emphasise the role of financial institutions in enabling consumption-led growth (Fuller, 2018; Stockhammer, 2018; Stockhammer & Kohler, 2019). However, institutional explanations of what drives growth model variation brought about by export profile differences, despite the fact that differing patterns of innovation are highlighted as being key variables, have been lacking within that literature.

2.1.2 Growth Models and Varieties of Capitalism

A possible response is supplied by Hall & Soskice's (2001) Varieties of Capitalism (VoC) framework. As opposed to the heterodox, Kaleckian foundations of the growth model perspective, VoC's supply-side typologies draw their analysis from orthodox, New Keynesian bases (Stockhammer, 2018, 1).

Hall & Soskice suggest that there are two primary families of institutional solutions to problems of coordination faced by firms: liberal market institutions, defined by fluid labour markets, general education, competitive inter-firm relations, and stock-market industrial financing; and co-ordinated non-market institutions, marked by large-scale collective bargaining, specific vocational training, collective firm decision-making, collaborative relationships between firms, and long-term industrial financing (2001, p. 8). In Liberal Market Economies (LMEs), exemplified by the extensively market-based economies of the Anglosphere, the former institutional solutions predominate, while in Coordinated Market Economies (CMEs), such as the manufacturing hubs of Central and Northern Europe, the latter prevail.

Key to Hall & Soskice's theory is the existence of "institutional complementarities", suggesting that the operation of liberal (or co-ordinated) institutions in one sphere benefits from the presence of similar institutions in related spheres (Hall & Gingerich, 2009, 463).

These constellations of complementary institutions grant distinct comparative advantages to each typology and breed recurring patterns of innovation: the dynamism and flexibility of LMEs give them an advantage in fast-moving, radically innovative industries such as financial services, while the greater degree of long-term security found in CMEs affords them advantages in incrementally innovative industries, such as manufacturing (Hall & Soskice, 2001, 39). Political economies which combine the two institutional families, termed Mixed Market Economies (MMEs), are suggested to lack a strong comparative advantage in either of these capacities, and suffer economically as a result (Hancké, Rhodes, & Thatcher, 2007, 14).

Baccaro & Pontusson (2016, 6) explicitly disassociate their theory from Varieties of Capitalism, arguing that the growth model perspective constitutes an individual perspective in Comparative Political Economy rather than a corollary to Hall & Soskice's framework. Despite this, both its demand-side perspective and the specific taxonomies it describes have been readily absorbed into the Varieties of Capitalism literature, albeit as an extension of VoC types: LMEs are designated as being primarily consumption-led, while CMEs are export-led (Hope & Soskice, 2016, 212).

The reasoning behind this in a VoC context is slightly amended from Baccaro & Pontusson's causal mechanism. De-emphasising Kaleckian dynamics, VoC scholars pin variation in growth models down to variation in supply-side institutions rather than macroeconomic dynamics, particularly relating to the competitiveness-boosting effects of coordinated wage bargaining and the comparative advantages the two typologies produce (Hall, 2018, 4). The growth model perspective has seen particular use in tandem with VoC in analyses of the Eurozone crisis, emphasising the mutual dependency between the exporting, creditor CMEs and the consuming, indebted LMEs and MMEs within the EMU (Fuller, 2018, 175).

The Varieties of Capitalism literature generally makes these clearer distinctions between the growth models of CMEs and LMEs on the assumption that there is little substantial variation between the growth profiles of CMEs. Most notably, Hope & Soskice (2016, 216) dispute Baccaro & Pontusson's thesis that Swedish exports were less price sensitive than German exports in the period they examined – the key piece of evidence supporting export price sensitivity being central to growth model variation – or indeed that consumption played more of a role in Swedish GDP growth than in German growth.

A key criticism is that Baccaro & Pontusson's analysis was biased by its 1993-2007 time frame, arguing that the burdens of German reunification and Swedish recovery from its early 1990s economic shock distorted both the makeup of their GDP growth and their relative export competitiveness in that period (Ibid.). If the early 1990s are taken into account, Hope & Soskice suggest, there is little difference to be found between the two countries' growth models (2016, 215). This is a claim that this study disputes – as was seen in Figures 1.1 and 1.2, the much higher contribution of consumption to Sweden's GDP growth compared to Germany's is maintained even when the timeframe is stretched both backwards (to 1991) and forwards (to 2015) from Baccaro and Pontusson's.

Hope & Soskice also point to the fact that there is substantial disagreement in the literature over whether ICT exports are genuinely less price sensitive than more conventional manufacturing exports, questioning the thesis that the greater importance of high-technology industry and ICT to Sweden's exports would grant them greater price elasticity (see: Ahmed, Appendino, and Ruta, 2015; Eichengreen & Gupta, 2013). Further, they suggest that the regression run by Baccaro & Pontusson of log changes in exports explained by log changes in real exchange rates, presented as the key evidence for their claim, is methodologically flawed. Baccaro & Pontusson suggest that the presence of a statistically significant effect of real exchange rate changes on German exports demonstrates their price sensitivity, whereas

the lack of a significant effect on Swedish experts shows their insensitivity. Pointing to the work of Gelman & Stern (2006), Hope & Soskice (2016, 217) argue that merely comparing the individual significance of two regression coefficients is inadequate for inferring a difference, instead emphasising the relevance of the difference between coefficients being statistically significant. Baccaro & Pontusson's regression results fail this test (Ibid.).

As can be seen in Table 2.1, running regressions using the same variables over the full time period of 1991-2015 for Sweden and Germany yields similar results to those found by Baccaro & Pontusson, showing real exchange rate changes having a statistically significant negative effect on changes in German exports, but no significant effect on Swedish exports. However, as is demonstrated in Table 2.2, over this time period the difference in coefficients is significant by Gelman and Stern's standards as well, providing stronger evidence for the greater price sensitivity of German exports compared to Swedish exports.

Table 2.1: Log Changes in Exports explained by Log Changes in REER

	Dependent variable:				
	(1)	(2)	(3)	(4)	(5)
Germany	-0.790***				
	(0.207)				
Austria		-0.847***			
		(0.277)			
Sweden			-0.116		
			(0.147)		
Finland				-0.269	
				(0.202)	
South Korea					-0.060
					(0.100)
Constant	0.055***	0.050***	0.054***	0.054***	0.099***
	(0.007)	(0.006)	(0.008)	(0.011)	(0.012)
Observations	27	27	27	27	27
R^2	0.369	0.272	0.024	0.066	0.014
Adjusted R^2	0.344	0.243	-0.015	0.029	-0.025
Residual Std. Error (df = 25)	0.036	0.031	0.042	0.055	0.060

F Statistic (df = 1; 25)	14.608***	9.363***	0.623	1.765	0.361

*p<0.1; **p<0.05; ***p<0.01

OLS regression of annual log change in exports (dependent variable, in constant prices on OECD base year 2015) explained by annual log change in real effective exchange rates (independent variable, indexed to World Bank base year 2010) for five countries over the 1991-2015 period, excluding outlier year 2009. Regressions remain robust when 2009 is included; see Appendix A.2 for further details. Sources: OECD, 2020 (Export data), World Bank, 2020 (REER data).

Moreover, running further regressions for the same time period on similar economies yields supporting evidence: fellow ideal-type CME Austria also exhibits a statistically significant negative effect, while Nordic Finland shows no effect (see Table 2.1). South Korea, with especially high contributions to growth from both exports and consumption, also exhibits no significant effect. As is visible in Table 2.2, individual comparison of regression coefficients shows significant differences between each pairing of the low-consumption, high-exports group (Germany and Austria) and the high-consumption, high-exports group (Sweden, Finland, and South Korea). While it is true that the literature lacks consensus on both the relative price sensitivity of German vs Swedish exports and the price elasticity of high-tech exports more generally, these results provide convincing evidence that there are differences in export price sensitivity between these economies.[3]

Table 2.2: Pairwise comparisons of regression coefficients: t-values.[4]

	Austria	Finland	Germany	South Korea	Sweden
Austria					
Finland	1.686**				
Germany	0.165	-1.801**			
South Korea	2.672***	0.927	3.175***		

[3] This does not, however, address Hope & Soskice's (2016, 217) further criticism that national-level regressions such as these are prone to endogeneity issues, a persistent problem in macroeconomic measurement. These regressions are also uncontrolled, and as such cannot account for alternative explanations. Note that these results are not intended to be definitive – they are only intended to guide the theoretical direction of this research project as it moves forward into its primary analysis.

[4] Formula = $\frac{\beta_1 - \beta_2}{\sqrt{se(\beta_1)^2 + se(\beta_2)^2}}$, compared to a t-distribution with $(N_1+N_2) - 4 = 27 + 27 - 4 = 50$ df for p-value.

Sweden	2.331***	0.612	-2.65***	-0.315	

*p<0.1; **p<0.05; ***p<0.01.

The Kaleckian dynamics outlined in Baccaro & Pontusson's theory also imply that countries with less price sensitive exports (and higher levels of consumption) would both face and tolerate greater fluctuations in real exchange rates. As Figure 3.1 demonstrates, there is no statistically significant difference between the mean log change in real effective exchange rates between the two groups of countries (Sweden, Finland, and South Korea coded high consumption, and Germany and Austria coded low consumption), but the higher consumption countries exhibit a far wider range of values than the low consumption countries, whose values cluster tightly around 0.

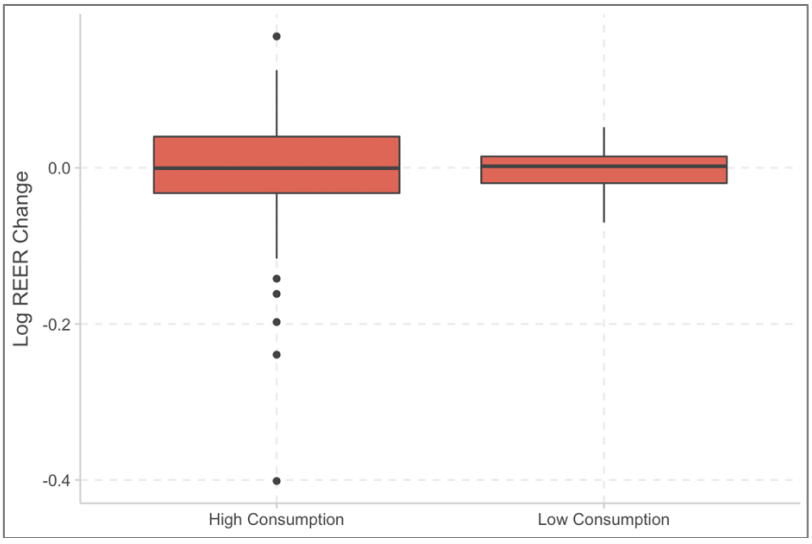


Figure 2.1: Boxplot of REER changes for selected high- and low-consumption countries. Sources: see Table 2.1.

These pieces of evidence ultimately supports Baccaro & Pontusson's thesis that are real differences in growth models between economies typically labelled as CMEs.

2.2 Gap in the Literature

As recounted above, Baccaro & Pontusson suggest that variation among growth models can primarily be explained by the contextual variables that condition the relationships between macroeconomic processes and components of aggregate demand. In order to explain differences between CMEs, export price sensitivity is convincingly argued to be the prime variable of interest. However, the preceding step in the causal mechanism – what defines the price sensitivity of exports in one exporting country vs another, thus allowing for growth model variation – remains obscure in their work.

The potential contribution that Varieties of Capitalism can make here is clear – the role of supply-side institutions in setting the incentive structures which drive innovation is well-documented within that literature (Hall & Soskice, 2001, 38). However, examinations of how supply-side institutions interact with growth models have either eschewed VoC typologies (Fuller, 2018; Stockhammer & Kohler, 2019) or embraced them in their original dichotomous form (Hope & Soskice, 2016; Hall, 2018). Neither of these accounts fully explains how such stark variations in the structure of GDP growth develop given the supposed similarities of incentive structures for innovation within CMEs. There has so far been no investigation of the relationships between Varieties of Capitalism and growth model typologies which examines cross-case variation in the constituent institutional spheres of VoC rather than taking its categories as a given, despite empirical evidence pointing to substantial divergence among CMEs in this respect. This is the gap in the literature which this study aims to fill: explaining growth model variation by referring to differences in the specific configurations of the supply-side institutions highlighted in the Varieties of Capitalism literature.

3. Theory and Hypotheses

3.1 Theoretical Position

3.1.1 Underlying Assumptions

In a slight modification of Baccaro & Pontusson's perspective, this research project will take the position that institutions are indeed the most relevant contexts driving national differentiation in growth models. This does not imply that the Kaleckian dynamics described by Baccaro & Pontusson are not of key relevance, but that these dynamics are ultimately structured by a political economy's supply-side institutions.

However, it does not claim that the most informative way to make these institutional distinctions is to simply assign an economy either an LME or CME category, as is often seen in the Varieties of Capitalism literature. This research project will instead suggest that variation in growth models, particularly among states typically labelled as CMEs, can be best explained by breaking apart the typologies provided by VoC. While retaining the primacy of supply-side institutions and the liberal-coordinated descriptive axis, this research project aligns itself with Witt & Jackson (2016) in suggesting that alternative combinations of liberal and coordinated institutions can provide their own forms of comparative advantage encouraging differing export profiles, outside of the full sets of institutional complementarities proposed by Hall & Soskice. The intention of this is not to simply add extra categories to the VoC framework but to highlight that these broad typologies are far more fragmented and time-inconsistent than the literature often acknowledges. This comes as a side-effect of the relaxation of the institutional complementarity assumption – if alternative combinations of institutions can prove complementary aside from fully-liberal or fully-coordinated configurations, shifting from one set of institutions to another need not be as costly or uncommon as the orthodox VoC framework would predict.

The underlying assumption that explains how these alternative configurations function is that of institutions having the potential to act as "beneficial constraints". Drawn from Streeck (1997, 200), an institution qualifies as a beneficial constraint when its restriction of voluntarist economic behaviour encourages alternative, more efficient forms of organisation or interaction. As is discussed by Witt & Jackson (2016, 783), this perspective allows for more complex interactions within institutional configurations than a pure assumption of institutional complementarities does. In the case of liberal economies, coordination in certain spheres may prevent market failures by extending time horizons or reigning in mutually destructive competition – in the case of coordinated economies, liberalism in certain spheres may stave off stagnation and rigidity (Witt & Jackson, 2016, 784-785). The ability of institutions to restrict certain patterns of behaviour, then, can prove as consequential as their ability to enable patterns of behaviour – in this way, an institutional configuration with a seemingly "conflictual" logic can operate as efficiently as one with a "complementary" logic (Witt & Jackson, 2016, 783). It is important to note that only particular combinations of institutions will have this effect – in many other cases, as in the economies typically labelled as MMEs, the combinations may prove inefficient.

Drawing from that perspective, this research project will argue that particular mixed combinations of coordinated and liberal supply-side institutions can act as beneficial constraints on each other to encourage innovation in less price-sensitive export sectors, primarily high-tech sectors such as ICT. Following Baccaro & Pontusson (2016, 16) based on their comparative analysis of Germany and Sweden, a further underlying assumption is that these less price-sensitive exports playing a greater importance in an economy's export profile allows for greater consumption without notably impacting competitiveness.

3.1.2 Hypothesised Institutional Configurations

Drawing from the work of Boyer (2004), Schneider et. al (2010), Schneider & Paunescu (2012), and Witt & Jackson (2016), this study suggests that institutional configurations which combine predominantly liberal institutions with coordinated industrial relations and firm hierarchies encourage innovation in high-tech export industries, thus decreasing the price sensitivity of an economy's export profile.

As a set of "beneficial constraints", this institutional configuration tempers the volatility of liberal economies by securing long-term relationships between firms and skilled employees, while allowing for the inter-firm competition, risk-taking finance, and open systems of education which drive radical innovation (Boyer, 2004, 15; Schneider et.al, 2010, 258). Distinguishing these configurations from conventionally liberal economies which specialise in radical innovation is the advantages they have in maintaining an experienced workforce with firm-specific skills – an essential factor for "capitalis[ing] on the opportunities offered by new technology… through periods of dynamic change" (Witt & Jackson, 2016, 784). This combination allows for the containment of the creative destruction often associated with radical innovation within an "embedded" structure, creating an ideal situation for high-tech manufacturing and exports to flourish (Ibid.; see also Schumpeter, 1942; Polanyi, 1944; Granovetter, 1985).

Empirically, this assertion matches with the development of the high-consuming Nordic states in recent decades: numerous studies have noted their increasing liberalism in many spheres since the 1990s while maintaining strong coordination in other spheres, which has come without any obvious macroeconomic penalty (Erixon, 2011; Pontusson, 2011). Sweden, Finland and Norway's reforms towards more liberal models of education are well-documented (Lundahl, 2019; Sahlberg, 2009; Heløy & Homme, 2016), as are all three's transitions towards more competitive and loosely regulated markets in the aftermath of their early-1990s economic crises (Blyth, 2001; Heyman, Nörback & Persson, 2019; Schneider &

Paunescu, 2012). In all these cases, coordination in industrial relations and workers' representation was retained in the midst of liberal reforms, forming an approximation of the "enabling constraints" configuration described above.

These institutional shifts lent themselves to the establishment of what Boyer (2004, 12) refers to as "technology-led regimes" based around knowledge economies in these states. The effect of these reforms in encouraging high-tech innovation is also documented by Schneider & Paunescu (2012, 743), who observe ideal-type CMEs facing a comparative disadvantage in high-tech exports against the "LME-like" Nordic cluster, all of which saw disproportionate increases in high-tech exports as they liberalised (p. 747).

The Nordic countries are of course not the only CMEs which underwent liberal reforms from the 1990s onwards – almost all OECD economies underwent some degree of liberalisation in that period (Howell, 2003, 108) – rather, the argument is that the specific institutional configurations created by the Nordic reforms constituted beneficial constraints which encouraged a greater role for high-tech industry in their export profiles. In turn, the lower price-sensitivity of these exports allowed for greater consumption in these countries.

A notable exception among the Nordic states is Denmark, which also liberalised employment protections as a part of its reforms (Campbell & Pedersen, 2007, 316). As could be seen in Figure 1.1, Denmark also exhibits a much lower mean contribution of consumption to GDP compared to Sweden or Finland, and exhibits a lower degree of specialisation in high-tech and ICT exports (Nordic Council of Ministers, 2016, pp. 39, 45, 60). This counterfactual case signals the importance in this theory of the maintenance of coordinated employment relations as a beneficial constraint, emphasising that liberalisation in itself is not sufficient to make this transition.

3.2 Hypotheses

Based on the theory outlined above, this study will test the following hypotheses:

Hypothesis 1: Entirely coordinated institutions are a sufficient condition for an export-led growth model in developed economies, given that consumption is suppressed.

Hypothesis 2: Entirely liberal institutions combined with coordinated industrial relations and firm hierarchies are a sufficient condition for an export-led growth model, regardless of whether consumption is suppressed.

4. Methodology and Research Design

This research project will employ fuzzy-set Qualitative Comparative Analysis (fsQCA), supported by principal components analysis to assess its hypotheses.

4.1 Fuzzy-set Qualitative Comparative Analysis (fsQCA)

Qualitative Comparative Analysis (QCA) is a method developed by Ragin (1987; 2000; 2008) with the aim of bringing greater formalisation and generalisability to case-based qualitative research. QCA makes explicit the basis of comparative qualitative research in set theory and Boolean algebra, comparing cases as "configurations of set memberships" leading to particular outcomes (Goertz & Mahoney, 2012, 11; Ragin, 1999, 1225). By coding cases according to these attributes, QCA allows for large numbers of cases to be mathematically compared and assessed for which configurations constitute necessary or sufficient conditions for the given outcome. Its logic of inference is therefore qualitative rather than quantitative regardless of the number of cases involved.

The configurational approach of QCA makes it particularly apt for complex causal hypotheses, as are typically found in institutionalist political economy and in this research project specifically. As is discussed by Hall (2003, 383), many theories in comparative politics are structured around "multiple conjunctural causation", where causal factors exhibit complex interaction effects and combine to create differing outcomes in different contexts. An institution, for instance, may lend itself to several different outcomes depending on the larger context that it's situated in. These are causal structures that conventional regression analysis is ill-equipped to address due to its focus on the "net-effects" of variables, but for which the configurational analysis of QCA is ideal (Ragin, 2008, 113; Gerrits & Verweij, 2013, 177).

Conventional (or crisp-set) QCA is undertaken by simply coding cases dichotomously for the "presence/absence" of each relevant condition (Rihoux & Ragin, 2008, 87). Fuzzy-set QCA (fsQCA) allows for significantly more complexity to be added, allowing for causal conditions and outcomes to be coded at any value between 0 and 1 depending on how closely they approximate full membership of the given set. Fuzzy-set scores can be created by "calibrating" quantitative variables based on "threshold" values, defining the points at which a causal condition can be regarded as fully present (a score of 1), partially present (0.5) or entirely absent (0). Ragin (2008, 86) stresses that these thresholds should be set based on external benchmarks rather than the distribution of the data, drawing from the researcher's judgement of what constitutes full membership and exclusion from a condition and from existing literature.

Final analysis in fsQCA is conducted through truth tables, in which every possible configuration of causal conditions is gathered in crisp sets. The empirical fuzzy-set data of each case are then compared to this table to assess how closely they approximate these idealised configurations, measuring the "consistency" of the different configurations in perfectly accounting for presence of the outcome, in the form of a necessary or sufficient condition (Ragin, 2008, 128).

It should be noted that QCA is intended to be a "dialogue between ideas and evidence" (Ragin, 1987, 52) rather than a definitive method of inferring causality by itself – as a qualitative method, its "conclusions… must be checked against the researcher's knowledge of cases" (Bennett & Elman, 2006, 469). As such, the formal results of the following fsQCA should not be taken as fully explanatory in themselves, but rather as indicators for potentially fruitful avenues of further research.

The fsQCA for this study will be undertaken using Dusa's (2019) "QCA" package for R.

4.2 Sample and Variables

4.2.1 Sample, Time Frame, and Case Divisions

The sample that this study will employ covers 30 OECD countries, selected from the full set of 37 OECD member states based on data availability. Restricting the sample to OECD member states has clear benefits in terms of data collection – the OECD's database library draws together a tremendous quantity and range of macroeconomic data for its member states – but also is also sufficient on theoretical grounds. Both Varieties of Capitalism and the growth model perspective are frameworks which were developed with advanced, relatively high-income capitalist political economies in mind, claiming little direct transferability to the developing world. OECD membership in itself indicates high levels of economic and human development, as well as requiring adherence to the ideals of "(i) democratic societies committed to rule of law and protection of human rights; and (ii) open, transparent and free-market economies" (OECD, 2018, 1). By exclusively drawing from this pool, this study concerns itself only with the types of political economies which the theories it deals with were designed to describe. As such, this study claims no external validity for political economies that fall outside of this relatively restrictive category.

Although the primary focus of this research question is variation among CMEs, the nature of its hypotheses demonstrate the utility of including LMEs and MMEs in the analysis. As the hypothesis predicts institutional diversity among CMEs rather than a pure, coherent category, comparing them to economies outside of the category which may exhibit similar (or differing) patterns of institutional variation is of key importance. Furthermore, as this study employs fsQCA as its primary mode of analysis rather than conventional quantitative methods, there is no need for randomisation in its sample selection – as QCA does not employ probabilistic inference, case selection may be made on theoretical grounds rather than

random sampling (Ragin, 2008, 111). The full list of countries for which data was collected may be found in Appendix B.1.

The time frame that this study takes into account stretches from 1991 to 2015. As with the wider sample, the primary reasoning behind this decision was data-driven – OECD datasets become considerably more sparse before 1991, and tend to be missing substantially more values in very recent years – but is also theoretically satisfying. As was recounted in the preceding section, a key criticism of Hope & Soskice (2016, 214) against Baccaro & Pontusson's (2016) work was that their conclusions were biased by the historical particularities of their short time frame (1993-2007). By stretching back to take the immediate aftermath of Germany's 1990 reunification into account, as Hope & Soskice (2016, 215) prescribe, and incorporating a further seven years after the shocks of 2008, this study aims to be less driven by its time frame. Furthermore, the 1990s also represents the period where contemporary growth models took shape following the economic upheavals of the 1970s and 80s, making the beginning of that decade an appropriate starting point for an analysis of this kind (Baccaro & Pontusson, 2016, 10).

This sample and time frame yield a full dataset of 720 observations (annual data for 30 countries x 24 years), reduced to 500 once rows with missing values are removed. From these observations, the individual indicators are measured and calibrated into fuzzy set scores (see section 4.3 for the full details of this process).

Once all indicators are calibrated into fuzzy-set format and consolidated into broader measures, averages are taken of the values of each observation over four-year intervals: 1991-1995, 1996-2000, 2001-2005, 2006-2010, and 2011-2015. Each "case" constitutes the average values of a single country over each of these time periods, resulting in a total of 111 cases once missing values are removed. The reasoning behind this decision are twofold: on the one hand, the effects of institutions are assumed to take time to manifest rather than

having an instant effect, making the yearly measurement of institutional variables and their effects problematic. The second line of reasoning refers to the criticisms of fsQCA outlined by Gerschewski (2010, 20-21), where taking a large number of measurements for the same set of countries over a long period of time can result in artificially inflated consistency and coverage scores. This highlights why in this particular case taking average values over split time periods is preferable to simply lagging the outcome variables by a year, as is commonly seen in institutional analysis.

4.2.2 fsQCA Variables[5]

For its primary explanatory variables this research project will consider the following institutional domains, corresponding to the five relevant spheres outlined by Hall & Soskice (2001, 7): industrial relations; firm hierarchy; education and vocational training; inter-firm relations; and corporate governance. Each case will be scored according to the degree to which they exhibit fully coordinated institutions in the individual spheres, based on the collation of statistical indicators generally accepted by the literature to be representative of coordination within that sphere. Each score then represents a single-dimension of variation between liberal (low-score) and coordinated (high-score) institutions in the relevant domain.

Two macroeconomic conditions will also be included in the fsQCA: the presence of an consumption-led growth model, and presence of an export-led growth model (the outcome condition). The first of these conditions will be coded as explanatory, but will play a different theoretical role to the institutional variables. Rather than acting as a causal factor, the

[5] As is pointed out by Hall (2003, 389), the case-oriented nature of QCA is often contrasted with the "variable-oriented" nature of conventional quantitative research, meaning that QCA researchers frequently reject the term "variable" when referring to a case's coded attributes. The term "variable" will nonetheless be used in this and the following section to simplify the descriptive terminology as quantitative variables are converted into fuzzy-set membership scores.

consumption-led growth model condition will instead act as a corollary to the outcome, alerting us to cases where both consumption and exports play a primary role in growth.

4.3 Measures and Calibration of Conditions

Each institutional variable is a higher-order construct built from statistical indicators which reflect the expectations outlined by Hall & Soskice (2001) and have been used elsewhere in the literature as partial proxies for the presence (or absence) of coordination in the relevant domain. Witt & Jackson (2016) is a particular touchstone in this process, as it not only constitutes one of the most thorough investigations of the individual spheres of VoC but also translates the relevant indicators into fuzzy-set data.

4.3.1 Institutional Indicators

Industrial Relations (IR): To gauge the presence of coordination in the industrial relations sphere, three indicators were identified: the proportion of the working age population with short employment tenure (<12 months), degree of coordination in wage bargaining, and strictness of employment protections.

The first of these indicators is drawn from OECD data, and reflects the relative flexibility of a national labour market. An economy with liberal industrial relations will generally have consistently higher numbers of new hires and short-term contracts, and therefore a high proportion of the workforce in new or short-term employment. Those with coordinated industrial relations will have longer tenures based on more secure contracts, and therefore a lower proportion of the workforce in new or short-term employment (Hall & Gingerich, 2009, 463; Witt & Jackson, 2016, 789). To calibrate this into fuzzy-set data representing the presence of coordination, inclusion thresholds will be set at the points used

by Witt & Jackson (2016, 791) for the same data: inclusion (i) = 10%, crossover (c) = 15%, exclusion (e) = 25%.

The second indicator is drawn from Visser's (2019) Institutional Characteristics of Trade Unions, Wage-Setting, State Intervention and Social Pacts (ICTWSS) database. In that dataset, degree of wage-setting coordination is measured on a 1-5 scale, ranging from fragmented wage bargaining [1] to "binding norms" established by centralized bargaining or government fiat [5] (Visser, 2019, 3). Thresholds here are set at evenly-spaced intervals of (i) = 5, (c) = 3.5, (e) = 1.

The third indicator is drawn from the OECD's index of employment protection for individual and collective dismissals, measured on a 0-6 scale based on 21 legislative indicators. Generally exhibiting lower levels than wage coordination, the thresholds for this variable are set at (i) = 3, (c) = 1.5, (e) = 0.

Firm Hierarchy (FIRM): Two indicators are used for the firm hierarchy sphere: the legal status of work councils, and the legal rights afforded to work councils. Both of these were drawn from the ICTWSS dataset (Visser, 2019). Legal status of work councils is measured on a 0-2 scale, ranging from non-existent employee associations [0] to voluntary associations [1] to legally mandated associations [2]. Calibration thresholds here were set at (i) = 2, (c) = 1.5, (e) = 0, with the crossover set to 1.5 to afford economies with only voluntary employee associations coordination scores of <0.5. The legal rights of work councils are measured on a 0-3 scale, ranging from non-existent [0] to full codetermination rights on at least some issues [3] (Visser, 2019, 12). Thresholds are set to an evenly-spaced (i) = 3, (c) = 1.5, (e) = 0 for this variable.

Education and Vocational Training (EDU): The two indicators used for this sphere are the proportions of the graduation-age population with (i.) tertiary education and (ii.) upper-secondary or vocational education. Both of these were drawn from OECD datasets. As is pointed out by Hall & Soskice (2001, 30), liberal economies tend to favour the transferability of university education, resulting in a high proportion of tertiary education graduates, whereas coordinated economies emphasise specific vocational education, creating a high proportion of upper-secondary or vocational graduates. As such, the tertiary education variable is reverse coded (higher numbers corresponding to lower coordination) with thresholds (i) = 20%, (c) = 35%, (e) = 50%. The upper secondary variable will be coded with thresholds (i) = 60%, (c) = 40%, (e) = 20% the values used for the same data by Witt & Jackson (2016, 791).

Inter-firm Relations (INTER): Emulating Witt & Jackson (2016), the two variables indicating coordinated inter-firm relations used here are the number of mergers and acquisitions (M&As) by domestic acquirers divided by GDP (in billions of 2015 USD) and the proportion of those M&As resulting in a full merger of the target firm. These two measures were created through the authors own calculations based on M&A data from the S&P Capital IQ database and GDP data from OECD datasets. This data reflects the level of predatory competitiveness between firms, with high values for both these indicators implying a lack of coordination in inter-firm relations. Both these indicators are thus reverse coded for calibration, using thresholds of (i) = 0, (c) = 0.1, (e) = 0.4 (# of mergers/GDP) and (i) = 0%, (c) = 40%, (e) = 80% (% of M&As ending in full merger).

Corporate Governance (CORP): Two indicators for selected for the corporate governance sphere: the indexes of shareholder protection developed by La Porta, Lopez-de-Silanes,

Shleifer & Vishny (1998) and Martynova & Reneboog (2010), and stock market capitalisation as a proportion of GDP. Both of these represent key aspects of corporate governance outlined by Hall & Soskice (2001, 22-23): the degree to which shareholders are considered primary stakeholders, and the degree to which business financing is drawn from the stock market. High values for both these indicators is taken to show lack of coordination – CMEs exhibit a wider range of relevant stakeholders and tend towards financing from "patient capital" rather than shareholder investments (Ibid.). Both are therefore reverse coded.

The first of these indicators is somewhat problematic. A widely used resource on shareholder-related legislation is La Porta et. al (1998), who construct a 6-point index of the strength of legal shareholder protections. Their index contains static data for a single point in 1998, updated for the 1990-2005 time period at five year increments by Martynova & Reneboog (2010). Although this does not cover the entire time frame of this study, the final five-year period stretches to 2010 leaving only five years uncovered – the last values of that dataset will be extrapolated to cover the final 2011-2015 time period as a pragmatic if incomplete solution. More troublesome is the fact that Martynova & Reneboog's update excludes Australia, Canada, New Zealand and South Korea, meaning that their values are coded entirely based on the values found in La Porta et. al. This is an imperfect but necessary solution, and highlights the importance of further comparison of corporate governance regimes in the literature. Calibration thresholds are set at (i) = 1.5, (c) = 2.5, (e) = 5.

Data for stock market capitalisation as a proportion of GDP is sourced from OECD statistics, with any missing values filled using CEIC data. Thresholds are set at (i) = 10%, (c) = 60%, (e) = 110%.

4.3.2 Macroeconomic Indicators

Consumption-Led Growth Model (CONS): To assess a case's membership in the set of consumption-led economies, annual contributions of consumption to GDP are computed using OECD data. The method used is the same as that used by Baccaro & Pontusson (2016) and Hope & Soskice (2016): calculating percentage contributions by multiplying the annual net consumption growth rate by consumption's share of GDP in year t-1 (in constant prices for OECD base year 2015). Calibration thresholds to qualify as consumption-led are (i) = 2%, (c) = 1%, (e) = 0%.

Export-Led Growth Model (EX): To assess a case's membership in the set of export-led economies, two indicators are of relevance: annual contribution of exports to GDP, and national current account balance. Often, annual contribution of exports to GDP is taken as a single measure to represent the presence of an export-led growth model. However, as was visible in Figure 1.2, contingencies can cause this figure to be easily inflated (such as Ireland's apparent value) or diminished by low growth of the export sector specifically (such as for Norway, which maintains relatively consistent but large petroleum exports). In both cases this obscures how "export-led" the economy really is – the solution this study will take is to weight calibrated contribution of exports to GDP by national current account balance as % of GDP, a measure which has been used as a proxy for the primacy of exports by Stockhammer & Kohler (2019). The calibration thresholds used for these indicators are: (i) = 1%, (c) = 0.2%, (e) = -0.5% (contribution of exports) and (i) = 3%, (c) = 0.5%, (e) = -1% (current account balance).

4.3.3 Constructing Broader Measurements

From each of these indicators, higher-order constructs representing the degree of coordination in each institutional sphere must be constructed. Witt & Jackson (2016, 790) create higher-order constructs from their indicators by treating them as configurations in themselves, constructing individual AND/OR equations and coding cases based on those equations' minimal value. However, this study takes the position that these equations are designed in a somewhat arbitrary way, and due to their minimised solutions create a bias toward coding cases as predominantly liberal regardless of how strong coordination is displayed by other indicators. This study will instead take a more direct approach by computing averages of the indicators for each sphere after they have been calibrated, the calibration process having effectively standardised them. Note that for the outcome variable, this process was already undertaken by weighting exports measures by current account balance.

In order to assess the adequacy of this approach, it is worth comparing the average scores to alternative methods of data aggregation. For these purposes, principal components analysis (PCA) – a multivariate quantitative method which aggregates variables into a lower number of "principal components" based on latent structures in data (Gelman, Rabe-Hesketh, Long & Skrondal, 2008, 117) – will also be conducted on both the raw and calibrated indicator data, and compared with the results of the averaged values.

There are several benefits of supporting the data transformations for this fsQCA with PCA. Firstly, when trying to build high-order constructs, comparing these constructs to principal components can help a researcher ensure that they are not losing too much information or obscuring the strongest patterns in the data with their aggregation. PCA is designed to minimize data loss in its aggregation, making it a suitable bellwether for comparison. Secondly, PCA can help in assessing how suitable the chosen indicators are by gauging whether they are indeed expressing the presence of a latent variable in the way the

researcher expects. For instance, if the indicators used for the industrial relations variable interact with each other in the way that we expect (pre-calibration), conducting a PCA should show degree of coordination in wage bargaining and strictness of employment protections adding positive weights (making the principal component representing coordinated industrial relations increase as they increase) while the proportion of the working age population with short employment tenure holds a negative weight (making the component decrease as it increases). Post-calibration, all of these indicators should show positive weights. If the weights do not adhere to the patterns we expect from them, this would indicate that the indicators we have chosen possibly do not adequately reflect the latent variable of interest.

Conducting PCAs on the sets of indicators for each individual sphere appears to confirm that taking averages of the calibrated data is indeed an adequate method, with all the constructed variables proving highly correlated (> +/-0.89, see Figure 4.1 and Appendix B.2) with their respective first principal components. It also confirms that the chosen indicators interact with each other in the way that we expect, with all weights assigned in the expected manner, indicating that the indicators are indeed expressing the presence of latent variables corresponding to coordination in that institutional sphere.

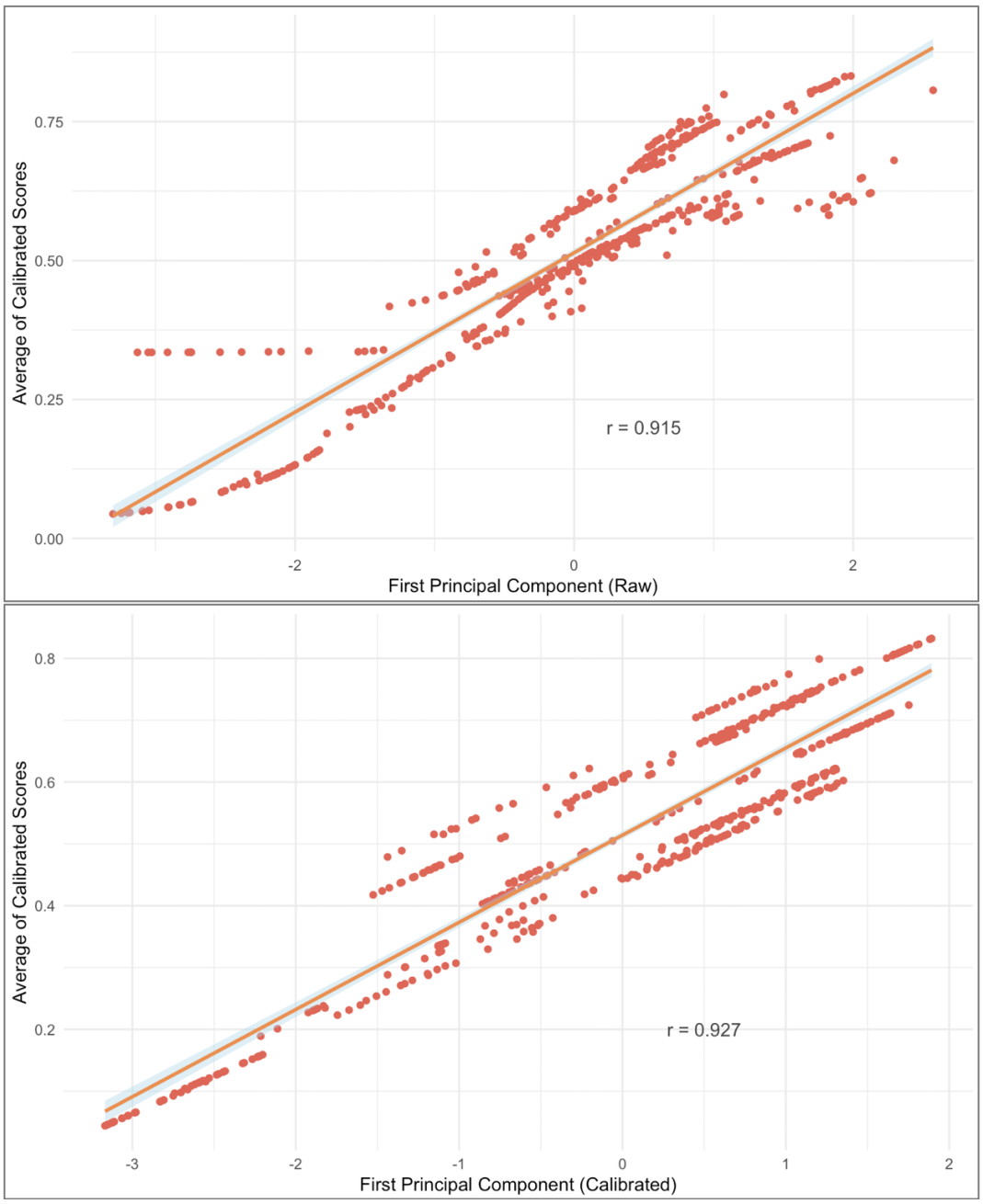


Figure 4.1: Raw and Calibrated first PC vs calibrated averages for Industrial Relations sphere. The same analysis may be seen for all other variables in Appendix B.2.

Aggregating by averages is also is also preferable to simply calibrating the principal components created from the raw data. Although this may qualify as a purer distillation of the original data, there would be no external reference points to set calibration thresholds against due to the purely constructed nature of the principal component.

4.4 Restatement of Hypotheses

In Boolean form, where * represents AND, + represents OR, and ~ represents absence, our hypotheses may be expressed as:

*IR*EDU*FIRM*INTER*CORP*~CONS + IR*~EDU *FIRM*~INTER*~CORP = EX*

5. Findings and Discussion

5.1 fsQCA Findings

5.1.1 Truth Table Results

Conducting an fsQCA for a relationship of sufficiency with an inclusion cut-off of 0.9, a minimum case threshold of 3, and "Export-led Growth Model" (EX) as the outcome yields the following truth table:[6]

Table 5.1: fsQCA Truth Table Results

#	IR	EDU	FIRM	INTER	CORP	CONS	OUT	N	INCL.
1	1	1	1	1	1	0	1	14	0.909
2	0	0	0	0	0	1	0	9	0.723
3	1	0	1	1	1	0	1	8	0.929
4	1	1	1	1	1	1	0	7	0.834
5	1	0	1	1	0	0	1	6	0.912
6	0	1	1	1	1	0	1	5	0.935
7	1	0	1	0	0	1	1	5	0.911
8	1	0	1	0	1	0	1	5	0.939
9	1	0	1	1	1	1	0	4	0.887
10	1	1	0	1	0	1	0	4	0.847
11	0	0	1	1	1	0	1	3	0.933
12	0	1	0	0	0	1	0	3	0.804
13	1	1	0	1	1	1	0	3	0.803

Causal recipes sufficient for the outcome are highlighted in grey. The minimised solution term for this table is:

$$\sim CONS + IR*\sim EDU*FIRM*\sim INTER*\sim CORP = EX$$

These results confirm Hypothesis 2, demonstrating that institutional configurations combining coordinated industrial relations and firm hierarchies with otherwise liberal

[6] "Inclusion cut-off" serves essentially the same purpose as a significance level in quantitative research – defining the level of consistency needed for a configuration to be considered sufficient. The case threshold defines the minimum number of cases approximating a certain configuration need for it to be considered relevant. This three case minimum implies that a configuration either had to be represented by multiple cases or by a single case over at least a 12-year time period in order to be considered valid.

institutions are a sufficient condition for an export-led growth-model regardless of the role of consumption in GDP growth (see rows 7 and 8). No other configuration with an adequate case threshold achieves the outcome combined with high-consumption.

While strong evidence is found for Hypothesis 1 (see rows 1 and 4, representing pure CMEs), the minimised solution indicates that low-consumption alone is a sufficient condition for an export-led growth model regardless of its surrounding institutional conditions.

5.2 Discussion

5.2.1 Interpretation of Findings

At face value, these findings provide mixed evidence for our theory and hypotheses. The seemingly confirmatory results for Hypothesis 2 provide strong evidence that institutional configurations combining coordinated industrial relations and firm hierarchies with otherwise liberal institutions allow for consumption to play a greater role in growth without sacrificing export competitiveness, and is the only configuration in our dataset that accomplishes this feat. This evidence has weaknesses, however – the only cases that conform to this configuration are Sweden, Norway and Finland, indicating regional causes as possible confounders which this project has failed to take into account. Other potential high-consumption, high-export countries such as South Korea failed to achieve validity due to lack of membership in a consistent institutional configuration, having changed in multiple spheres over the time period.

From our evidence, we may indeed see that pure CMEs are unable to maintain an export-led growth model if consumption is not suppressed, supporting the assumptions of Hypothesis 1. We may also see that by far the most numerous categories are indeed pure CMEs (row 1) and pure LMEs (row 2), reasserting the relevance of Hall & Soskice's (2001) categories. It is evident, however, that CMEs have seen substantial and varied liberalisation

in this time period, in many cases while retaining an export-led growth model. Row 3, for instance, represents The Netherlands, Belgium and Luxembourg from 2005 onwards, retaining their export-led model while liberalising education; Row 6 shows Denmark's liberal industrial relations successfully coexisting with otherwise full coordination. Japan, listed as a CME by Hall & Soskice (2001, 19), is shown to be closer to the post-2008 iterations of MMEs France and Italy (see row 5), all of which saw export success with suppressed consumption. This constitutes quite a serious challenge to the thesis of institutional complementarities, under which these transformations should only be exceptional and have come at considerable cost.

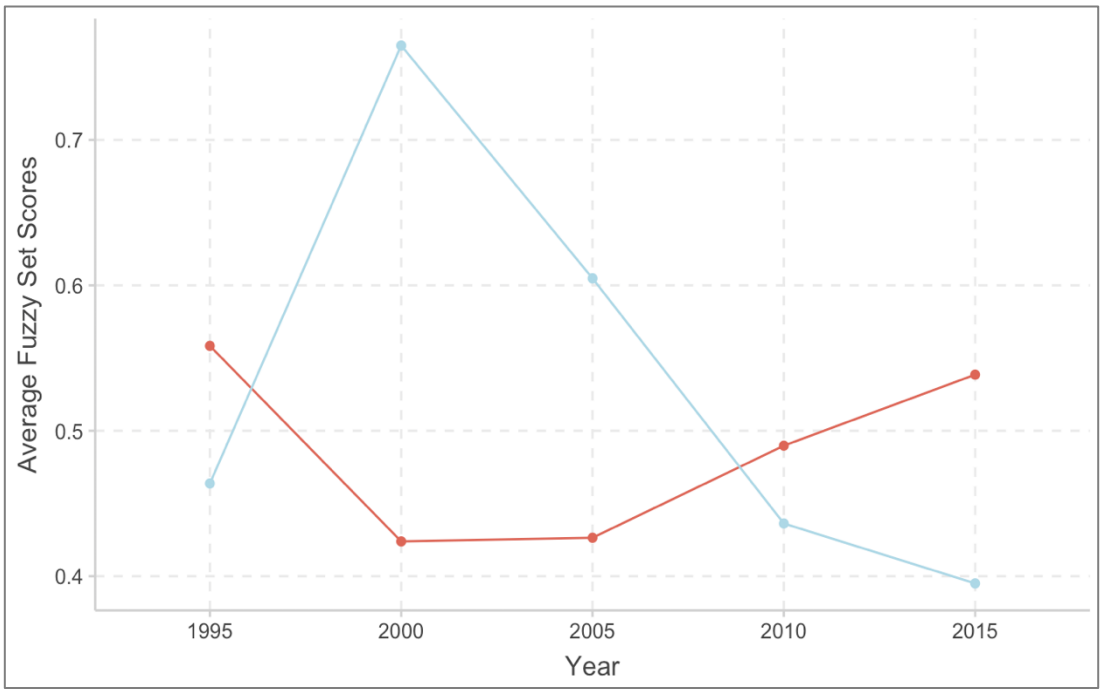


Figure 5.1: Average fuzzy set scores for the consumption-led growth model (blue) and export-led growth model (red) conditions for 29 OECD countries over time.

When taken together, these results have notable implications for both Baccaro & Pontusson's (2016) and the VoC literature's (Hope & Soskice, 2016; Hall, 2018) conceptions of growth model variation. Growth models do not seem to be as institutionally defined as the VoC literature would claim, as many mixes of supply-side institutions produce the same

export-led outcome as long as consumption is low. This is particularly noticeable following the shocks of 2008 – as can be seen in Figure 5.1, average fuzzy-set memberships of the consumption-led condition decline substantially after that year, while memberships of the export-led condition increase. This appears to be more in line with Baccaro & Pontusson's emphasis on macroeconomic dynamics taking precedence, with global trends appearing to be stronger deciders of growth model choice regardless of institutional background. However, the case can be made that the success of the Nordic economies in balancing their growth models is indeed institutionally defined, reaffirming the contributions that the VoC framework may have for the study of growth models.

5.2.2 Avenues for Further Research

The conclusions of this study raise several issues to be explored by future research:

Underlying Causal Mechanism: Although this study has identified broad cross-case patterns, it has not taken a close look at the causal mechanism proposed to drive these patterns. In particular, a priority for future research would be to establish whether the "beneficial constraints" of the Nordic model accounts for their success in high-tech exports, and indeed if these exports are truly less price sensitive than those of traditional CMEs.

Regional Explanations: While this study hoped to discover other, confirming examples of its hypothesised institutional configuration, all the economies found with the requisite institutions were Nordic states with strong geographic, historical and cultural affinities. As such, this does not preclude regional-specific explanations of growth model variation, for which a closer analysis through case study research may prove useful. The utility of backing QCA with case study research has been highlighted by Schneider & Rohlfing (2013).

Macroeconomic Explanations: Shifts in the prevalence of different growth model types in apparent response to global macroeconomic trends (see Figure 5.1) indicate that explanations of rooted in International Political Economy rather than in domestic institutions may be a fruitful future path for growth model research.

Financialisation: An institutional variable that this study has not examined by limiting itself to the spheres of Varieties of Capitalism is degree of financialisation. Highlighted by Stockhammer (2018) and Fuller (2018) as a key enabler of consumption-led growth, the contribution of variations in financial systems between CMEs to variation in growth models is a prime area of interest overlooked by this study.

Subnational Variation and Dualisation: As is documented by Emmenegger et. al (2012), Rueda (2014), and Thelen (2014), in many purported CMEs liberalisation has occurred in some sectors of the economy on a much greater scale than in others, creating patterns of sub-national institutional variation that the national-level measures of this study fail to take into account. Baccaro & Pontusson (2016, 22) themselves highlight the importance of Germany's "dualized" labour market in enabling its low-consumption growth model, making this a rich field for future growth model-concerned research.

5.3 Concluding Remarks

The four goals of this project were all met to varying degrees of success. For its first goal of establishing the salient institutional differences leading to growth model variation, it achieved positive results but with significant caveats. Although the expected institutional frameworks were shown to be sufficient conditions for an export-led growth model regardless of levels of

consumption, the various other commonalities between the group of countries in that configuration (geographic, cultural, historical and institutional) does not preclude alternative explanations. As such, only very tentative institutional conclusions can be drawn from its results. A closer analysis of the specific drivers of the Nordic states' growth models in future research is necessary before making any binding statements in that regard.

For its second goal of empirically extending Baccaro & Pontusson's (2016) growth model analysis, this project may be considered a success. The keystones of Baccaro & Pontusson's analysis, most notably the existence of a consumption/exports trade off under most conditions, appear to bear out across time and cases according to the data collected here, reinforcing the external validity of their theory.

As with the first goal, the third goal of reasserting the relevance of Varieties of Capitalism to the growth model perspective may only be hesitantly declared a success due to the indeterminacy of its results. While the benefits of relaxing VoC's institutional complementarities thesis are clear due to evident inconsistencies in its typologies, the superiority of reading the growth model perspective through VoC rather than taking it as an entirely independent framework is less well-established.

For its final goal of demonstrating the utility of fsQCA for institutional analysis in political economy, this project may be considered successful. While the limited diversity of its cases call the final results of the fsQCA into question, the method's usefulness as a mode of aggregating empirical data and checking the configurational assumptions of typologies are clear from the additional strands of analysis that this study drew from its results.

Bibliography

Ahmed, S., Appendino, M.A. & Ruta, M. (2015). Depreciations Without Exports? Global Value Chains and the Exchange Rate Elasticities of Exports. *World Bank Policy Research* Working Paper no. 7390 Washington, DC: World Bank.

Akkermans, D., Castaladi, C, & Los, B. (2009). Do 'Liberal Market Economies' Really Innovate More Radically Than 'Coordinated Market Economies?' Hall and Soskice Reconsidered. *Research Policy* 38(1). 181-191.

Amable, B. (2003). *The Diversity of Modern Capitalism*. Oxford, UK: Oxford University Press.

Arsenault, M. (2017). *The Effect of Political Institutions on Varieties of Capitalism*. London, UK: Palgrave-Macmillan.

Baccaro, L. & Pontusson, J. (2016). Rethinking Comparative Political Economy: The Growth Model Perspective. *Politics & Society* 44(2). 175-207.

Bennett, A. & Elman, C. (2006). Qualitative Research: Recent Developments in Case Study Methods. *Annual Review of Political Science* 9. 455-476.

Bhaduri, A., & Marglin, S. (1990). Unemployment and the Real Wage: The Economic Basis for Contesting Political Typologies. *Cambridge Journal of Economics* 14(4). 375-93.

Block, F. (2011). Crisis and Renewal: the Outlines of a Twenty-First Century New Deal. *Socio-Economic Review* 9. 31-57.

Blyth, M. (2001). The Transformation of the Swedish Model: Economic Ideas, Distributional Conflict, and Institutional Change. *World Politics* 54(1). 1-26.

Boyer, R. (2004). New Growth Regimes, But Still Institutional Diversity. *Socio-Economic Review* 2(1). -32.

Braumoeller, B.F. (2003). Causal Complexity and the Study of Politics. *Political Analysis* 11(3). 209-233.

Campbell, J.L. & Pedersen, O.K. (2007). The Varieties of Capitalism and Global Success: Denmark in the Global Economy. *Comparative Political Studies* 40(3). 307-332.

Cooper, B. & Glaesser, J. (2016). Exploring the Robustness of Set Theoretic Findings from a Large-n fsQCA: an Illustration from the Sociology of Education. *International Journal of Social Research Methodology* 19(4). 445-459.

Crouch, C. & Streeck, W. (1997). *Political Economy of Modern Capitalism: Mapping Convergence and Diversity*. London, UK: Sage Publications.

Dusa, A. (2007). User Manual for the QCA(GUI) Package in R. *Journal of Business Research* 60(5). 576-586.

Eichengreen, B. & Gupta, P. (2013). The Real Exchange Rate and Export Growth: Are Services Different? *World Bank Policy Research* Working Paper no. 6629 Washington, DC: World Bank.

Emmenegger, P., Häusermann, S., Palier, B. & Seeleib-Kaiser, M. (2012). "How We Grow Unequal" in *The Age of Dualization: The Changing Face of Inequality in Deindustrializing Societies*. ed. P. Emmenegger, S. Häusermann, B. Palier & M. Seeleib-Kaiser. Oxford University Press. 4-23.

Erixon, L. (2011). The Economic Policy and Macroeconomic Performance of Sweden in the 1990s and 2000s. *Comparative Social Research* 28. 308-12.

Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism*. Princeton, NJ: Princeton University Press.

Fuller, G.W. (2018). Exporting Assets: EMU and the Financial Drivers of European Macroeconomic Imbalances. *New Political Economy* 23(2). 174-191.

Gelman, A. & Stern, H. (2006). The Difference Between "Significant" "Not Significant" is Not Itself Statistically Significant. *The American Statistician* 60(4). 328-331.

Gelman, A., Rabe-Hesketh, S., Long, J.S. & Skrondal, A. (2008). *Analysis of Multivariate Social Science Data* 2nd Ed. London, UK: CRC Press.

Gerrits, L. & Verweij, S. (2013). Critical Realism as a Meta-Framework for Understanding the Relationships Between Complexity and Qualitative Comparative Analysis. *Journal of Critical Realism* 12(2). 166-182.

Gerschewski, J. (2010). The Three Pillars of Stability: Towards an Explanation of the Durability of Autocratic Regimes in Asia. APSA 2010 Annual Meeting Paper. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract id=1657500

Geortz, G. & Mahoney, J. (2012). *A Tale of Two Cultures: Qualitative and Quantitative Research in the Social Sciences*. Princeton, NJ: Princeton University Press.

Goodman, R., Hatakenaka, S. & Kim, T. (2009). The Changing Status of Vocational Higher Education in Japan and the Republic of Korea. UNESCO-UNIVOC Discussion Paper Series. UNEVOC International Centre for Technical and Vocational Education and Training.

Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology* 91(3). 481-510.

Hall, P. (1994). Central Bank Independence and Coordinated Wage Bargaining: Their Interaction in Germany and Europe. *German Politics and Society* 31. 1-13.

– (2003). Aligning Ontology and Methodology in Comparative Research. In J. Mahoney & D. Rueschemeyer (Eds.), *Comparative Historical Research in the Social Sciences* (pp. 373-404). Cambridge, UK: Cambridge University Press.

– (2018). Varieties of Capitalism in Light of the Euro Crisis. *Journal of European Public Policy* 25. 7-30.

– (2020). The Electoral Politics of Growth Regimes. *Perspectives on Politics* 18(1). 185-199.

Hall, P. & Gingerich, D. (2009). Varieties of Capitalism and Institutional Complementarities in the Political Economy. *British Journal of Political Science* 39(3). 449-482.

Hall, P. & Soskice, D. (2001). Introduction to Varieties of Capitalism. In P. Hall & D. Soskice (Eds.), *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage* (pp. 1-68). Oxford, UK: Oxford University Press.

Hancké, B., Rhodes, M. & Thatcher, M. (2007). Introduction: Beyond Varieties of Capitalism. In B. Hancké, M. Rhodes, & M. Thatcher (Eds.), *Beyond Varieties of Capitalism: Conflicts, Contradictions and Complementarities in the European Economy* (pp. 3-38). Oxford, UK: Oxford University Press.

Helgøy, I. & Homme, A. (2016). Educational Reforms and Marketization in Norway – a Challenge to the Tradition of the Social Democratic, Inclusive School? *Research in Comparative and International Education* 11(1). 52-68.

Heyman, F, Nörback, P.J. & Persson, L. (2019). The Turnaround of the Swedish Economy: Lessons from the Large Business Sector Reforms. *CesIFO* Working Paper No. 7627.

Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables. R package version 5.2.2. https://CRAN.R-project.org/package=stargazer

Hope, D. & Soskice, D. (2016). Growth Models, Varieties of Capitalism, and Macroeconomics. *Politics and Society* 44(2). 209-226.

Howell, C. (2003). Varieties of Capitalism: And Then There Was One? *Comparative Politics* 36(1). 103-124.

Jackson, G. & Ni, N. (2013). Understanding Complementarities as Organizational Configurations: Using Set Theoretical Methods. In P.C. Fiss, B. Cambré and A. Marx, *Configurational Theory and Methods in Organizational Research* (*Research in the Sociology of Organizations, Vol. 38*) (pp. 129-158). Emerald Group Publishing Ltd.

Kalecki, M. (1943). Political Aspects of Full Employment. *The Politics Quarterly* 14(4). 322-330.

– (1944). Three Ways to Full Employment. In Oxford Institute of Statistics (Ed.), *The Economics of Full Employment*. Oxford, UK: Blackwell.

Kenworthy, L. (2006). Institutional Coherence and Macroeconomic Performance. *Socio-Economic Review* 4(1). 69-91.

Korpi, W. (2006). Power Resources and Employer-Centred Approaches in Explanations of Welfare States and Varieties of Capitalism: Protagonists, Consenters, and Antagonists. *World Politics* 58(2). 167-206.

Krugman, P. (2017, November 9). Leprechaun Economics, with Numbers. *The New York Times*. Accessed August 10 2020.

La Porta, R., Lopez-DeSilanes, F., Shleifer, A. & Vishny, R. (1998). Law and Finance. *Journal of Political Economy* 106. 1113-1155.

Lundahl, L. (2019). Swedish Education Reform: High ambitions and Troubling Results. *Revue internationale d'éducation de Sèvres*. Available at: https://journals.openedition.org/ries/7843?lang=en#:~:text=programme%20for%20Journals%3F-,Decentralization%2C%20deregulation%20and%20marketization,as%20well%20as%20private%20actors.

Martynova, M. & Renneboog, R. (2010) A Corporate Governance Index: Convergence and Diversity of National Corporate Governance Regulations. CenteER Discussion Paper Series No. 2010-17. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1557627

Nordic Council of Ministers (2016). Services and Goods Exports from the Nordics: Strongholds and Profiles of Exporting Enterprises. Available at: https://norden.diva-portal.org/smash/get/diva2:1047303/FULLTEXT01.pdf

OECD (2018). OECD Membership and the Values of the Organisation. OECD Week 2018. Available at: https://tuac.org/news/oecd-membership-and-the-values-of-the-organisation/#:~:text=Countries%20wishing%20to%20become%20OECD,transparent%20and%20free%2Dmarket%20economies.

Polanyi, K. (1945). *The Great Transformation*. Boston, MA: Beacon Press.

Pontusson, J. (2005). Varieties and Commonalities of Capitalism. In D. Coates (Ed.), *Varieties of Capitalism, Varieties of Approaches* (pp. 163-188). London, UK: Palgrave Macmillan.

- (2011). Once Again a Model: Nordic Social Democracy. In J. Cronin, G. Ross and J Schoch (Eds.), *Futures of the Left* (pp. 89-115). Durham, NC: Duke University Press.

R Core Team (2016). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. https://www.R-project.org/

Ragin, C. C. (1987). *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies*. University of California Press.

- (1999). Using Qualitative Comparative Analysis to Study Causal Complexity. *Health Services Research* 34(5). 1225-1239.

- (2000). *Fuzzy-Set Social Science*. Chicago, IL: University of Chicago Press.

– (2008). *Redesigning Social Inquiry: Fuzzy Sets and Sets Beyond*. The University of Chicago Press.

Rihoux, B., & Ragin, C.C. (2008). *Configurational Comparative Methods: Qualitative Comparative Analysis (QCA) and Related Techniques*. Sage Publications.

Rueda, D. (2014). Dualization, Crisis, and the Welfare State. *Socio-Economic Review* 12. 381-407.

Sahlberg, P. (2009). Education Reforms for Raising Economic Competitiveness. *Journal of Educational Change* 7(4). 259-287.

Scharpf, F.W. (1987). A Game-Theoretical Interpretation of Inflation and Unemployment in Western Europe. *Journal of Public Policy* 7(3). 227-257.

Schneider, C.Q., & Rohlfing, I. (2013). Combining QCA and Process Tracing in Set-Theoretic Multi-Method Research. *Sociological Methods and Research* 42(4). 559-597.

Schneider, M.R. & Paunescu, M. (2012). Changing Varieties of Capitalism and Revealed Comparative Advantages from 1990 to 2005: A Test of the Hall and Soskice Claims. *Socio-Economic Review* 10(4). 731-753.

Schneider, M.R., Schulze-Bentrop, C. & Paunescu, M. (2010). Mapping the institutional capital of high-tech firms: A fuzzy-set analysis of capitalist variety and export performance. *Journal of International Business Studies* 41. 246-266.

Schumpeter, J. (1942). *Capitalism, Socialism and Democracy*. New York, NY: Harper & Brothers.

Stockhammer, E. (2018). Demand Regimes, Financialisation and Hysteresis: New Keynesian and Post-Keynesian Macroeconomic Underpinnings of the Varieties of Capitalism. *Post Keynesian Economics Society* Working Paper 1809.

Stockhammer, E. & Kohler, K. (2019). Financialization and Demand Regimes in Advanced Economies. *Post Keynesian Economics Society* Working Paper 1911.

Streeck, W. (1997). Beneficial Constraints: On the Economic Limits of Rational Voluntarism. In J.R. Hollingsworth & R. Boyer (Eds.), *Contemporary Capitalism: The Embeddedness of Institutions* (pp. 197- 219) . Cambridge, UK: Cambridge University Press.

Taylor, M.Z. (2004). Empirical Evidence Against Varieties of Capitalism's Theory of Technological Innovation. *International Organization* 58. 601-631.

Thelen, K. (2014). *Varieties of Liberalization and the New Politics of Social Solidarity*. Cambridge, UK: Cambridge University Press.

Visser, J. (2019) ICTWSS Data base. version 6.0.. Amsterdam: Amsterdam Institute for Advanced Labour Studies AIAS. (Accessed August 4, 2020)

Whitley, R. (1999). *Divergent Capitalisms: The Social Structuring and Change of Business Systems*. Oxford, UK: Oxford University Press.

Williamson, O. (1975). *Markets and Hierarchies: Analysis and Anti-Trust Implications*. New York, NY: Free Press.

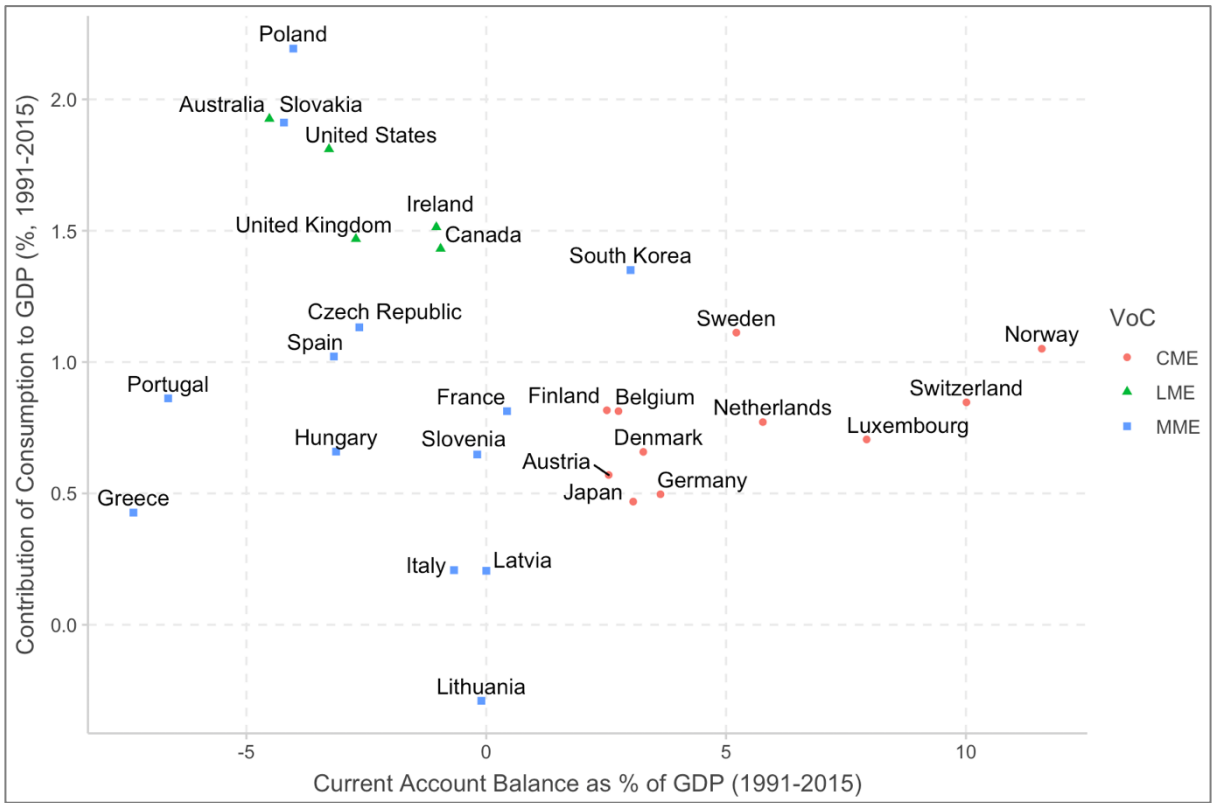
– (1981). The Economics of Organisation: The Transaction Cost Approach. *American Journal of Sociology* 87(3). 548-577.

– (1985). *The Economic Institutions of Capitalism*. New York, NY: Free Press.

Witt, M.A., & Jackson, G. (2016). Varieties of Capitalism and Institutional Comparative Advantage: A Test and Reinterpretation. *Journal of International Business Studies* 47. 778-806.

Appendices

A.1: Export-Led Economies by Current Account Balance vs Contribution of consumption to GDP



Source: OECD, 2020. Calculations as Figure 1.1.

A.2: Regression Notes

Table A.1: Log Changes in Exports explained by Log Changes in REER (inc. 2009)

	Dependent variable:				
	(1)	(2)	(3)	(4)	(5)
Germany	-0.852***				
	(0.303)				
Austria		-0.983**			
		(0.436)			
Sweden			0.105		
			(0.195)		
Finland				-0.352	
				(0.277)	
South Korea					-0.010
					(0.100)
Constant	0.047***	0.043***	0.050***	0.043***	0.095***
	(0.010)	(0.009)	(0.011)	(0.015)	(0.012)
Observations	28	28	28	28	28
R^2	0.234	0.164	0.011	0.059	0.0004
Adjusted R^2	0.204	0.131	-0.027	0.022	-0.038
Residual Std. Error (df = 26)	0.053	0.049	0.058	0.076	0.062
F Statistic (df = 1; 26)	7.927***	5.087**	0.293	1.620	0.011
Note:					*p<0.1; **p<0.05; ***p<0.01

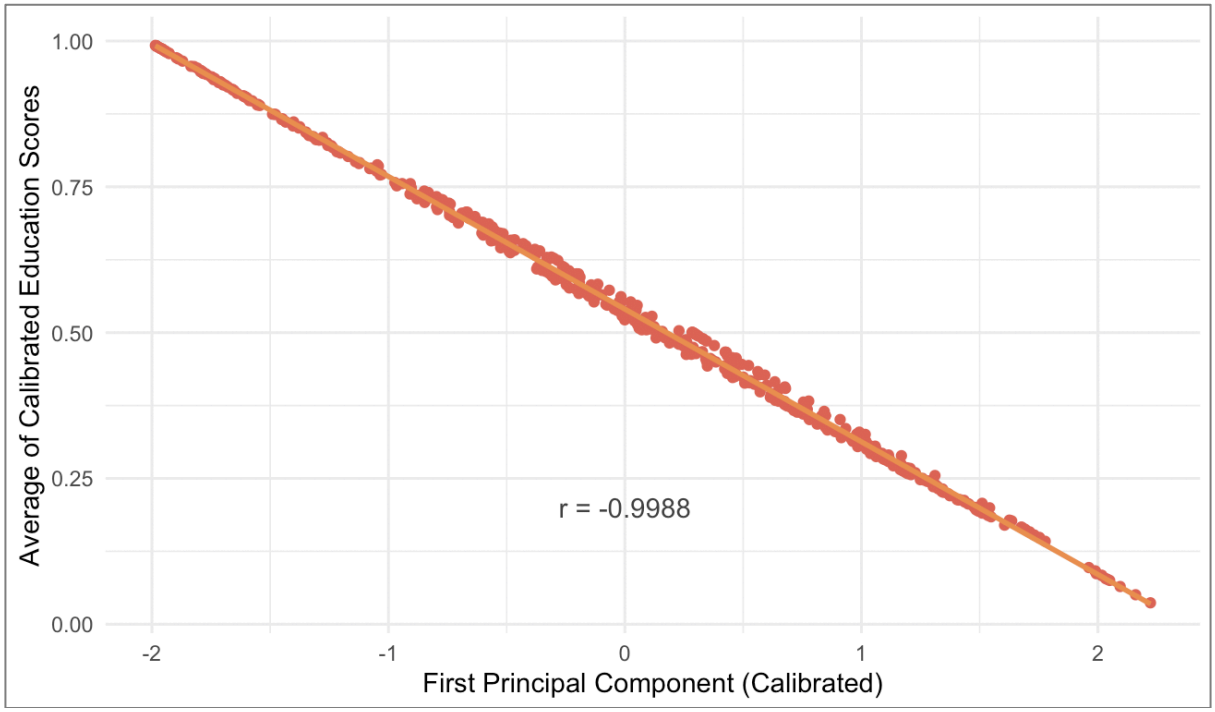
As can be seen in table A.1, the results of the regression seen in table 2.1 remain robust even when the outlier year 2009 is included. 2009 was removed from the regression as its outlier status misleadingly skews the coefficients' effects: Sweden, for instance, exhibits a small (albeit insignificant) positive effect. As is highlighted by Utts & Heckard (2012, 46), outliers may be removed if they are known to be anomalous, and skew the data accordingly. Due to the skewing of 2009's macroeconomic data by the shocks of the previous year, it is removed from the regression in the main text.

B.1: Full List of Countries w/ Mean Fuzzy-Set Values (1991-2015)

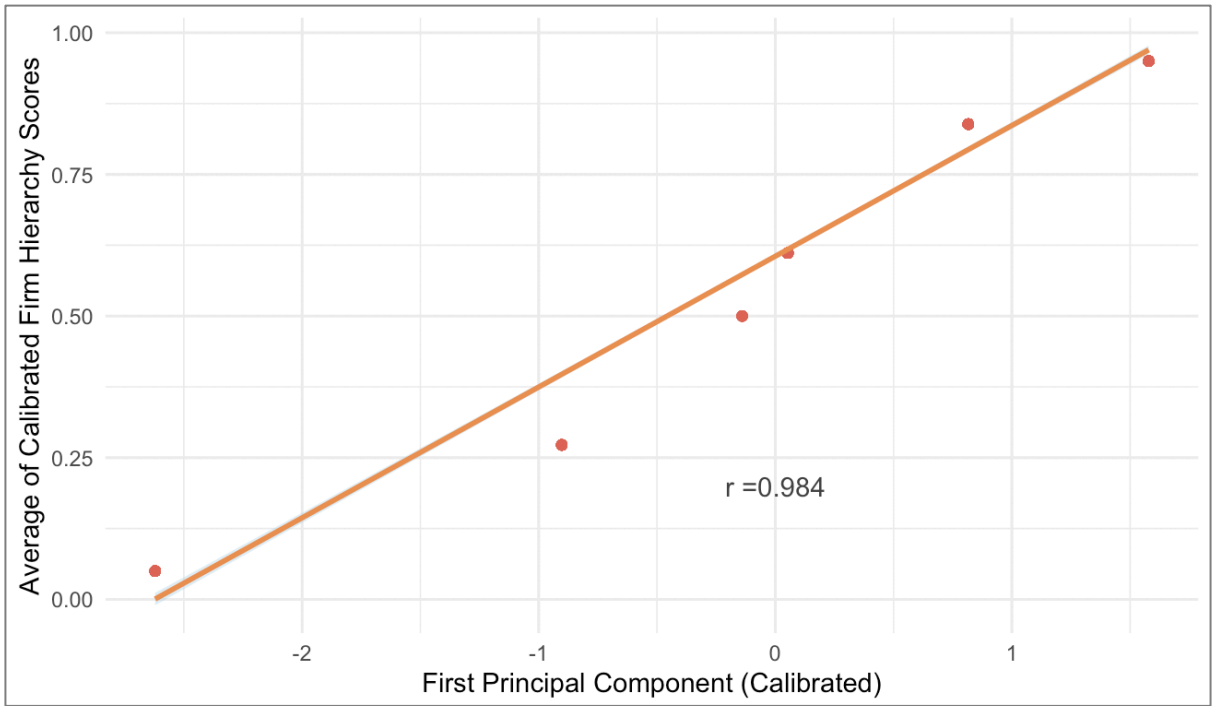
Country	Mean	IR	EDU	FIRM	INTER	CORP
Australia	0.19	0.26	0.27	0.05	0.25	0.13
Austria	0.69	0.68	0.71	0.95	0.61	0.48
Belgium	0.64	0.73	0.33	0.84	0.64	0.66
Canada	0.19	0.13	0.3	0.05	0.39	0.06
Czech Republic	0.7	0.58	0.95	0.5	0.78	0.7
Denmark	0.65	0.46	0.64	0.84	0.65	0.68
Finland	0.55	0.55	0.47	0.84	0.38	0.52
France	0.6	0.53	0.51	0.84	0.66	0.48
Germany	0.76	0.73	0.91	0.95	0.67	0.57
Greece	0.53	0.67	0.55	0.27	0.64	0.52
Hungary	0.73	0.46	0.9	0.77	0.66	0.87
Ireland	0.38	0.48	0.32	0.17	0.48	0.46
Italy	0.68	0.68	0.7	0.84	0.68	0.51
Japan	0.42	0.67	0.08	0.5	0.62	0.26
Latvia	0.63	0.47	0.67	0.27	0.84	0.89
Lithuania	0.49	0.48	0.5	0.27	0.53	0.65
Luxembourg	0.61	0.6	0.43	0.84	0.66	0.52
Netherlands	0.71	0.78	0.55	0.95	0.66	0.63
Norway	0.57	0.66	0.35	0.84	0.5	0.47
Poland	0.65	0.5	0.82	0.46	0.63	0.83
Portugal	0.62	0.62	0.47	0.61	0.78	0.64
Slovakia	0.78	0.59	0.95	0.62	0.87	0.89
Slovenia	0.65	0.61	0.77	0.84	0.51	0.52
South Korea	0.46	0.34	0.3	0.61	0.53	0.54
Spain	0.47	0.44	0.27	0.61	0.7	0.35
Sweden	0.6	0.64	0.57	0.95	0.36	0.46
Switzerland	0.56	0.44	0.73	0.61	0.51	0.49
United Kingdom	0.32	0.29	0.39	0.47	0.26	0.2
United States	0.25	0.07	0.54	0.05	0.36	0.21

B.2: Comparison of First Principal Components (Calibrated) with Average Calibrated Fuzzy-Set Scores

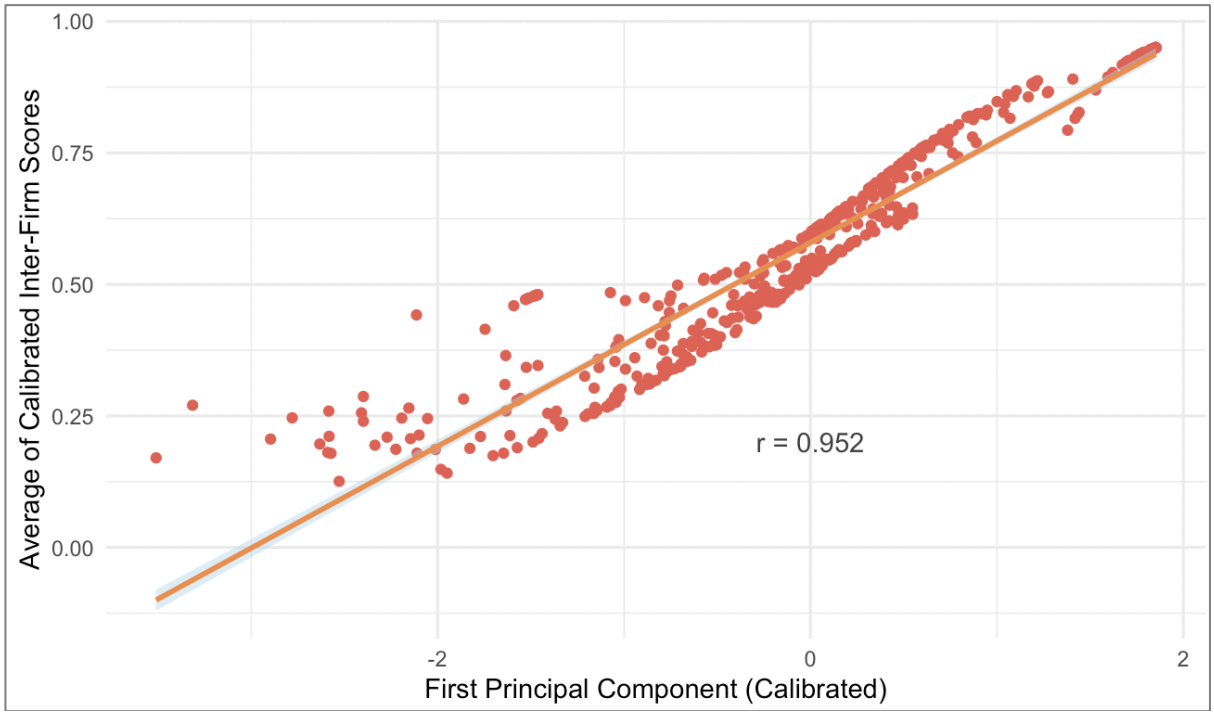
EDU:



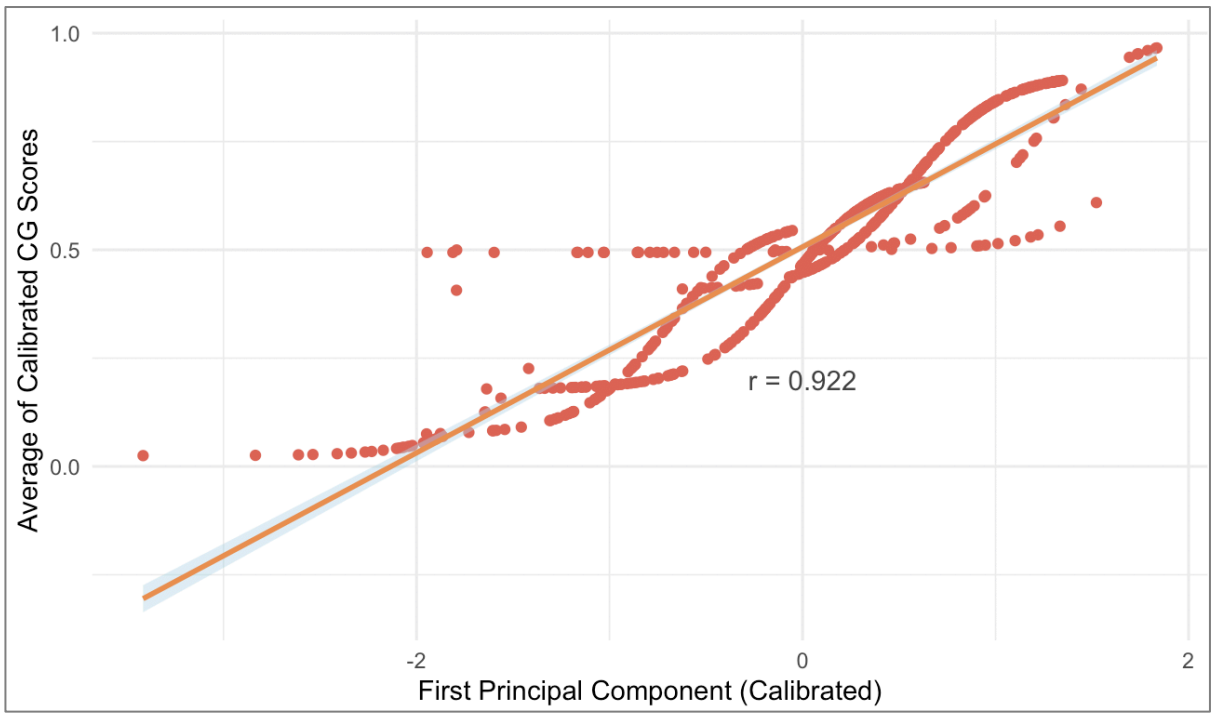
FIRM:



INTER:



CORP:



Note that the unusual patterns seen in the above CORP graph are due to the discrete nature (1-6 scale rather than continuous) nature of the La Porta et. al (1998) and Martynova & Reneboog (2010) data.