Nick Seach

Innovation and Style of Governance

How might political institutions enhance economic competitiveness? Testing the effects of liberal versus egalitarian democracy on business sector innovation

Master's thesis in Political Science
Supervisor: Indra de Soysa
June 2022

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Kunnskap for en bedre verden

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Abstract

Most would agree that a key determinant for development and prosperity is economic growth, which is commonly thought to be based in technological change and innovation. Therefore, nations looking to develop their economies in search of prosperity, are dependent on institutions and governance to provide favourable conditions in this regard. Even though some autocratic countries have seen immense economic growth in recent decades, democracy is overwhelmingly believed to be the ideal form of governance in terms of long-term development for overall human prosperity. That being said, the question of what *style* of democratic governance being most conducive to innovation, is a question still very much up for debate. As such, this thesis attempts to examine exactly this question, by utilising time-series-cross-sectional analysis to test empirically whether liberal or egalitarian style of democracy better explains economic innovation. I apply data on innovation from the World Economic Forum (WEF), which serves as a proxy for business sector innovation, whilst additionally testing data on competitiveness from the International Institute for Management Development (IMD). The data on liberal- and egalitarian style of governance is obtained from the Varieties of Democracy (VDEM) data project. I tested the effects on all the countries that the WEF (145) and IMD (58) datasets include, as well as a sample of high-income democracies. The analysis yielded intriguing results. The most notable findings are that egalitarian democracy has a significant substantially large positive effect on innovation for high income democratic countries, whilst liberal democracy has a marginal positive effect. Further, when separating the democracy (free and fair elections) component from the independent variables, I found that democracy itself had a significant positive effect on innovation for high income countries, whilst having a marginal negative effect when all countries were included. In addition, the egalitarian component had a significant positive effect on competitiveness for all countries, whilst the liberal component had a positive effect on competitiveness for high income countries.

Sammendrag

En nøkkelfaktor for utvikling og velstand i land er økonomisk vekst, dette antas ofte å komme på bakgrunn av fremskritt innen innovasjon. I den forbindelse er land som ønsker å utvikle sine økonomier avhengig av institusjoner og styresett som gir gunstige forhold for innovasjon. Selv om enkelte autokratiske land har sett en enorm økonomisk vekst de siste tiårene, anses demokrati fremdeles å være den ideelle formen for styring når det gjelder generell velstand. Derimot er det fremdeles en pågående debatt angående hvilken form for demokrati som er mest gunstig for innovasjon. Denne oppgaven forsøker dermed å bidra til denne debatten, hvorav jeg benytter meg av tidsserie-tverrsnittsanalyse for å teste mellom liberal- og egalitært demokrati. Jeg bruker data om innovasjon fra World Economic Forum (WEF), som fungerer som en proxy for innovasjon i næringslivet, samtidig som jeg tester data om konkurranseevne fra International Institute for Management Development (IMD). Dataen om liberal- og egalitært demokratisk styresett er hentet fra Varieties of Democracy (VDEM) dataprosjekt. Jeg testet effekten på alle landene som WEF (145) og IMD (58) sine datasett inkluderer, samtidig som jeg måler effekten kun på høyinntekts demokratier. Analysen medførte flere resultater, hvorav de mest bemerkelsesverdige funnene inkluderer at; egalitært demokrati har en signifikant positiv effekt på innovasjon for høyinntekts demokratiske land, mens liberalt demokrati har en marginal positiv effekt. Videre, ved å skille demokratikomponenten (frie og rettferdige valg) fra de uavhengige variablene, fant jeg at demokrati i seg selv hadde en signifikant positiv effekt på innovasjon for høyinntektsland, mens det hadde en marginal negativ effekt når alle land ble inkludert. I tillegg hadde den egalitære komponenten en signifikant positiv effekt på konkurranseevnen for alle land, mens den liberale komponenten hadde en positiv effekt på konkurranseevnen for høyinntektsland.

Preface

I have to begin by expressing my gratitude to Indra for being an exceedingly engaged and patient supervisor, who has continuously provided great advice. Furthermore, I'm grateful for my wide-ranging mixture of friends, who bring extensive joy to life. Especially as they remind me that there is more to life than constantly being stressed about studying enough (they'll only know of my gratitude if they actually read this thesis though). Finally, I want to thank my wonderful family. Even though we are quite spread out geographically, they continuously remind me that the qualm and frustration emanating from pursuing a master's degree remains tolerable!

I would by no means characterize the road to this degree as plain sailing. Starting the two-year degree in the early stages of a pandemic can at best be described as ambivalent. I am immensely fortunate to have been in a situation where one of the primary consequences is that I have been granted more time to study due to continuous lockdowns. For the most part I view it as a blessing in disguise, considering how easily I'm distracted, and tempted to do anything but study. In addition, upon reflection, I am immensely fortunate to have had a relatively predictable and secure time period, considering the uncertain situation experienced by many. That being said, I will always be left with the feeling of "what if", seeing as much of my time in Trondheim has been plagued by the ramifications following the pandemic. Nevertheless, it's been an incredibly rewarding experience to say the least. From new acquaintances and lifelong friends to the continuous manufacturing of new memories that will last me a lifetime. In addition to the personal growth that seemingly never ceases, regardless of my rapidly increasing age.

Abbreviations

WEF … World Economic Forum

GCI … Global Competitiveness Index

IMD … International Institute for Management Development

WCY … World Competitiveness Yearbook

LME … Liberal Market Economy

CME … Coordinated Market Economy

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1.0 Introduction

A common concern for many societies is finding ways to develop and increase economic growth, thereby bringing prosperity to their nation. Finding new sources of growth that are inclusive and sustainable are therefore essential. Within economic theory, innovation has come to be viewed as a critical factor in this respect (OECD, 2012). Nations that have so-called *innovative economies*, are considered more productive and resilient, in addition to having better capabilities in terms of supporting higher standards of living and adapting to change (OECD, 2015). Accordingly, the way that political institutions work in societies is considered an important determinant of the innovative nature of an economy and its degree of competitiveness.

Nevertheless, though there is seemingly a broad consensus in terms of the need for bringing about more innovative ideas and solutions, from a governance perspective, there is a gap between the assumptions pertaining to how to best generate new innovation. Put simply, what is the optimal way of *organising* a society so that it can bring about more innovation, further enhancing economic growth and development? In the ongoing debate concerning the issue of inequality, some economists suggest, somewhat contrarily, that certain levels of inequality within (or between) societies is necessary to create the right conditions for innovation (Acemoglu, Robinson and Verdier, 2012a)[1]. Whilst other economists propose the opposite, suggesting that inequality might not be a prerequisite for innovation, and may even hamper the innovation process (Stiglitz, 2015; Barth et al, 2015). That being said, not only are the diverging assumptions based on well-grounded arguments, but they are also rooted in enduring ideological schools of thought. How an economy is governed therefore plays an essential role in terms of how various nations determine policies and economic systems.

I believe examining the question of what style of democratic governance is most conducive to innovation is immensely important, especially considering that the world is experiencing a decline in democracies in favour of autocratic regimes (Alizada et al, 2021). Arguably, this can be explained by the rise in inequality, and the overwhelming dismay felt by the disadvantaged segments of societies (Staffan, 2019; Piketty, 2020). Therefore, this thesis aims at explaining what enhances innovation and competitiveness, by illuminating key characteristics in terms of how societies determine their institutions. Further, by comparing

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[1] Acemoglu *et al* (2012a) henceforth.

two different styles of democratic governance, it will allow us to identify important aspects from the distinct styles that may explain why one approach to democratic governance may be preferred above the other. Not only in terms of increasing innovation, but also how broader segments of society might benefit from the economic growth that it induces.

As such, I seek to contribute to a better understanding of both the societal and institutional dynamics that are necessary in terms of increasing economic growth and development. In light of the apparent enigma and the ensuing debate, I approach this conundrum by utilising advanced statistical methods of analysis, in conjunction with novel data from various institutions. Moreover, the investigation is premised on testing two different approaches to democratic governance, *liberal* versus *egalitarian,* in relation to business sector innovation capabilities. Essentially, comparing whether it is enough for a society to provide citizens with *de jure* rights, protections, and freedoms, in terms of enabling individuals to prosper and succeed. or if it is a prerequisite that the society provides *de facto* rights, protections and freedoms, further enabling individuals to make use of their opportunities. Drawing inspiration from Joseph Stiglitz's (2015) postulation concerning style of governance and innovation: *"What style of governance is most conducive to innovation?",* I aim at contributing by providing new research to this question.

1.1 Limitations

When it comes to issues that may put some limitations on this thesis, one area that should be addressed is in regard to the topic of innovation itself. In particular the difficulty that arises when attempting to measure the phenomenon of innovation, considering that adequately characterising innovation in its totality through only a single measure is highly unlikely (Ciric et al, 2016, p.50). There is a growing body of literature that specifically pertains to *types* of innovation and how it is measured, whereby some divide innovation into: process innovation, product innovation, functional innovation or value-chain innovation (Cozzens & Kaplinsky, 2009, p.58). Others look at innovation in terms of radical- or incremental innovations (Hall & Soskice, 2001, p.38; Ettlie et al, 1984). In addition, many specifically use patents or patent applications to measure innovation (Acemoglu et al, 2012b; Aghion et al, 2019). Even though these different perspectives on innovation are important to capture, and reasonable to utilise as a proxy for examining innovation, I have chosen a more general approach to innovation. My aim is to investigate the implications of institutions structures and societal inequalities on business sector innovation, something that will be addressed in the data/method section.

Another important limitation to address is in terms of using the past to study the present when drawing conclusions from any research (Lawrence, 1984). In this paper, some limitations of historical perspectives are likely to occur in terms of variational factors within each country. Though the use of fixed effects analysis tends to this issue to some extent, it most likely does not provide the necessary insight into national and regional systems of innovation, which is fundamental in regard to fully grasping a societies capacity for innovation (Freeman, 1995). Illustrating a potential weakness when utilizing statistical methods opposed to other types of research methods such as case studies (George & Bennett, 2005, p.19).

1.2 Structure of the thesis

I begin the thesis by attempting to provide some clarity by introducing some short, but comprehensible definitions of terms that are extensively used throughout this paper. The next section looks to bring prior knowledge to the table by addressing related theories and the contemporary debates concerning the topic at hand. The ensuing section provides extensive details of the statistical method applied and the data utilised. I then analyse results from the regressions, followed by a discussion- and conclusion section. Finally, I address some additional limitations along with suggestions for further research.

2.0 Definitions

Competitiveness / Innovation

In this thesis the term *competitiveness* is rooted in both the World Economic Forum and IMD World Competitiveness Center definitions of the term. The latter sees competitiveness as the field of economic knowledge within a nation, which analyses facts and policies responsible for shaping the ability of a nation to both create and maintain an environment which enables sustainable value creation for its people through enterprises (IMD, 2016, p.489). The World Economic Forum views competitiveness in terms of the determinants of a country's level of productivity, namely the set of institutions, policies and factors. Further adding, "*... rising competitiveness means rising prosperity ... competitive economies are those that are most likely to be able to grow sustainably and inclusively, meaning more likelihood that everyone in society will benefit from the fruits of economic growth*" (Cann, 2016). Thus, the term in this thesis in essence boils down to how the well-being of the citizens within nation's is improved through economic growth. This is rooted in the manner that institutions and policies are managed within the various societies in order to ensure that their business sector thrives through increased productivity of labour and human capital, which is important for competitiveness. Finally, this increase is arguably determined by ongoing innovation, which the World Economic Forum describes as "*... the process of turning new ideas into value, in the form of new products, services, or ways of doing things.*"[2]

Liberal

In this thesis the term *liberal*[3] borrows its interpretation from V-Dem, whereby it may at best be briefly described as the emphasis on individual and minority rights being protected against both state repression and 'tyranny of the majority'. As such, constitutionally protected civil liberties, effective checks and balances limiting the use of executive power, and a strong rule of law, are considered essential means for achieving this (Coppedge et al, 2016, p.582).

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[2] Curated by: Nesta
[3] Note that the terms *liberal market economies* (LME) and *cutthroat capitalism* are introduced and applied later in this thesis, effectively representing the liberal model of governance.

Egalitarian

The term *egalitarian*[4] is also based on V-Dem's interpretation of the expression, which is rooted in the ideal of equally distributed power among all citizens despite class, sexual orientation, ethnicity or any other particular personal characteristic. Further premising itself on the notion that neither material nor immaterial inequalities impede the *actual* exercise of rights and liberties. Whereby a more equal distribution of resources, health, and education across the different groups is seen as essential contributions in terms of enhancing political equality (Coppedge et al, 2016, p.583).

Inequality

In the hypothesis formulated later in this thesis, it is suggested that nations that emphasise more *equality* in terms of style of governance will provide better conditions for innovation. Therefore, it is worth noting that the notion of inequality, as it may often be assumed to be pertaining to specific aspects, such as income- or wealth inequality (Cozzens & Kaplinsky, 2009, p.63). In this thesis the term applies in a more general sense, whereby it in essence is closely linked to the term egalitarian. Essentially, pertaining to inequality in regard to opportunity, political participation, access to resources, access to social insurance, and equal access to public goods, such as education and health.

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[4] Again, worth noting is that the terms *coordinated market economies (CME)* and *cuddly capitalism* are utilised later in this thesis, effectively representing egalitarian model of governance.

3.0 Theory and Empirical evidence

In this section I will begin with a short introduction into economic growth theory, before briefly examining institutional theory. Eventually, the section delves into more contemporary debate on innovation and economic growth, which to a large extent serve as the primary contentions that this thesis intends to test with empirical data.

3.1 Economic growth theory

When it comes to the research field of economic growth theory, there are two primary theories that have dominated, neoclassical and endogenous growth theory. The neoclassical models of growth were based on the belief that poor countries would grow at a more rapid pace compared with richer ones due to diminishing returns to capital (Knack, 2006, p.4), assuming that it would ultimately lead to a convergence between the rich and poor countries (Barro, 1997, p.1). However, the convergence was primarily seen as conditional based on specific characteristics of an economy such as the inclination to save, the growth rate of the population, and the position of the production function (Barro, 1997, p 2). New growth theory sees human and institutional capital as vital for growth, relative to physical capital. Further seeing increasing returns to human capital as being more important. In later years, economists became more aware of the importance of technology in relation to economic growth (Mazzucato, 2014, p.34). This led to a practical expansion of *capital* that was introduced to the neoclassical model.

The concept of human capital, which went from primarily physical goods, thereafter included education, experience, and health (Barro, 1997, p.3). The proponents of the neoclassical model found that when technological improvements did not occur, it would put a stop to per capita growth. This modelling deficiency was already recognized by the theorists within economic growth from the 1950's and 1960's. However, it was assumed technological progress was exogenous (Barro, 1997, p.3). In other words, there was no explanation of the role of innovation within the economy in exogenous growth theory (Ziemnowicz, 2013, p.1172). As technological progress was the determinant for long-term growth, the model was deficient in terms of explaining long-term growth (Barro, 1997, p.4). Attempting to find answers explaining long-term growth, endogenous growth theory was developed. The central idea is that the theory provides a theory of technological progress, which can be understood as *the creation of new ideas* (Barro, 1997, p.4). Endogenous growth theories began including aspects rooted in Schumpeter's theories, whereby he introduced the idea of entrepreneurial

innovation as a key explanation for the upward movement of capitalist economies (Ziemnowicz, 2013, p.1174). Another seminal contribution was his theory of *creative destruction* (Schumpeter, 1942), which sees the process of innovation as revolutionising present economic structures by destroying the old, whilst simultaneously creating new ones. In this view, entrepreneurs are seen as continuously adding new quality knowledge to the established economic system, which consequently drives economic growth (Ziemnowicz, 2013, p. 1174).

Increasingly throughout the decades, there has been an emphasis on technological change and economic growth's relationship. This has led to heightened focus on the importance of investment in technology and human capital by government policymakers in terms of fostering growth (Mazzucato, 2013, p.34). Schumpetarian economists criticise endogenous growth theory based on its assumption of research and development being modelled as a lottery, assuming that a certain amount of investment in R&D will create probability for successful innovation (Mazzucato, 2013, p.35). Rather, they highlight the large uncertainty that follows technological innovation, in addition to heavy feedback effects existing between innovation, growth and market structure. In other words, the emphasis is not on the stock of R&D, but rather the circulation of knowledge and its diffusion throughout the economy (Mazzucato, 2013, p.36). Moreover, this caused the term innovation-led growth policies to become more prevalent, whereby supporting the knowledge economy by investing in knowledge creation and promoting competitiveness became more important.

3.2 Institutional Theory

It has been argued that neither the neoclassical nor endogenous growth theory provide adequate insight into why some less developed countries have developed rapidly, whilst others have stagnated or even declined. This is arguably because none of the major theories gives *quality of governance* a central role(Knack, 2006, p.4). Consequently, the neoclassical theory is primarily focused on capital intensity and diminishing returns, whilst endogenous growth theory emphasises externalities, increasing returns, and learning by doing. As such, even though neither of the theories rule out a decisive role for quality of governance, they ascribe it an unimportant role (Knack, 2006, p.4). Mancur Olson suggests that the primary explanation

of the substantial differences in wealth between nations is due to the differences in quality of the country's institutions and economic policies (Olson ref. in Knack, 2006, p.11)[5].

An institutional approach to economic growth has recently been presented by Acemoglu and Robinson (2012b), who emphasise the importance of countries' institutional arrangements in regard to economic growth. They argue that the level of economic growth in nations is dependent on what types of institutions are established, whereby their assertion has its basis in whether countries have *inclusive* or *extractive* political and economic institutions. The former is considered important in terms of encouraging citizens to partake in economic activities, whereby it is suggested that it may increase the interest in individuals to develop their personal skills and talents. In addition, it follows that the government enhances the citizens' economic capabilities by ensuring property rights, providing a system of law that is unbiased, and providing a level playing field for all its members (p.429). However, a prerequisite is that these aspects apply to broader parts of society, not just an elite group within the society. Whereby the inclusive political institutions assume a higher degree of ability for citizens to participate in political processes, and thus the governing of the nation (Acemoglu & Robinson, 2012). On the other hand, institutions can be *extractive*. This means that those who hold power within a society aim at extracting a country's resources for themselves, primarily looking to enhance their own economic situations and political power (p.430). In addition, there is only a fixed elite group that has political power and ultimately decides how a nation is governed. As such, it may create a *vicious cycle,* where some groups in societies that enjoy vast amounts of resources, which they leverage to further enhance their political power and utilising this power to increase their own pool of resources, all whilst further preventing the inclusion of new actors (Acemoglu & Robinson, 2012).

Societies that are under autocratic rule are usually considered to have extractive elements, however, economic growth and long-run progress is still attainable (Olson, 1993). This depends on whether it is in the interest of the autocrat to ensure order and public goods, and that the autocrat further accepts the social progress stemming from the public goods. However, the primary obstacle for long run progress in autocracies is that individual rights such as property and contracts are never fully secure, at least in the long run (Olson, 1993, p.574). Moreover, Olson (1993) argues that democracies are often considered advantageous in this respect, as they are more tenable in terms of the leaders extracting social surplus. However, it is often underestimated the difficulties facing democracies in terms of narrow special

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[5] Mancur Olson referenced by Stephen Knack in *Democracy, Governance & Growth* (2006)

interests controlling policymaking in long-stable democracies (p.574). This is because large disparities in economic resources often translates into political disparities, whereby governments tend to become more responsive to those who hold larger quantities of economic resources within the society, whilst the interests of the majority of citizens are less adhered to (Stiglitz, 2012).

Despite a recent upsurge in claims suggesting that democratic institutions are either irrelevant or a hindrance for economic growth (Acemoglu et al, 2019, p.48), in much of the literature on governance and institutions, democracy stands out as the ideal form of governance. For instance, though difficult to sustain, democracies are found to be better in terms of long-term economic growth (Acemoglu et al, 2019; Papaioannou & Siourounis, 2008). However, for developing countries, Chauvet and Collier (2009) suggest that it may be premised on the quality of elections within the democratic society. Claiming that accountability is increased when there are free and fair elections, and governments are therefore disciplined into improving economic policy and governance.

Even though there is a general tendency to presume democracy as favourable to other types of governance, there is by no means an overwhelming consensus regarding *what style* of democratic governance is ideal in terms of increased competitiveness and innovation. As such, I intend to test whether innovation is better served by a more liberal- or egalitarian democratic style of governance. The theories presented above, along with the forthcoming insight into the ideological roots of the two visions of democracy, will serve as an important theoretical framework that allows us to identify specific features of the different styles of governance. Further providing diverging perspectives on aspects such as inequality, human capital, the role of government, and institutions. Ultimately, unearthing why one particular style of governance may be more favourable in terms of innovation and competitiveness.

4.0 Two Visions of Democratic Governance

In recent decades, Hall and Soskice (2001) provided a comprehensive theoretical framework for comparing types of capitalism in different societies. Building on their theory, further approaches at comparing nations' innovation capabilities in relation to governance systems have been conducted (Acemoglu et al, 2012b; Stiglitz, 2015). In addition, some have approached the aspect of innovation from the perspective of attitudes and values (Phelps et al, 2020). This section will address some of the central contentions in this debate, though I begin by presenting some key aspects of the two styles of democratic governance that are central to the debate.

4.1 Liberal versus egalitarian

When addressing the ongoing debate concerning the democratic style of governance that is most conducive to innovation, it is important to acknowledge how this discussion comes down to two visions of democratic governance. As we will see in much of the literature presented in this thesis, the discussion is centred around the Scandinavian countries versus the Anglo-Saxon countries, particularly the United States and the United Kingdom. This is arguably because the countries constitute the extremes of the two styles of democratic governance, which are firmly rooted in the historical context that has led to their diverging institutional developments. Whereby ultimately, how nations approach issues such as the degree of government intervention, inequality, and welfare, depends on the leading ideologies and politics in the country (Lystestøl & Meland, 2012).

The United Kingdom and the United States are influenced by ideas of early liberal thinkers such as Locke (McDaniel, 2009), in addition to later liberal thinkers such as Friedman and Hayek. The latter have both played significant roles in regard to policy making under the Reagan and Thatcher administrations, that are still very much in effect today (England and Ward, 2007, s.249). These countries have a liberal welfare state founded upon an individualistic approach, whereby the issues are placed more directly on the individuals themselves (Lystestøl & Meland, 2012, p.29). There are high criteria for receiving public social benefits, and it is handed out primarily to those most in need (Lystestøl & Meland, 2012, p.48; Kenworthy, 2004 p.3). Extensive government intervention, such as with progressive taxation is considered as undermining the system of private property by depriving individuals the ability to build up a

fortune, discouraging savings and investment (Hayek, 1953, p.231). Not only is it considered an unjust infringement on personal property rights, but it is also maintained that it perpetuates inequality by reducing vertical mobility, subsequently creating new rigidity of class distinctions. It is viewed as rewarding laziness at the cost of the hardworking (Fukuyama, p.56, 2015), further creating a culture of dependency, weakening initiative and work ethic, and essentially depriving individuals of self-worth (Heywood, 2015, p.294). The state is commonly perceived to weaken entrepreneurs by overregulating, whilst an influx of laws including heavy redistribution burdens the middle class (Meyer, 2020, p.71). The rejection to progressive taxes is rooted in a belief that resources are considered to be better allocated through free market mechanisms, whereby the state is often considered as allocating funds into the sectors of the economy that are unproductive (p.63). Rather, the state should primarily facilitate competition, whereby everyone is an economic actor who by seizing upon the opportunity to provide the best products and services can become winners (p.16).

The egalitarian style of governance particularly considers how many aspects determining individuals' income rates and wealth are solely based on coincidence, such as inherited wealth, household, creativity, and quality of education. Accordingly, it is considered fair to reduce the inequalities that these factors generate (Kenworthy, 2004, p.1). With the development of welfare states, an increase in emphasis on society's responsibility for people's livelihoods has followed (Lysestøl & Meland, 2012 p.29). The Nordic model follows this ideal, opposing the liberal style of governance by emphasising more the collective good of society. Therefore, the Nordic welfare state, which is based on the principles of universality, places a large emphasis on public provisions such as healthcare and childcare (Lysestøl & Meland, 2012, p.29; Kenworthy, 2004, p. 3). The latter approach being considered a means by which the standards of living between citizens are equalised. In addition, in the Nordic model, everyone has a right to public benefits, and everyone should contribute towards paying for them (Lysestøl & Meland, 2012, p.48). As such, the egalitarian style of governance gives the state a more important role in terms of ensuring that all segments of society are represented equally by limiting inequality. In addition, viewing the state as a mechanism that can be utilised in the process of increasing the overall well-being of society.

4.2 Contemporary Innovation Debate

4.2.1 Two Styles of Governance, Two Approaches to Innovation

Comparing Market Economies

Hall & Soskice (2001) provide a framework that seeks to understand similarities and differences between institutions in developed countries, pertaining to policies, economic issues, and whether institutional change and stability have a special significance (p.1). Further, they look to find a basis for comparisons that to a larger extent pertains to organisation of the private sector. Their essential contribution is their categorization of national political economies, distinguishing between *liberal market economies* (LME) and *coordinated market economies* (CME) (Hall & Soskice, 2001).

In liberal market economies, hierarchies and competitive market arrangements serve as the primary basis for how firms coordinate their activities. Goods and services are exchanged at an arm's length, based on operating in an environment that emphasises competition and formal contracting. In addition, the actors adjust how willing they are to supply and demand goods and services based on market price signals. Ultimately, from this perspective, market institutions are considered to provide very effective means in terms of economic actors being able to coordinate their endeavours (Hall & Soskice, 2001, p.8).

In coordinated market economies, non-market relationships are more essential in terms of how economic actors should coordinate their endeavours with other economic actors. Non-market modes of coordination include extensive relations or incomplete contracting, such as contracts that are usually premised on later revision based on the future occurrence of uncertain aspects. As such, problem solving through coordination and frequent deliberation is more conventional. Further, there is a heavier reliance on continued collaborative (rather than competitive) relationships in terms of competency building within firms (Hall & Soskice, 2001, p.8).

In short, the CMEs are related more to the egalitarian style of governance, whereby there is an emphasis on more deliberation and coordination between the different economic actors that operate in the market, including the state, firms and workers. LME is related to the liberal style of governance, typically favouring less state interference, allowing a free market to regulate and function more on its own, such as through supply and demand, and market signalling.

The Case For A Liberal Style of Governance

In an attempt to further the debate pertaining to innovation and capitalist systems, Acemoglu et al (2012a) present what they call a "*systematic investigation of institutional choices in an interdependent world*" (p. 36). In this, they contend with Hall & Soskice' (2001) suggestion that the United States could sacrifice some of their economic growth, in order to provide better public services, a safety net and a society that is more equal (Acemoglu et al, 2012b, p.3). They contend with this claim on the premise of there being a particular equilibrium within the sphere of innovation between *leaders and followers*. Further differentiation between what they label as *cutthroat* versus *cuddly* types of capitalism. The former pertains to a more liberal style of governance (LMEs), with high-level incentives, income inequality and less social insurance, whilst the latter pertains to a more egalitarian style of governance (CMEs), that provides their populations better insurance and greater equality of access to resources (Acemoglu et al, 2012a). They argue that in order to maintain the high level of growth that the world has seen for decades, some countries inevitably have to have a more liberal style of capitalism. Whilst other countries, such as the Nordic countries, may in fact only maintain their egalitarian style of governance owing to countries that have a liberal style of governance. This is because egalitarian countries can appropriate the new technology that is created and produced by the frontier liberal countries. Moreover, claiming that if the liberal countries were to move more towards an egalitarian type of governance, it would hamper all growth, ultimately making every country worse off (Acemoglu et al, 2012b).

One of their central arguments is premised on *incentives* for entrepreneurs, particularly pertaining to monetary incentives following innovation efforts (p.1). They believe that innovation efforts are increased, seeing as the efforts by entrepreneurs may become private information. In other words, through intellectual property rights, entrepreneurs can make profits from rents and consumers buying their products. Adding that this may lead to income differences and higher levels of inequality, as only some entrepreneurs will be successful (p.36). However, their argument is that though success is not guaranteed, the rewards that liberal countries provide are desirable enough for individuals to attempt. In short, the risk of entrepreneurs in liberal capitalist countries is more sufficiently rewarded than in countries with the egalitarian form of capitalism, thereby providing better incentives for people to attempt to innovate. Further, the innovative effort provided by the conditions induced by the liberal style of governance, is what leads to a country's contribution to technological advancement at the

technological frontier. However, as a consequence, creating a greater gap in inequality within the society. Put in another way, Acemoglu et al (2012b) contend that the economic inequality induced by a more liberal style of governance is warranted on the premise that it is not only important for pushing the technological frontier forward, but also necessary for the overall well-being of most societies across the globe. Essentially, adhering to the common claim that the focus should not be on how much of the pie an individual has as long as it causes an increase in size, whereby everyone will ultimately benefit from increased size (Gans & Leigh, 2019, p.48).

The Case For An Egalitarian Style of Governance

In the wake of these assumptions, Stiglitz (2015) addresses several of the contentions provided by Acemoglu et al (2012b) that are central to the innovation debate, relating further to the two different styles of democratic governance. Including the emphasis on property rights, how innovation may have adverse effects on the standards of living, and the role of the state in terms of directly impacting innovation. In addition, investigating the issue of inequality being a necessary evil in regard to innovation, and that monetary or material rewards are essential for incentives for stimulating innovation.

Pertaining to property rights, Stiglitz (2015) addresses the central role of property rights and patents in liberal capitalist countries. It has been well documented how private property rights have had an important historical role, particularly in terms of enabling shifts in power dynamics within societies by the forces of creative destruction (Acemoglu & Robinson, 2012b). However, there is seemingly a neglect of the negative aspects of emphasising patent rights. For instance, it has been highlighted how follow-on innovations can be negatively affected, seeing as prior knowledge is often a prerequisite for new innovation (Stiglitz, 2015, p.5). When there is an extensive use of patenting, the patent system often hampers innovation by concealing important prior knowledge that could be essential for the innovation process. Simply put, the stock of ideas and knowledge that researchers can build upon is greatly reduced. As such, the emphasis on policies protecting intellectual property rights may hamper the pace of innovation, as it reduces the size of the knowledge pool that others can draw upon, in addition to making opportunities scarcer for others because of costs to access (Stiglitz, 2015, p.5). Further, it is highly unconstructive as an essential characteristic of innovation systems is the 'open' architecture, both in terms of moving out the frontiers, and disseminating the ideas

that the frontiers generate (p.5). Moreover, it leads to firms getting away with providing only small technological advances, knowing there are limited technological opportunities for other firms (p.6). As such, Stiglitz (2015) believes that liberal style of governance may also be perceived as a culture that glorifies litigation at the expense of operation.

Furthermore, Stiglitz (2015) addresses what he believes is an overestimated role of material-incentives following the liberal style of governance, claiming it can create a misleading perception on what are the key determinants for innovation, including the role of the state (p.5). Particularly in terms of the United States and the United Kingdom, Mazzucato (2013) has highlighted extensively illuminated how vast quantities of the technological advances made by some of the largest private corporations have been rooted in basic and applied research provided by the state and public funding. As such, not only can the state be viewed as a contributor to innovation in terms of prior knowledge (e.g. basic research), it also contributes with trained personnel by providing educational systems, which leads to more talented individuals (Stiglitz, 2015, p.5). Arguably, a big part of the success of the Nordic countries stems from their heavier public investment in areas such as technology, education and infrastructure (Stiglitz, 2015, p.7). Moreover, as innovation is considered risky in terms of not necessarily leading to any definite results, having a system for social protection and a safety net is therefore conducive to individuals who are considering undertaking the path of research (Stiglitz, 2015, p.7). In other words, it may be a more inviting condition for individuals to research aspects that are important, but perhaps less likely to yield results. Higher tax levels can therefore be conducive to innovation not only in terms of the state directly investing in R&D, but it may have an indirect impact by providing quality education, which is a prerequisite for high quality research personnel.

A further reason why higher tax levels are important, relates to the overestimated assumption that innovation automatically makes society better off as a whole, essentially increasing the standards of living. This particularly applies to innovations that decrease demand for low- or unskilled labour, whereby it potentially means that certain groups will be worse off (Stiglitz, 2015, p.4; Gans & Leigh, 2019, p.5). It is also an issue in terms of imperfect mobility, whereby some groups may face uncertain futures when labour saving innovations in a specific sector outpaces the growth of demand, which results in wages and employment falling at a rapid pace (Stiglitz, 2015, p.4). This is how innovation and inequality are particularly intertwined, seeing as the system may primarily reward particular groups for the creations,

whilst the destruction costs render those in society that are most vulnerable and do not necessarily experience any gains from the creations (Gans & Leigh, 2019, p.7). In countries where there are less adequate systems of social protection and redistribution, in addition to a lack of a strong social safety net to protect those who lose their jobs, innovations may therefore have adverse effects (Stiglitz, 2015, p.4). Barth et al (2015) claim that this is an area that may make the Nordic model considered favourable, particularly the coordinated bargaining system. Not only do the Nordic countries have a stable tax system to maintain a strong welfare state, further ensuring social protection and redistribution. The Nordic countries also have a two-tier bargaining system that ensures a wage compression that both limits a growth in the inequality gap, whilst simultaneously providing conditions that induce the process of creative destruction. Accordingly, this aspect contends with the claims that high material rewards, including the inevitable inequality gap that follows, are necessary features of increased innovation efforts.

4.2.2 A Dynamic Economy

The Key Motivations for Innovation Efforts

Continuing the discussion pertaining to aspect of incentives, it is suggested that the single-minded emphasis on material incentives that has increasingly become entrenched in liberal capitalist countries may in fact be misguided. Some have suggested that the philosophy that insists that institutions primarily be governed by principles of the marketplace, such as in liberal market economies, may be better off by substituting it with a philosophy that recognizes that societies have for long been effectively pluralistic (Block, 2011, p.24; Arrow, 1962, p.623). In other words, a source of strength in societies is the plurality of individual motivation, whereby because people are different, they respond to dissimilar incentives. This is exemplified by how other institutions, such as public agencies, government laboratories, military and universities, have found ways to motivate individuals to be effective and creative, without adhering to the monetary incentives (Block, 2011, p.25).

Some have emphasised the importance of social attitudes, mores and values, as more essential in terms of the desire to innovate. Suggesting that a change in mindset is arguably most essential for innovation, rather than aspects such as property rights and incentive structures (Stiglitz, 2015, p.7; Phelps, 2020). Essentially implying that internal rewards may be more fundamental for innovation than external rewards. Phelps (2020) argues that historically within highly innovative nations there has existed a *dynamism*, whereby there is a specific

appetite, capacity, desire, and capability for innovation. Further claiming that this is a requirement for continuous creation, in addition to obtaining a broad acceptance for new innovations into the economy (p.xi).

A central aspect of this approach is in terms of the sources and rewards that ultimately generate this dynamism, which are heavily tied to personal values, and what he labels as *modern values* (p.5). He believes that the core of modern life is being engaged in this innovative activity, whereby the exhilaration of new possibilities, high levels of job satisfaction and the economic progress that follows are the outcomes (p.xi). As such, rather than assuming that the spectacular material rewards which a growing economy produces is the key driver for a society willing and able to provide an economy with dynamism to innovate, he suggests that non-material rewards may provide a better explanation (p.9). The non-material rewards include achievement through personal efforts, including the possibility of recognition. Succeeding according to expectations, flourishing which is experienced from voyaging into the unknown, and gratification from overcoming obstacles and making a difference (p.10). Furthermore, hypothesising about specific *values* that underlie the desires for these satisfactions, including *individualism, vitalism*, and *self-expression*.

The fundamental aspect of Phelps' theory is the emphasis on *human capital*. Depicted on the contention of both the exogenous and endogenous growth theories lacking a key dimension, namely that they do not consider the new ideas of *ordinary people* and the *wellspring* of those ideas (Phelps, 2020, p.5). It is therefore fundamental to understand how the powers to imagine new things are not limited to individuals gifted with some inborn creativity (Phelps, p.5, 2020), nor is it limited to scientists and individuals working in labs. Whereby it has been suggested that innovation and policy discussions are overly focused on technological innovation stemming from R&D or scientific research (Alic, 2011, p.237). Rather, the capability to imagine new things is something that pertains to people from all walks of life (Phelps, 2020).

The Two Visions of Democracy

Ultimately, the discussion comes down to two visions of democratic governance, liberal versus egalitarian. It is important to understand how their understanding of creating the best conditions for economic growth is rooted in ideological philosophies. As we have seen, much of the debate concerning the two styles of governance and innovation is centred around inequality, and incentives. It is well established that innovation has the potential to cause an increase in

inequality, especially by the process of creative destruction. Bearing this in mind, the two diverging philosophies therefore determine the institutions and policy they believe will be most conducive to innovation, in addition to how the related effects of inequality should be approached.

The liberal style of governance sees inequality as a necessary evil for innovation, premised on how it encourages risk taking by potentially promising large monetary rewards. The inequality is tolerated on the premise that the state ensures that everyone in society is provided de jure equal rights, protections and basic necessities. In fact, inequality is in many ways considered practical as it encourages competition between economic actors who strive to develop new innovations. As such, there is an extensive emphasis on property rights, whereby it ideally should encourage the utilisation of individuals' full efforts and risk taking, seeing as everyone in essence has the same opportunity to build a fortune and prosper.

The egalitarian style of governance opposingly views inequality as unfair and harmful for society, in addition to the mindful of the adverse effects it may have for instance on innovation. Therefore, the state plays a more active role in terms of equalising the standards of living between citizens, as it is considered both fair and important to ensure that everyone is provided *de facto* capabilities. Which is further considered more advantageous in terms of innovation, on the count that more individuals can contribute. In other words, the primary aim is to ensure that rights, protections, resources, and public goods are de facto equally provided. Essentially, considering human capital as more essential to innovation than an extensive emphasis on property rights.

The essential aspect to note with regard to Phelps' (2020) contentions on innovation is the emphasis on human capital, premised on the notion that innovation is something all individuals are capable of. Phelps accordingly urges policymakers to provide, rather than deny the individual freedoms necessary to be able to innovate (Godley, 2014, p.269). In regard to the two visions of governance the question is therefore what these freedoms imply, considering how both styles of democratic governance arguably provide individual freedoms. Thus, the question becomes whether it is the *de jure* freedoms that is most essential, or if it is rather *de facto* freedoms. In other words, the question becomes whether it is enough to provide individuals the freedoms, or if it is a prerequisite that society further enables individuals to act upon the freedoms.

4.2.3 Hypothesis

As previously established, economic growth is understood as originating from the continued process of innovation, further relating to political governance and institutional structures. My identification strategy is to compare independent effects of egalitarian democracy and liberal democracy on business sector innovation, which is further proxied by the WEF innovation index[6].

An aspect that is important to consider in relation to research in social sciences is establishing causal links, whereby one has to be cautious when suggesting how one observed fact supposedly explains the other (Moses & Knutsen, 2019, p.21). A common problem with statistical studies is that contextual factors that are not included in the coding of the dataset are omitted, meaning that many contextual and intervening variables that may contribute to explaining causal mechanisms that are left out (George & Bennett, 2005, p.21). Gao et al (2017) recently attempted to establish a causal relationship between democracy and innovation, using patents as a proxy, but they found that democracy had no direct positive effect. However, a later study conducted by Wang et al (2021) contradict the previously mentioned findings by moving beyond patents. In addition, they find that democracy has a significant influence on innovation, even after applying robustness tests such as changing measurements of democracy and innovation (p.12). However, it is truly difficult to find an exogenous variable that effects democratic style of governance that cannot affect innovation. Though by estimated correlation, some inference is possible. Even though there is some evidence of a causal relationship, due to the limited studies specifically addressing this issue, I can mainly infer that there is a causal direction.

I use a deductive approach to investigate the research question at hand, building the thesis around the theoretical and empirical assumptions presented above (Hancké, 2013, p.110). Accordingly, the following hypotheses have been formulated:

H1: A more egalitarian style of governance increases business sector innovation.
H2: Democracy increases business sector innovation.

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[6] Further detailed in the method section.

5.0 Method and Data

This part of the thesis will address the method used to answer the research question, in addition to drawing attention to the datasets that have been collected beforehand. Further, this section will account for the dependent-, independent-, and control variables which have been utilised in this thesis. Ultimately, providing a detailed account for why the datasets and variables are valid and highly reliable for answering the research question at hand.

5.1 Method

This research utilises time-series-cross-section (TSCS) analysis, which allows for combining observations across units and over time (Troeger, 2019, p.1; Mehmetoglu & Jakobsen, 2017, p.252). As such, the repeated observation of a certain number of units makes out the panel data. This approach has the advantage over analysis of pure time series or pure cross-sectional data for two reasons; it allows for more complex arguments and estimation procedures, as degrees of freedom increases on the basis of pooled data increasing the number of observations (Troeger, 2019, p.2). Moreover, as predictions over space and time are common in relation to theories in social sciences, being able to use data and do repeated tests of information, thus testing hypotheses in relation to various theories is advantageous. Finally, in terms of analysing pooled data, it makes it possible to control for heterogeneity (Troeger, 2019, p.2). Thus, pooled data is preferred as it eliminates certain kinds of omitted variable bias, available information is utilised to its fullest, predicting changes by testing various theories and test theories that predict parameter heterogeneity. In other words, enhanced estimates are generated on the account that it provides additional information (Troeger, 2019, p.2; Hoechle, 2007).

However, econometrically sound model specifications are difficult to come by, seeing as the data structure combines all the problems of cross-sectional and time-series data at the same time, often occurring simultaneously (Troeger, 2019, p.3). Whereby the issues include serially correlated and non-independent residuals, in addition to the different variances for different units (panel heteroskedasticity) (Mehmetoglu & Jakobsen, 2017, p.255). Concerning the last issue, it is suggested using OLS by way of panel corrected standard errors (Beck and Katz, 1995, p.645). This will correct the underestimated standard errors stemming from serial dependence (Mehmetoglu & Jakobsen, 2017, p. 255). Further, to check for temporal coefficient standard error and spatial correlation, meaning the potential correlation within/across countries, Hoechle (2007) suggests applying the Woolridge test. The test showed that the data indeed is

serially correlated. To tackle the issue of time constant omitted variables, Hoechle (2007) suggests estimating both random and fixed effects, as the latter handles the issue. As such, I deal with local level and country level factors that the model does not measure, by utilising Hoechle's method that relies on standard errors robust to both temporal and spatial autocorrelations.

Finally, after reviewing histograms of the dependent variable from WEF (innovation index) and all the control variables, I decided to utilise log-transformation in order to improve their distributions (Mehmetoglu & Jakobsen, 2017, p. 329). Also, the independent and control variables are time-lagged by one year, seeing as we may expect the effects from the dependent variable to occur after some time (Mehmetoglu & Jakobsen, 2017, p.254).

5.2 Datasets and Variables

To provide an adequate description of the content that makes up the variables used for this research, a considerable amount of information will be presented corresponding to each of the dataset providers' codebooks and methodology guides, respectively. To ensure full transparency both in regard to rightful accreditation and plagiarism, yet avoid excessively citing, the codebooks are provided in footnote.

In an attempt to provide additional robustness and reaffirm the results in the research, two different datasets that measure competitiveness/innovation have been applied in this thesis. The two highly novel datasets chosen for the dependent variable are from two distinct well recognized institutions, namely the World Economic Forum and IMD Business School. To test the two styles of governance, I use data on liberal democracy and egalitarian democracy from the Varieties of Democracy data project.

5.2.1 Dependent variable

World Economic Forum - Global Competitiveness Index (GCI)

The first dependent variable in this research is obtained from the World Economic Forums' Global Competitiveness Index[7]. The GCI is an index that the WEF have based their competitiveness analysis on since 2005, which they claim is a *"comprehensive tool that measures the microeconomic and macroeconomic foundations of national competitiveness"* (WEF, 2014, p.2), further define competitiveness as *"the set of institutions, policies, and*

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[7] A comprehensive description of dataset: <u>WEF - Global Competitiveness Index - Methodology</u>

factors that determine the level of productivity of a country" (WEF, 2014, p.2). According to WEF, they believe competitiveness consists of both static and dynamic components, further claiming that the determinants drive productivity and competitiveness are manifold (WEF, 2014, p.2). Therefore, they stress the notion of understanding factors behind this process, ranging from focusing on specialisation and division of labour, investment in physical capital and infrastructure, or education and governance (WEF, 2014, p.2).

The WEF collects its data through partner institutions, such as OECD, World Bank, IMF, in addition to The Executive Opinion Survey. They argue that the survey plays an important role in the report, as it aims to *"capture reality as well as possible, and business leaders are arguably the best positioned to assess the business environment in which they operate"* (WEF, 2020, p.77). Moreover, it provides a yearly evaluation of important aspects that are missing statistically, either because the aspects are impossible or extremely hard to measure on a global scale. The survey has 80 questions, wherein respondents are expected to evaluate and provide insight into several of their countries' situations in relation to different themes. This includes themes such as level of social-cohesion, innovation capability, and education system, which ultimately helps complement other statistical data in the report. The data is used in several of the WEF indexes and data pieces.

In total there are 98 indicators that make up the Global Competitiveness Index, and 44 of the indicators have their source from the Executive Opinion Survey. From a scale of one to seven, the business executives answer 78 questions on how they believe *their country* performs opposed to others on various topics. The scale goes from 1 to 7, ranging from either considering it among the best in the world or the worst in the world (WEF, 2020, p.633). They are conducted by Partner Institutes at national level, while the WEF supervises the surveys. The Partner Institutes include universities, research organisations, and business associates, who are given detailed guidelines for sampling and collecting data within specific timeframes (WEF, 2020, p.633). Moreover, they claim that their practices for collection are of the highest and most updated standards, because the aim is to ensure that the *"sample of respondents is the most representative possible and comparable across the globe"* (WEF, 2020, p.635). The WEF requests that the Partner Institutes separate the samples into two distinct groups: one with only large firms, and another with all other firms. They claim this will allow them to retain sectoral representation in both lists, whilst the Partner Institutes randomly select who receives the Survey from these lists (WEF, 2020, p.635). As my aim is to investigate the effects of the style of governance that is most conducive to *business sector innovation*, I operationalize the

components from the eleventh and twelfth pillar, which further makes up the category *innovation ecosystem* in the WEF Global Competitiveness Index[8].

Eleventh pillar: Business sophistication

According to the WEF, there are two intrinsically linked elements that make up the business sophistication; one being *"the quality of a country's overall business networks"*, while the second is *"the quality of individual firms' operation and strategies"* (WEF, 2014, p.6). The WEF argues that the latter is important in regard to when companies and suppliers within specific sectors are interconnected in regard to geographic spacing, efficiency is heightened. In addition, better opportunities are generated in terms of innovation of processes and products, whilst reducing barriers for new firms to enter (WEF, 2014, p.6). In regard to individual firms' advanced operations and strategies, the WEF claims that different aspects such as marketing, production processes and production of unique products, will be part of a spillover effect into the economy and result in a general increase of sophistication and modernised business processes which will affect the business sector throughout the country.

Business dynamism is based on the following components[9]:

- Cost of starting a business.
- Time to start a business.
- Insolvency rate.
- Insolvency regulatory framework.
- Attitudes towards entrepreneurial risk (s).
- Willingness to delegate authority (s).
- Growth of innovative companies (s).
- Companies embracing disruptive ideas (s).

Twelfth pillar: innovation Capability

The WEF separates between two types of innovation: new technological and non-technological knowledge (WEF, 2014, p.2). The former is *"closely related to the know-how, skills, and working conditions embedded in organisations…"* (WEF, 2014, p.2), which are aspects that the eleventh pillar will capture. Therefore, the innovation pillar focuses on

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[8] The WEF innovation index variable functions as a proxy for business sector innovation. For more information on the four categories: World Economic Forum Competitiveness report.

[9] Components marked (s) refers to data obtained from the Executive Business Surveys.

technological aspects, which they argue can have the ability to play a vital part in increasing standards of living. The WEF argues that innovation becomes especially relevant for economies that are closing in on the frontiers of knowledge, who can no longer generate as much value by merely integrating and adapting exogenous technologies (WEF, 2014, p.2).

The information gathered in the twelfth pillar symbolises the stage when countries have reached a point where increasing productivity is not enough and the countries need their firms to design and develop cutting-edge processes and products. This in order to keep a competitive edge, whilst continuously striving to move toward even higher value-added activities (WEF, 2014, p.6,). Moreover, the WEF argues that such a progression needs an environment that facilitates innovative activity, which has the support of both the private and public sector. Thus, it tries to capture whether countries have sufficient investment in R&D, especially when it comes to high-quality scientific research institutions provided by the private sector, which provides necessary knowledge for new technologies. Also, it tries to capture the level of a country's' *"extensive collaboration in research and technological developments between universities and industry; and the protection of intellectual property, in addition to high levels of competition and access to venture capital and financing ..."* (WEF, 2014, p.6).

Innovation capability is based on following components:

- Diversity of workforce (s).
- State of clusters in development (s).
- International co-inventions
- Multi-stakeholder collaboration (s).
- Scientific publications
- Patent applications
- R&D expenditures
- Research institutions prominence index'
- Buyer sophistication.

IMD - World Competitiveness Yearbook (WCY)

The World Competitiveness Yearbook (WCY) [10] has been published by IMD yearly since 1989, and it measures the competitiveness of countries (IMD, 2021, p.3). As such, the WCY provides an analysis and ranking of countries in terms of how competencies to achieve long-term value creation is managed. A long-term trend is highlighted through past editions, which is emphasised in the competitiveness rankings, whereby *"countries on top of the list each have a unique approach to becoming competitive"* (IMD, 2021, p.3). There are 64 four countries covered in the yearbook[11], which has been chosen on the basis of availability of comparable international statistics and local Partner Institutes. The latter provides survey data and is meant to ensure reliability, accuracy and that it is as up-to-date as possible. The rankings are constituted on the 334 competitiveness criteria, stemming from *"comprehensive research using economic literature, international, national and regional sources and feedback from the business community, government agencies and academics"* (IMD, 2021, p.3). These data are continuously revised and stay up-to-date with the latest theories, research, and comparable data. The 334 criteria ultimately make up the overarching themes: economic performance, government efficiency, business efficiency, and infrastructure[12].

The methodology behind WCY that captures the competitiveness of countries has through the past two decades evolved alongside aspects such as the global environment and new research. This has allowed the WCY to stay in pace with structural changes in national environments and the ongoing technological evolution, whilst also ensuring that the gradual change in methodology enables comparability of the yearly results. In doing so, it is possible to highlight the evolution of an economy's performance in all the countries and between them. IMD groups all criteria into sub-factors, which is based on analysis from their own research and leading scholars within the field. Moreover, not all sub-factors include the same number of criteria, as they argue some aspects need more criteria to assess. However, apart from the number of criteria that make up the sub-factors, they have the same weight in terms of the consolidation of results. In other words, Education, which includes more criteria than Prices, weighs the same. This they argue will improve reliability, whilst also aiding the degree of compatibility with results from prior years. Further suggesting that: *"Statistics are sometimes prone to errors or omission, locking the weights of sub-factors has the same function as*

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[10] All the following information on IMDs methodology is obtained from: <u>IMD methodology</u>
[11] V-Dem covers only countries with over 250.000 citizens, therefore only 58 countries from the WCY remained in the analysis.
[12] All the themes and criteria can be downloaded at: <u>List of themes & criteria</u>

building 'fire barriers'; it prevents problems from spreading in a disproportionate way" (IMD, 2021, p.6).

IMD argues that one of the primary strengths of the WCY is how they apply varying data to separately measure quantifiable and qualitative issues. One third of the weight of the overall rankings come from the annual Executive Opinion Survey, whereby the data from the survey questions are considered an individual criterion. Moreover, two thirds of overall rankings comes in the form of the statistical data, which is referred to as the 'hard data'. This data is gathered from private institutions, partner institutions, and international, national and regional institutions (IMD, 2021, p.4).

The data from the Executive Opinion Survey is considered complementary statistics to go along with the hard data, whereby *"... where the hard data show how competitiveness is measured over a specific period of time, the survey data measures competitiveness as it is perceived by market participants'* (IMD, 2021, p.4). IMD suggests that this data will allow them to quantify issues that are difficult to measure such as adaptive attitudes, and corruption. Furthermore, they point to how the data will not suffer from time lag, and therefore be closer to reality (an issue facing hard data, which 'shows the past'). The survey is derived from middle- to upper-level managers in the various economies in the sample and covers the entire economy. In other words, it covers different economic and business sectors within the countries. Moreover, statistical representability is obtained by selecting sample sizes that are proportionate to the GDP breakdown of economic sectors of economies. Both expats and nationals are included in the survey, who are asked to evaluate present and future competitiveness conditions in the environments that they work. The respondents answer questions on a 1 to 6 scale, which is later calculated and converted into a 0 to 10 scale. Ultimately, the rankings are calculated based on the responses from the survey having been transformed into their standard deviation values. The 2021 WCY is based on 6000 survey responses from *"middle and upper-level managers in the economies included in the rankings"* (IMD, 2021, p.8). Moreover, in 2021 they averaged an estimated 95 replies from the 64 different economies that are included in the WCY.

The IMD ranking is built upon an advanced mathematical formula, whereby they begin computing the standardised value of criterions that are available for the different countries, before they rank the economies based on a combination of objective and survey data (IMD, 2021, p.5). Accordingly, creating scores based on index data that is used to compute overall ranking, competitiveness factor rankings and sub-factor rankings. In addition, they also apply more advanced mathematical methods of dealing with missing data, which they argue results

in a *"more accurate assessment of each country's relative position in the final rankings"* (IMD, 2021, p.6)[13].

Note! As previously mentioned, the primary dependent variable in this thesis is the dataset on innovation from the WEF, serving as a proxy for business sector innovation because of the wider coverage. Even though the WEF and IMD have similar methods of obtaining their data, they place emphasis on dissimilar aspects. In addition, the WEF includes quite substantially more countries in their index. Also, I only include one of the four categories that make up the WEF's competitiveness index, namely *Innovation Ecosystem* (business sector innovation). Whilst using the whole competitiveness index from IMD. That being said, there is a high correlation between business sector innovation from the WEF and IMD's more comprehensive index of competitiveness. This correlation of R = 0.80 can be observed graphically in Figure 1 below.
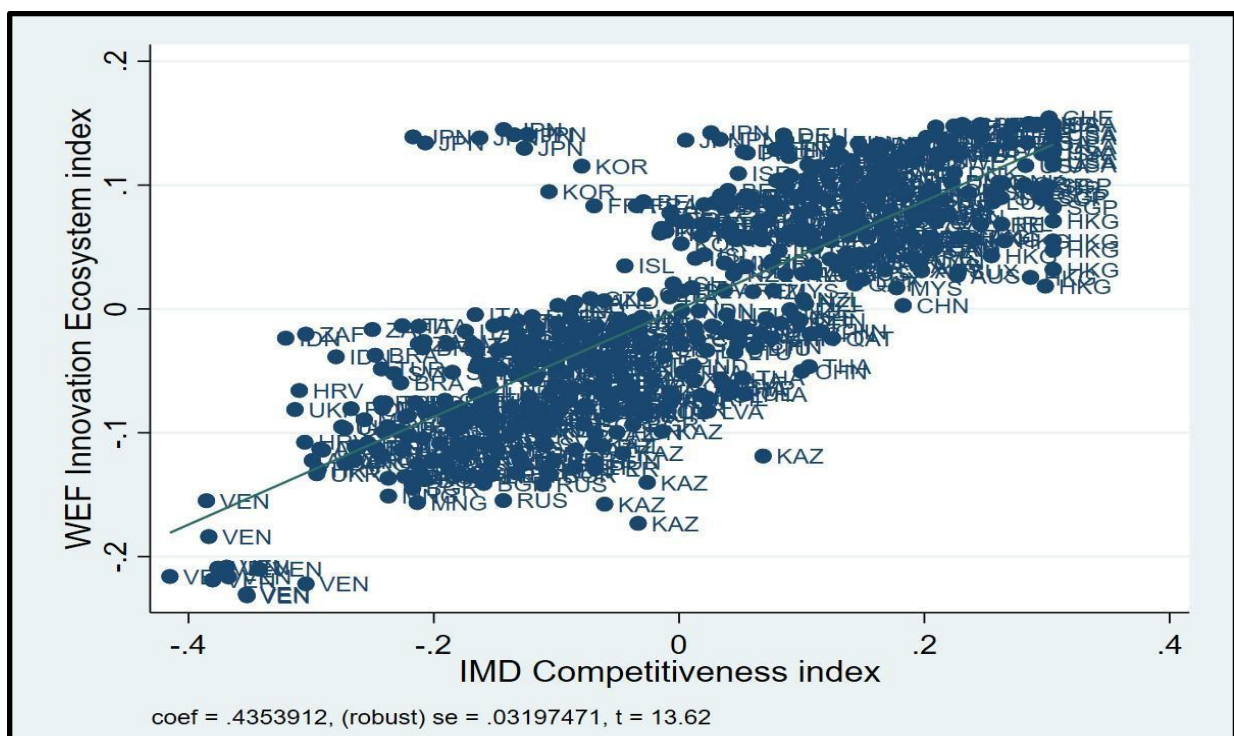

Figure 1: Correlation between WEF's index & IMD's index.

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[13] A detailed explanation of method/formula can be found on page 6-7: IMD methodology

5.3 Independent variables

Varieties of Democracy (V-Dem)

As previously established the aim of this thesis is to examine which style of governance matters most to economic business sector innovation and competitiveness. At V-Dem they have gone through a vast amount of literature on democracy, whereby they find seven key principles that amount to how we as a society understand democracy. Based on these seven key principles the term "rule by the people" is the most representative, and various schools of thought prioritise differently when it comes to which of the seven values they emphasise most (Coppedge et al, 2021, p.4). As such, the independent variables applied are from the Varieties of Democracy (V-Dem) dataset[14], whereby two diverging perspectives on democracy are applied.

The three primary principles that are essential to this thesis are therefore:

- The liberal principle
- The egalitarian principle
- The electoral principle

The electoral principle is presented in the other two varieties of democracy since elections are foundational to any notion of democratic practice.

The variables that will be used in comparison are *the liberal democracy index* (v2x_libdem) and *the egalitarian democracy index (v2x_egaldem).* The component indices that measure liberal and egalitarian properties of democracy (as with the other key principles), are coded so that they capture the uniqueness of *their* principles. However, they do not include *"... the core unifying element of electoral democracy"* (Coppedge et al, 2021, p.6), which further means that the components are mutually exclusive. Moreover, they typically include several sub-components, which I will further detail below.

However, a key feature of both indexes is that they include the (v2x_polyarchy) component, which in essence means *free and fair elections*. This aspect is considered a fundamental measure to all of the other measures of democracy, seeing as without elections regimes would in no sense be a democracy (Coppedge et al, 2021, p.4). The election index has

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[14] Further details concerning the independent variables can be found in the V-Dem dataset codebook: https://www.v-dem.net/static/website/img/refs/codebookv111.pdf

both a significant and intriguing role in this thesis, which I will address further later. First, the liberal democracy index and egalitarian democracy index will be introduced in greater detail.
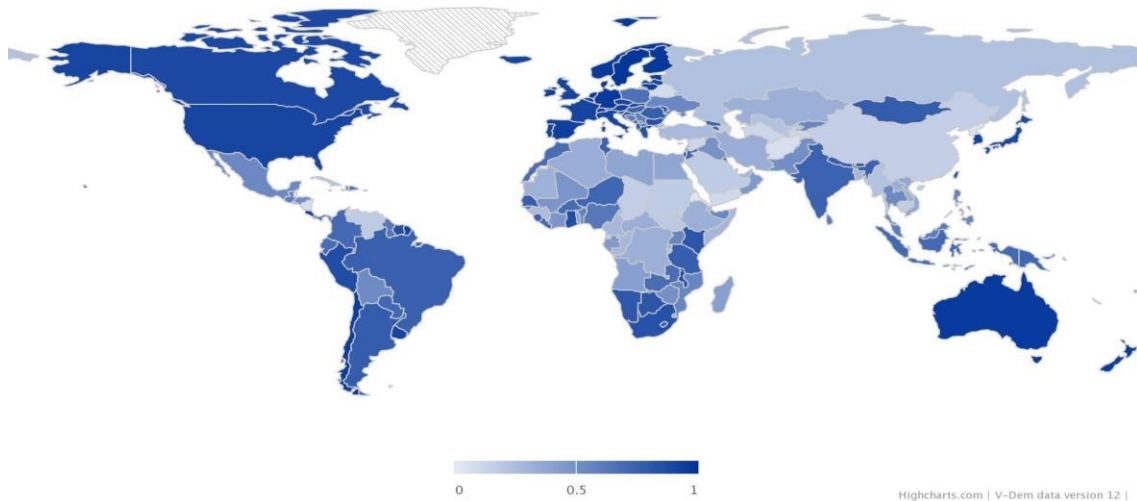
Liberal democracy

The liberal democracy index (v2x_libdem)[15] is based on the question: *to what extent is the ideal of liberal democracy achieved?* The primary aim of this index is to adhere to the level of individual rights, whereby there is a focus on capturing liberal values. The principles of an individuals' freedom and liberties are at the centre, adhering to what degree an individual considers itself free from oppression, both in relation to the state and the majority of people. As such, the level of democracy in this index is measured in quality based on the extent of government limitation, whether laws are correctly enforced, and the extent of checks and balances. Further, the liberal democracy index is an aggregation of liberal component index (v2x_liberal) and the aforementioned (v2x_polyarchy) (Coppedge et al, 2021, p.44).

The liberal component index (v2x_liberal) is based on the question: *to what extent is the liberal principle of democracy achieved?* The liberal principle pertains to the protection of rights that individuals and minorities have against tyranny of state and majority. Whereby the component is based on an aggregation of three other indexes, namely: (v2xcl_rol), (v2x_jucon) and (vx2xlg_legcon). These three encompass transparency of laws, the extent that the laws are enforced, level of administrative impartiality, and more classical liberal rights such as access to property rights and justice. Again, the liberal model judges democracy based more on the *limits* that are placed on government, and views this more as a "negative" political power (Coppedge et al, 2015). All in all, these three components can be understood as pertaining to aspects that are historically related to nations such as the United States, United Kingdom, and to a varying degree the Anglo-Saxon countries in general. Therefore, these liberal governance values should also capture aspects relating to greater free-market norms and values.

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[15] Project manager overseeing index: Jan Teorell

Liberal Component Index (2021)

Highcharts.com | V–Dem data version 12 |

Figure 2: Map of liberal component index dispersion: score from 0 = minimum to 1 = maximum.[16]

Egalitarian democracy

The egalitarian democracy index (v2x_egaldem)[17] is derived from the question: *to what extent is the ideal of egalitarian democracy achieved?* The aim of this index is to capture to what extent material and immaterial inequalities affect the citizens ability to make use of the rights and liberties they have been ascribed, which in some cases reduces certain citizens within societies from participating equally. As such, egalitarian democracy is realized when the more rights and freedoms are equal for every member within a certain society, regardless of the social group they belong to. In addition, this also pertains to material resources and services, political influence and participation. Thus, the index can be said to measure to what extent individuals have the *capability to act* on their rights. Further, the index is based on the aggregation of the egalitarian component index (v2x_egal) and (v2x_polyarchy) (Coppedge et al, 2021, p.45).

The egalitarian component index (v2x_egal) derives from the question: *to what extent is the egalitarian principle achieved?* The egalitarian principle refers to the material and immaterial inequalities which may inhibit individuals from exercising formal rights and liberties, which may hinder the participation abilities of citizens from all social groups. The

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[16] The map illustrates how low/high a country scores in terms of the given component, whereby the darker shade of blue it shows the higher (positively) scores. Also, the country maps shown in Figure 2, Figure 3, and Figure 4, are provided by V-Dem - obtained from: https://www.v-dem.net/map.

[17] Project managers overseeing index: Rachel Sigman and Staffan Lindberg.

index is created by aggregating the indexes (v2xeg_eqprotec), (2xeg_eqaccess), and (v2xeg_eqdr).

The principal understanding is that the extent of achieved egalitarian democracy is based on three aspects; whether rights and freedom are equally protected regardless of which social group in question, whether resources are distributed across all social groups equally, and access to power is distributed equally regardless of gender, socioeconomic class and social group. Moreover, the index's measures the extent to which the state is an unbiased actor when handing out grants and protecting rights and freedoms. *In addition to,* the level it balances interfering in the ability of groups to participate, whilst taking action to ensure that certain social groups' rights and freedoms do not threaten other groups (Coppedge et al, 2021, p.55). Moreover, the index's measure *de facto* ability all citizens have in terms of participating in the political sphere, rather than simply the *de jure*. In other words, it pertains to the degree *all* citizens have concerning the ability to hold political positions of influence, impact agenda issues and policy making. Last but not least, the index's measure distribution of both tangible and intangible resources. This component is important in relation to the ability citizens have to exercise their rights and freedoms, which can be said to depend on the level that goods and services (e.g. consumable provisions, education, healthcare) are equally distributed to all social groups (Coppedge et al, 2021, p.55).
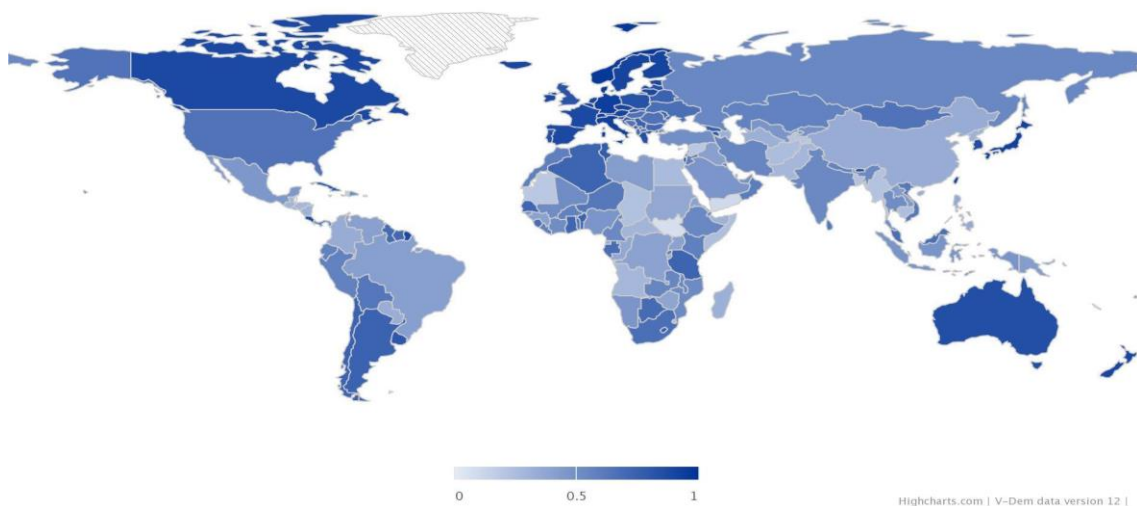

Figure 3: Map of egalitarian component index dispersion: score from 0 = minimum to 1 = maximum

Electoral Democracy (Polyarchy)

As earlier stated, both independent variables contain the electoral democracy index (v2x_polyarchy)[18]. The index is based on the question: *to what extent is the ideal of electoral democracy in its fullest sense achieved?* Capturing how responsive rulers of societies are to their citizens. This is achieved when there are high levels of electoral competition stemming from extended suffrage. In addition, whether factions within society can operate freely, and the elections closer to being non-fraudulent and clean. It also entails aspects including freedom of expression, the extent in which the media has the propensity to function independently and present views that challenge the ruling institutions and actors (Coppedge et al, 2021, p.43).

The index is assembled using a unique aggregation formula, compromising between the two most known aggregation formulas in the literature, which they argue allows for a "... *(partial) "compensation" in one sub-component for lack of polyarchy in the others, but also punishing countries not strong in one sub-component according to the "weakest link" argument"* (Coppedge et al, 2021, p.5). Accordingly, this allows the index to have higher validity in relation to fitting Roald Dahl's theoretical framework on *polyarchy* (Teorell et al, 2019). The indices that make up the index are: freedom of association, clean elections, freedom of expression and alternative source of information, elected officials, suffrage.
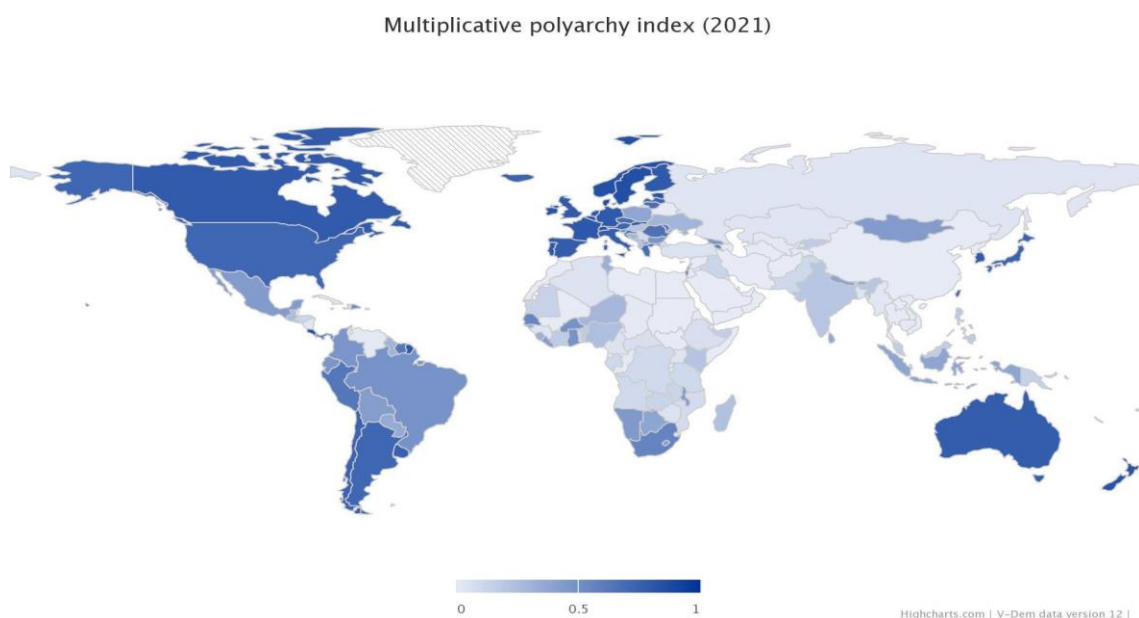
Figure 4: Map of polyarchy component index dispersion: score from 0 = minimum to 1 = maximum

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[18] Project manager overseeing index: Jan Teorell

V-Dem utilises several approaches as part of their method of collecting data, whereby they aim to *"... achieve transparency, precision, and realistic estimates of uncertainty with respect to each (evaluative and index) data point* (Coppedge et al, 2021, p.10). These approaches include making sure that historical context is prioritised, as it is one of the primary concerns that a rigorous analysis of history is included for better understanding of the present and the future. This is not only in terms of the data available of the past, but also considering that some of the indicators that they capture now, were not considered relevant in the past (Coppedge et al, 2021, p.10). Moreover, their data is primarily factual in nature, however, interpreting historical data requires that some coder judgement is included. The research assistants that carry out the collection are supervised by both principal investigators and project managers. In addition, they receive input from V-Dem's Country Coordinators. There is further an extensive use of country experts, regional managers, historical, and political science experts, who all contribute in creating the data that is obtained from surveys, and second hand data (Coppedge et al, 2021, p.10).

5.4 Control variables

World Bank

In order to ensure that the results from the regression can be considered robust and not spurious, three control variables are used in the models. The World Bank provides reliable data that have variables which are relevant in terms of accounting for different aspects that might explain the results from the regression. The three control variables included are:

- Share of the urban population living in urban centres.
- Natural resource rents as a share of GDP
- Income per capita (measured as GDP per capita in constant 2010 US$)

Share of urban population is included on the premise that innovation tends to be more prevalent in bigger cities (Florida, 2017: OECD, 2019) and countries that are more urban are also likely to be more democratic. The second control variable, *natural resources (measured as a share of GDP)* is included because countries dependent on natural resources are likely to be poorly governed and lack the incentive to innovate, often referred to as the natural resource curse (Frankel, 2010). This theoretical proposition suggests that it is not uncommon for countries, who possess large quantities of one or more types of resources, to become overly

dependent on those resources. As such, looking to enhance the economy through other economic investments (e.g. human capital) becomes less important and frequent, as the governments often have no real incentive to do so. The *income per capita (measured in GDP)* variable is applied to account for many other omitted aspects that are usually captured by the level of per capita income, such as the quality of human and physical infrastructure etc. These controls relate closely to the type of governance structures and dependent variables. Thus, any effects of the democracy measures used are independent of these control variables.

It is worth noting that all the three datasets and their variables have been obtained from four distinct institutions, namely V-Dem, WEF, IMD and World Bank. Even though all the organisations are ultimately uniform in their aim of enhancing prosperity across the globe, the primary datasets (WEF/IMD and V-Dem), approach this goal from dissimilar perspectives. In other words, WEF/IMD emphasise economic aspects, whilst V-Dem has a democratic institutional approach. As such, the results can be considered reliable not only based on the fact that the datasets are acquired from highly novel and award-winning organisations, but also based on the fact that the organisations are in essence fully autonomous and independent of each other. Further, WEF *innovation index* measures data from 2007 to 2016, whilst the IMD *competitiveness* has data from 1997 to 2020.

Table 1: Summary of the descriptive statistics

Descriptive Statistics									
Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
WEF Innovation	1513	0.997	0.099	0.748	1.23	0.808	1.217	0.449	2.649
IMD Competitiveness	1263	0.673	0.17	0.183	1	0.275	1	-0.148	2.442
Liberal Democracy	9834	0.329	0.275	0.005	0.892	0.015	0.872	0.652	1.968
Egalitarian Democracy	9919	0.328	0.246	0.012	0.876	0.03	0.855	0.79	2.273
Liberal Component	9857	0.529	0.291	0.004	0.987	0.033	0.978	-0.009	1.646
Egalitarian Component	9941	0.563	0.238	0.031	0.973	0.069	0.965	-0.161	2.033
Polyarchy	9919	0.419	0.287	0.007	0.919	0.015	0.905	0.364	1.667
GDP per capita (log)	9505	8.339	1.495	4.823	12.119	5.533	11.43	0.128	2.161
Urb. pop. share (log)	13106	3.767	0.655	0.731	4.605	1.689	4.605	-1.105	4.225
Nat. res. rents /per GDP (log)	8775	1.292	1.166	0	4.483	0	3.988	0.57	2.151

6.0 Results

This section contains four tables, wherein two of them include the WEF innovation index as the dependent variable, whilst the other two include the IMD competitiveness index. In addition, two of the tables include the independent variables *with* democracy (polyarchy) incorporated, whilst in the other two tables the polyarchy component is *separated* from the independent variables, functioning as its own variable. The four columns are divided into either egalitarian or liberal, in addition to showing whether I measured the effects on the *'world',* which is all the countries that WEF (145) and IMD (58) include in their datasets respectively. Following analogous research on democracies, I also measure the effects on old industrial democracies[19] labelled in the tables as '*developed'* (de Soysa & Roeland, 2021). Finally, the section contains a summary of the results, however, primarily focusing on the relevant variables and results. Put simply, the non-significant results and control variables are hardly addressed.

Table 2: Regression effects of democracy on the business sector innovation

Columns: Dependent var = WEF innovation index[20]	(Egalitarian) World	(Egalitarian) Developed	(Liberal) World	(Liberal) Developed
Egalitarian Democracy (V-Dem)	-0.08***	0.17**		
	(0.02)	(0.06)		
Liberal Democracy (V-Dem)			-0.07***	0.26***
			(0.01)	(0.07)
GDP per capita (Log)	0.03***	0.02	0.03***	0.03
	(0.01)	(0.01)	(0.01)	(0.01)
Natural resource rents / GDP (Log)	0.01***	0.01	0.01***	0.01*
	(0.00)	(0.01)	(0.00)	(0.01)
Urban population share (Log)	0.03	0.27***	0.02	0.28***
	(0.02)	(0.04)	(0.02)	(0.04)
Constant	0.62***	0.00	0.61***	0.00
	(0.08)	(0.00)	(0.08)	(0.00)
Observations	1,472	253	1,472	253
Number of groups (countries)	145	23	145	23

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Year fixed effects estimated
All var. except dep. time-lagged 1 year

In all the columns in **Table 2**, I have only utilised estimated fixed effects, seeing that Hausmann test suggested that fixed effects were consistent and unbiased. Therefore, in column

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[19] The old industrial democracies include Western Europe, Oceania, North America and Japan. Also classified as "high income countries".
[20] Again, WEF innovation index is proxy for business sector innovation

one, I estimated the fixed effects of egalitarian democracy on business sector innovation for all countries (145). As the table shows, the effect is negatively significant (-.08). Statistical significance is greater than $p < 0.001$. Substantively, increasing egalitarian democracy by a *standard deviation*, decreases business sector innovation by roughly 11% of a standard deviation of the business sector innovation. In column 2, only the 23 *developed* countries are tested, egalitarian democracy yields a positive and statistically significant result (.17). Substantively, increasing egalitarian democracy by a standard deviation, increases business sector innovation by 21% of a standard deviation of business sector innovation. These results suggest that globally, egalitarian democracy seems to reduce innovation, but among the most developed countries, it increases it, suggesting that human capital and other factors driving equality is important at very high levels of development.

Moving further to the third column, we see that liberal democracy's effect on business sector innovation is negative and statistically significant (-.07) for all countries. This means that by increasing liberal democracy by a standard deviation, it decreases business sector innovation by roughly 1% of a standard deviation of business sector innovation. In the fourth column, we see that liberal democracy's effect on business sector innovation is positively significant (.26) for the developed countries only. In other words, by increasing liberal democracy by a standard deviation, it will increase business sector innovation by 3% of a standard deviation of business sector innovation. These results generally follow the same effects as for egalitarian democracy.

Table 3: Regression effects of democracy on the competitiveness

Dependent var = IMD Competitiveness	(Egalitarian) World	(Egalitarian) Developed	(Liberal) World	(Liberal) Developed
Egalitarian Democracy (V-Dem)	-0.00	0.16		
	(0.06)	(0.24)		
Liberal Democracy (V-Dem)			-0.03	0.39
			(0.05)	(0.30)
GDP per capita (Log)	0.17***	0.08**	0.16***	0.08**
	(0.03)	(0.03)	(0.03)	(0.03)
Natural resource rents / GDP (Log)	0.01	0.03*	0.01	0.03*
	(0.01)	(0.02)	(0.01)	(0.02)
Urban population share (Log)	-0.01	-0.20	-0.01	-0.20
	(0.04)	(0.16)	(0.03)	(0.16)
Constant	0.00	0.61	0.00	0.41
	(0.00)	(0.80)	(0.00)	(0.79)
Observations	1,214	545	1,214	545
Number of groups (countries)	58	23	58	23
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 Year fixed effects estimated All var. except dep. time-lagged 1 year				

Table 3 did not yield any significant results for the two styles of democracy. Only the control variable (GDP per capita) is statistically significant. This could be expected considering GDP captures many aspects that are central for innovation such as education, and physical infrastructure. This was the case when estimating both fixed effects and random effects, therefore the results showed no pronounced findings for the focal variables. However, worthy of consideration is how both egalitarian democracy and liberal democracy show effects on business sector innovation (Table 2), but not the IMD competitiveness index. In addition to the contrasting results in Table 4, where the polyarchy component is separated from the independent variables. These aspects are interesting considering the high level of correlation seen earlier in Figure 1.

Table 4: Regression effects of style of governance on the business sector innovation

Dependent var = WEF innovation index	(Egalitarian) World	(Egalitarian) Developed	(Liberal) World	(Liberal) Developed
Egalitarian component (V-Dem)	0.06	-0.08		
	(0.03)	(0.07)		
Liberal component (V-Dem)			-0.03	0.09
			(0.02)	(0.10)
GDP per capita (Log)	0.04***	0.03*	0.04***	0.03*
	(0.01)	(0.02)	(0.01)	(0.01)
Natural resource rents /GDP (Log)	0.01***	0.01*	0.01***	0.01*
	(0.00)	(0.01)	(0.00)	(0.01)
Urban population share (Log)	0.03	0.27***	0.02	0.27***
	(0.02)	(0.04)	(0.02)	(0.04)
Polyarchy component (V-Dem)	-0.08***	0.32***	-0.05**	0.29***
	(0.02)	(0.08)	(0.02)	(0.08)
Constant	0.57***	0.00	0.64***	0.00
	(0.08)	(0.00)	(0.08)	(0.00)
Observations	1,472	253	1,472	253
Number of groups (countries)	145	23	145	23
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				
Year fixed effects estimated				
All var.except dep. time-lagged 1 year				

In **Table 4**, only the components of the egalitarian and liberal governance styles are utilized, holding constant polyarchy which is the basic level of democracy. All the columns in Table 4 are estimated using fixed effects as suggested by the Hausman test. Resembling Table 3, neither the egalitarian component nor the liberal component yielded any significant results. However, this was not the case for the polyarchy component (which has been separated from the independent variables) which showed significant results in all the columns. In column one and two, the polyarchy component was included in the regression along with the *egalitarian component*. The result was negatively significant (-.08) for the world, and positively significant (.32) for the developed countries. Moreover, this means that by increasing polyarchy by a standard deviation, it *decreases* business sector innovation for the world by 7% of a standard deviation of business sector innovation, whilst for the developed countries it *increases* business sector innovation by 29% of a standard deviation of business sector innovation.

In the third and fourth column, the polyarchy component was included in the regression along with the *liberal component*. It showed a negative significant (-.05) result for the world, and a positive significant (.29) result for the developed countries. As such, by increasing polyarchy by a standard deviation, it *decreases* business sector innovation for the world by 4% of a standard deviation of business sector innovation, whilst for the developed countries it

increases business sector innovation by 27% of a standard deviation of business sector innovation. Showing again the importance of higher levels of democracy only among the richest countries.

Table 5: Regression effects of style of governance on the competitiveness

Dependent var = IMD Competitiveness	(Egalitarian) World	(Egalitarian) Developed	(Liberal) World	(Liberal) Developed
Egalitarian component (V-Dem)	0.39***	-0.01		
	(0.09)	(0.14)		
Liberal component (V-Dem)			-0.01	1.26**
			(0.08)	(0.46)
GDP per capita (Log)	0.17***	0.08***	0.16***	0.07**
	(0.03)	(0.03)	(0.03)	(0.03)
Natural resource rents / GDP (Log)	0.01	0.03*	0.01	0.03*
	(0.01)	(0.02)	(0.01)	(0.02)
Urban population share (Log)	-0.03	-0.20	-0.01	-0.15
	(0.04)	(0.16)	(0.03)	(0.15)
Polyarchy component (V-Dem)	-0.14***	0.26	-0.03	0.05
	(0.04)	(0.40)	(0.08)	(0.36)
Constant	0.00	0.51	0.00	-0.58
	(0.00)	(0.89)	(0.00)	(0.80)
Observations	1,214	545	1,214	545
Number of groups (countries)	58	23	58	23
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				
Year fixed effects estimated				
All var. except dep. time-lagged 1 year				

In **Table 5**, all the columns are estimated using fixed effects, as this was what was recommended by the Hausman test. As such, in column one, the egalitarian components' effect on competitiveness is positively significant (.39) for all 58 countries. Which means that by increasing the egalitarian component by a standard deviation, it increases the competitiveness by 38% of a standard deviation of competitiveness. Moving further down the same column, we see that the polyarchy components' effect on competitiveness is negatively significant at (-.14). This means that by increasing polyarchy by a standard deviation, the competitiveness decreases by 2% of a standard deviation of competitiveness. The results are clearly different when the IMD competitiveness index is used relative to the WEF's.

As both the second and third column yields non-significant results for the egalitarian-, liberal- and the polyarchy component, they will not be further addressed. In the fourth column, it shows that the liberal component has a positive significant (1.26) effect on competitiveness for the developed countries. Further, this means that by increasing the liberal component by a

standard deviation, it increases the competitiveness by 13% of a standard deviation of competitiveness.

These mixed results between the two indexes might very well be because of the different sample sizes. Since the IMD's index is only for 58 countries at the richer end of the scale, the results thus mirror to some extent the results obtained for only the richest countries using the WEF index. Thus, the results taken together suggest an important positive effect of democracy for innovation the richer a country gets, possibly due to the importance of human capital for economic growth through technological change.

6.1 Summary of the results

My main focus is the democracy styles and the components. Therefore, seeing as I have already extensively detailed all the results from the tables, I will only address the more pronounced findings here[21].

Beginning with **Table 2**, egalitarian democracy has a substantially positive effect on business sector innovation for high income countries. Whereby increasing egalitarian democracy by a standard deviation, it increases business sector innovation 21% of a standard deviation of business sector innovation. When measuring all countries (world) it has a negative effect, whereby increasing egalitarian democracy by a standard deviation it decreases business sector innovation by 11% of a standard deviation of business sector. We also found that by increasing liberal democracy by a standard deviation when measuring high income countries, it will increase business sector innovation by 3% of a standard deviation of business sector innovation.

Table 4 showed no significant results for the primary independent variables (egalitarian- and liberal components), however, increasing the polyarchy component by a standard deviation had a substantive positive effect on the developed countries 29% and 27% of a standard deviation of business sector innovation. Whilst when measuring all the countries, increasing the polyarchy component by a standard deviation decreased business sector innovation 7% and 4% of a standard deviation of business sector innovation. Put simply, the

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[21] Since there are many significant results, and due to limitational reasons, I use 10% as a rule of thumb. Whereby 10% may be considered a substantively impactful effect. That being said, findings whereby an unexpected positive/negative coefficient occurs will be addressed regardless of the 10% rule, as this may likely be noteworthy.

democracy had a negative impact on developing countries, and positive for developing countries.

Table 5 showed that increasing the liberal component by a standard deviation it increased the competitiveness in the developed countries 13% of a standard deviation of competitiveness. Moreover, when measuring all countries, by increasing the egalitarian component by a standard deviation, it increased competitiveness 38% of a standard deviation of competitiveness.

The intriguing findings were that in both **Table 2** and **Table 4**, we find that democracy component has a substantial positive effect on business sector innovation for high income countries, whilst it shows a negative effect when measuring all countries (world). Whereby, elections increase in importance in terms of economic growth, the more developed a country gets. Worth adding is that some diverging results between the WEF innovation index and IMD competitiveness were expected. One the one hand, there is a large disparity in sample size. On the other hand, particularly pertaining to the measurement of developed countries, not only are the datasets aggregated differently, but I only utilised the WEF innovation index (17 indicators) from the IMD global competitiveness index (334).

7.0 Discussion

Considering the findings presented in the previous section, there are several inferences that can be made. In this section, I will show how previous theory may explain some of the results. I will also show how some theories include credible actualities, though they may perhaps be founded on misconceived presumptions. As such, this section will address the two styles of governance in regard to innovation and economic growth, beginning with a discussion on the role of democracy in high income countries and developing countries. Thereafter moving the discussion to how inequality may in fact have particularly adverse effects on democracy, which further effects innovation. Subsequently moving to how inequality may have adverse effects on the individuals in society, further hampering innovation. Eventually, the discussion continues on to how specific aspects of egalitarian democracy may be particularly conducive to innovation, opposed to the liberal style of governance. Reflecting especially on how it relates to the aspects of inequality, incentives, motivations, and opportunities.

Democracy – The Case of Developed versus Developing

As mentioned in the earlier parts of the thesis, despite some growing reservations in terms of its merit and benefits, the ideal style of governance is for many reasons still considered to be democracy. Arguably, this has to do with the presumed rights that democracies provide to its citizens such as protecting private property, ensuring healthcare and education, and providing fundamental public goods. However, one may argue that the most essential aspect that follows democratic governance, has to do with the free and fair elections that enables the citizens to hold rulers accountable. Essentially ensuring 'rule by the people, for the people'.

Based on the results from the analysis, concerning to what degree elections are important in terms of economic growth, the answer may depend on the level of the countries development. Simply put, the results show that elections may in fact be *more important for high income countries* in terms of business sector innovation and competitiveness, and not necessarily as important for the countries still in a developing phase. For instance, polyarchy showed a negative impact when measuring business sector innovation in all countries. Arguably, this may be explained by the contentions of Chauvet and Collier (2009), who claim that democracy primarily has a positive effect on economic growth when there are free and fair elections, whereby the citizens can hold the elected officials accountable. In more developed democracies, citizens are to a larger extent capable of holding incumbents more accountable,

thereby making it more important for leaders to provide policies that enhances economic growth that at large benefits the citizens. However, in countries where elections are generally fraudulent, strong autocratic governance can seem more beneficial.

According to Acemoglu and Robinson (2012b) economic growth is fully possible under autocratic rule. They argue that economic institutions may have somewhat important inclusive aspects that can coexist with political institutions that are extractive[22]. The inclusive aspects are usually based on that the elite in power seeing the economic growth and revenue stemming from some inclusiveness as positive, usually premised on the elite being the main beneficiaries (Acemoglu & Robinson, 2012a, p.430). An assumption that finds support in Olson's (1993) claim that the interest of the autocrat ultimately determines social progress, which is further rooted in the degree social order and other public goods that are provided within their society. This may perhaps explain the result showing that egalitarian component has a positive effect on competitiveness when measuring all 58 countries. In other words, inclusive institutions that provide good education, healthcare, and equally provide resources to broader segments of society is good for economic growth. This is arguably because it means that there is a higher level of human capital that may contribute, in addition the governments may plan more long-term, as long as the incumbents are able to remain in power. Acemoglu and Robinson (2012b) claim that autocrats are ultimately only limited by the fear of creative destruction, which could change the power dynamics within society. Therefore, providing necessary factor for increasing human capital is favourable, as long as it is controlled by the autocrats.

Nevertheless, Acemoglu and Robinson (2012b) suggest that the authoritarian countries who have seen an immense increase in economic growth in recent decades under these conditions, such as China (Fukuyama, 2016, p.390) and Singapore (Santhi & Saravanakumar, 2020), ultimately may stagnate due to the lack of important democratic principles. They argue that the inclusive economic institutions may only last in the long run if they are eventually supported by inclusive political institutions. In other words, the immense economic growth seen in China and Singapore is arguably not sustainable in the long run. Further, Acemoglu & Robinson (2012b) emphasise that their use of inclusive political institutions does not pertain to the *electoral* aspect democracy. However, the results from the analysis may in fact challenge this assumption of inclusive institutions. This premised on that analysis showing that polyarchy (and egalitarian democracy), has a substantial positive impact on business sector innovation

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[22] These assertions obtained from the authors' *why nation fail blog*. As such, there is no page number to reference to. The arguments are readily available at: http://whynationsfail.com/blog/2012/

for high income countries. Therefore, even though we cannot infer that their continued long-term growth will eventually cease based on these results, it is plausible that they may arguably not see the same level of economic growth as they would by including more egalitarian democratic principles. Put in another way, the findings from the regression suggests that even though the autocratic countries are seeing immense growth, they may never reach optimal level of economic growth if they do not adopt institutions, particularly free and fair elections.

Democracy – The Issue of Inequality in Politics in High Income Countries

As previously mentioned, the analysis showed that democracy has a positive effect on business sector innovation for high income countries. Not only when measuring the polyarchy component itself, but liberal- and egalitarian democracy both had a positive effect on business sector innovation. However, egalitarian democracy had a significantly larger effect on business sector innovation than liberal democracy. A possible explanation may be that large disparities in economic resources often translates into political disparities. Whereby in societies with an extensive inequality gap, governments tend to become more responsive to those who hold larger quantities of economic resources within the society, whilst the interests of the majority of citizens are less adhered to (Stiglitz, 2012; Olson, 2013, p.574). Moreover, if affluence can be used to influence policymakers and government officials through extensive lobbying, one of the areas it can have a particular harmful impact in terms of innovation is rent seeking. Whereby high lobbying intensity is shown to have a negative impact on innovation, further relating to an increase in inequality (Aghion et al, 2019).

Rent seeking may particularly hamper innovation through less actors being capable of entering the playing field, thus preventing the process of creative destruction (Stiglitz, 2015, p.5). This is premised on the idea that new economic actors move out the old ones by bringing with them ideas, whereby the old actor's chance for survival is predicated on their willingness and capability to adapt (Holcombe, 2021, p.2; Barth et al, 2015, p.13). Therefore, this is arguably harmful seeing as the ability for new entrants to successfully innovate is found to be important for upward social mobility (Aghion et al, 2019). The emphasis on policies protecting intellectual property rights, which contributes to rent seeking, may also hamper the pace of innovation as it reduces the size of the knowledge pool that others can draw upon (Stiglitz, p.5, 2015). In addition, making opportunities scarcer for others because of costs to access, subsequently contributing to maintain or even increasing inequality by impeding social mobility.

Moreover, the issue of rent seeking applies particularly to situations where larger companies have accumulated numerous patents or so-called 'patent thickets', whereby they hold a certain monopoly on a patent portfolio (Wagner, 2015). The property protection laws of patent thickets may have adverse effects for several reasons, whereby it may lead to competing companies having to navigate through a vast number of patents or use high expenditures on licences. Or, in the worst case, they are not able to join the market, as many of the largest companies deal in cross-licensing deals, whereby it is expected that all participating companies 'bring something to the table' (Wagner, 2015). Stiglitz (2015, p.6) believes that this is a culture that the liberal style of governance may produce, whereby the emphasis on low levels of government restriction may lead to unproductive forms of innovation occurring on the basis of firms primarily pursuing an increase in their market power and ensuring exploitation of other firms' abilities.

Further, it is argued that liberal style of governance may also be perceived as producing a culture that glorifies litigation at the expense of operation (Stiglitz, 2015, p.6). This suggestively relates to a significant aspect of liberal style of governance, namely the American-style of financial capitalism. Claiming that short-term gains and the pursuit of disproportionately large rewards is becoming increasingly entrenched. This contention finds support in the dramatic increase of patent litigations in the last decades, whereby studies have shown that it not only can have a negative effect on venture capital investment (Kiebzak et al, 2016), but there are also issues relating to ill-defined rights surrounding certain patents (Bessen, J.E. & Meurer, p.80, 2006). Further, studies show that short-termism has increased in the United States public sector (Sampson & Shi, 2020), and generally in the United States in the past few decades (Phelps, 2020, p.108). Increasingly, intensified shareholder pressure stifles innovation, seeing as there is less emphasis on long-term value creation (Keum, 2021).

As such, egalitarian democracy arguably has a more positive effect on business sector innovation than liberal democracy seeing as it emphasises reducing the inequality of resources between economic actors, rather than emphasising property rights. The inequality of resources arguably amounts to inequality of political power that stems from extensive lobbying, further leading to firms being able to enhance property rights laws, thereby excluding new actors, and continuing extensive rent seeking. This arguably contributes to a culture that views short-term gains from rents-seeking as more attractive than long term investments in new innovations.

Democracy – The Issue of Inequality and The Role of the State

Increased lobbying and the ensuing rent seeking may not be the only conceivable explanation for why egalitarian democracy is more conducive to business sector innovation than liberal democracy. It may also be explained as a policy related issue, arguably caused by the firmly rooted narrative emphasising economic incentives as the key driver of innovation (Stiglitz, 2015, p.5). Further, a misguided view of the important role played by the government may lead to policies that results in governments seeing a reduction in their pool of resources, rather than focusing on policies that are effective in terms of reducing inequality.

Since the 1980's there has been an immense increase in the inequality gap in liberal countries such as the United States and the United Kingdom (Piketty, 2020, p.524). At the same time, there is a growing tendency for some of the larger global corporations to find ways to avoid contributing to the public pool of resources through tax avoidance, re-allocation of production to other countries or lobbying (Mazzucato, 2013,174-175), whereby policies simultaneously favour providing huge subsidies (Piketty, 2020, p.28). For instance, educational disparities have been well documented in more liberal countries such as the United States and the United Kingdom (Piketty, 2020; Lindberg, 2019), whereby wealth and private financing is becoming increasingly essential in terms of acquiring quality higher education. Thus, for those who have parents with limited income, access to quality education is in large parts circumscribed. This is trend is unfavourable as it has long been emphasised the important link between investment in human capital and economic growth (Schultz, 1961: Barro, 2001: Piketty, 2020, p.543).

Despite these issues increasingly effecting broader segments of society, there is a growing tendency to sacralise individual entrepreneurs and their efforts, viewing their enrichments as justified in providing society with new and essential innovations (Piketty, p.713-714, 2020). Arguably, this is rooted in the misconception of the role of the state versus the role of the private sector in terms of innovation and economic growth, and the myth of an ineffective state following the individualism that is firmly rooted in the liberal style of governance. As Mazzucato (2013) highlights, much of the technological advances made by some of the largest private corporations have been rooted in basic and applied research provided by the state and public funding. The state often invests in physical and human infrastructure that individual employees and business enterprises are not able to fund, both in terms of high levels of fixed costs that investment in innovation requires and because of the level of uncertainty that these investments imply (p.185). Therefore, the misconception may

have adverse effects on innovation as there is a lack of remuneration that the government receives from large companies through taxes, despite their essential contribution to their success. Remunerations that is essential in terms of the return of investment for the society, whereby taxes are essential for funding public goods, such as education and health.

One of the reasons why the Scandinavian countries do better in this respect is most likely explained by institutional mechanisms that are specifically aimed at reducing inequality. Some is inevitably explained by the tax laws (Stiglitz, 2015, p.6), which contributes to the wide-ranging welfare state ensuring that the disadvantaged segments of society that are often especially affected by creative destruction are provided social security and a safety net. Another key feature is collective bargaining, argued by Barth et al (2015), whereby industrial relation and union involvement[23] in Scandinavia accelerates the speed of the creative destruction process, which further compresses wage structures seeing as low productivity jobs are destroyed and workers are allocated to more productive jobs[24] (p.21). At the same time, there is redistribution through the welfare state occurs alongside the compression of wages induced by labour market institutions and structural change (p.22).

As we see, there are several factors that come into play in terms of explaining why more egalitarian style of governance is more conducive to business sector innovation. Whereby the aspects of inequality, incentives, and the role of the state, seemingly provides good explanations. In the countries with a liberal style of governance, policies aim more at providing monetary incentives for the business sector innovation, which seemingly perpetuates the rise in inequality, as there are insufficient quantities of resources allocated towards reducing inequality. For instance, combining the issue of short-termism, along with the lack of taxes being obtained by the state, there becomes insufficient resources that can be invested in human capital and R&D (long-term investment). Countries with a more egalitarian style of governance attain to these issues when they aim more specifically at reducing inequality. This in part because of the governments' active role as part of the deliberative and coordination features such as collective bargaining, may arguably be a key contribution to conditions for innovation

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[23] The authors especially stress the importance of the two-tier bargaining structure, whereby wage bargaining occurs both at a central and local level. In other words, the wage differentials between workers across firms and industries with similar characteristics are further mitigated, reducing wage inequality

[24] Barth et al (2015) claim that capitalists are given stronger incentives to invest and modernise under coordinated wage bargaining, which leads to the creation of new jobs through new plants being built, whilst there is a closure of old ones. The new entrants contribute with new techniques, whilst the older firms are left behind, which further induces an entry and exit of firms altering the mix of actors, whilst also increasing the average wage productivity (p.13).

efforts, whilst also impeding the increase of inequality. In addition to emphasising providing quality public goods to broader segments of society, including the long-term investments in terms of education and healthcare (human capital).

A Dynamic Economy – De Jure or De Facto Opportunities?

Furthermore, as we saw earlier, Phelps' (2020) theory on a dynamic economy particularly contents with Acemoglu et al's (2012b) claim that material incentives being a key driver for innovation efforts. Essentially arguing that internal rewards are more essential than external rewards, as he believes: *"The most valuable rewards are non-material. Workers are engaged and challenged. Careers become voyages of creation and discovery. Even for ordinary people, working life can be hugely meaningful."* (Phelps, 2015, p.4). He further claims that the emergence of modern life and why it was valued is rooted in the new look in life: *"...the new attitudes – that permeated Britain and America: going one's own way, seizing one's opportunities, ... and ... taking control of one's life."* (Phelps, 2020, p.7).

That being said, Phelps (2020) believes that there has been a loss of the historically important dynamism, suggesting that it can be explained by the rise of corporatism, following the emergence of welfare states and increased government involvement (p.15). Corporatism essentially refers to any type of institutions that negate market freedoms and attenuates dynamism, including anything from governments, businesses, unions or banks (Godley, 2014, p. 256). He views private enterprises as the central actors, and governments play a lesser role in these affairs (Mokyr, 2014, p.190). Further, presuming that innovation emerges from a market environment based on a decentralised system containing aggressive and individualistic agents. Ultimately, he believes that regulations make it more difficult for businesses to operate in terms of emphasised consumer protection above business, licensing requirements and protection of long-lived patents (Phelps, 2020, p.108). Essentially, maintaining that the markets should be left to the forces of competition.

However, there may be another explanation for the loss of dynamism that is worth entertaining, which is the enormous increase in inequality gap since the 1980's (Piketty, 2020), including the adverse effects this may have had on societies. In a study conducted by Wilkinson and Pickett (2013) it has been highlighted several harmful effects that inequality can have on society, particularly pertaining to individuals. This includes an increase in the level of anxiety, further inducing stress and deprivation, which is ultimately is connected to issues such as lower

levels of self-esteem, increased depression, higher crime rates and more health issues. As such, it could be argued that inequality affects innovation on the premise of human capital, as it decreases the pool of individuals who may contribute to innovation. An egalitarian style of governance may therefore be favourable in this respect, premised on the institutions and mechanisms in place to reduce inequality. In essence, contributing to ensuring that these particular adverse effects to a lesser extent come to fruition.

For instance, mechanisms such as the collective bargaining that Barth et al (2015), which contributes to reducing the inequality gap. In addition, the progressive taxes that contribute to increased public investment in areas such as technology, education and infrastructure (Stiglitz, 2015, p.7). Furthermore, the progressive taxation contributes to better social protection systems, which may increase both the ability and willingness to undertake innovative risk, seeing as individuals have provided a safety net. These aspects arguably provide individuals the opportunity to achieve, succeed, and pursue their interests, which Phelps (2020) believes is essential for innovation. Opposed to being impeded by the issues described by Wilkinson and Pickett (2013). Therefore, contradicting Phelps' (2020) belief that increased state intervention causes the dynamism to essentially dissolve, a more active state may in fact be essential for inducing the dynamism he views as important.

As stated, inequality has increased extensively since the 1980's particularly in the United States and the United Kingdom (Piketty, 2020). In the United States, this may partly be explained by Reagan deciding to cut tax on top earners, whilst simultaneously cutting social spending (Piketty, 2020, p.615)[25]. In addition, there were extensive union busting efforts by the Reagan and Thatcher administrations from the same point in time (Schwarz, 2021; Taylor, 2013), which has left workers with substandard bargaining power. Essentially, these are two mechanisms that are important for reducing inequality, and creating key conditions for innovation in Scandinavian countries. As such, the egalitarian style of governance may in fact be more conducive to business sector innovation based on the central role the state plays in reducing inequality and ensuring the overall well-being of individuals.

Finally, some argue that in addition to reducing inequality, whereby the state provides de facto equality of freedoms and opportunities, the state can also contribute to innovation by

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[25] According to Piketty (2020) this trend has continued in the US and Europe, which has increased inequality, further leading to higher concentration of private wealth (p.615).

creating an environment that makes it easier for individuals to pursue entrepreneurial and innovative paths (Gans & Leigh, 2019). As Holcombe (2021) argues:

"Some economic environments are more conducive to generating entrepreneurial opportunities than others, and some environments make it easier for individuals to find opportunities than others. In environments in which it is easier for individuals to discover entrepreneurial opportunities, individuals will be more entrepreneurial" (p.3).

An argument that finds resonance in a recent study suggesting that the level of exposure to innovation during childhood is most essential for individuals' propensity to innovate (Bell et al, 2018). Again, further opposing the traditional perception of economic incentives being the most essential driver for innovation efforts. As such, it is suggested that governments can contribute to innovation by for instance reducing the barriers for entrepreneurs, whereby competition policy should emphasise lowering barriers which ensures a level playing field for new entrants (Gans & Leigh, 2019, p.98). Moreover, these aspects are arguably essential for providing the conditions that Phelps (2020) labels grassroots innovation, whereby all individuals essentially have the opportunity to partake in creating new innovation. Ultimately, the results from this thesis suggest that countries seeking to increase their business sector innovation may benefit from having an active state in terms of the innovation process. However, as Mazzucato points out:

"This requires understanding the State as neither a 'meddler' nor a simple 'facilitator' of economic growth. It is a key partner for the private sector – and often a more daring one, willing to take the risks that business won't" (2013, p.5)

8.0 Conclusion

Scholars argue how institutions and policies should be formulated to provide best conditions for economic growth. Though it is generally accepted that innovation is a key driver of growth, the dispute is particularly situated on how a societies innovative capabilities are enhanced. The two approaches to democracy essentially diverge when it comes to incentives inducing innovation, and the inevitable consequence of inequality that follows. Proponents of a liberal style view inequality as necessary for innovation efforts, whilst egalitarian proponents view inequality as impeding societies capability for innovation. In this thesis the relationship between innovation and style of governance has been examined, whereby I have compared societies who have a more liberal style of governance versus egalitarian style of governance. As the economy- and institutional theory field encompasses vast quantities of literature, I have attempted to go through some of the most essential existing literature in order to answer the contentious question, "*What style of governance is most conducive to innovation?*". The thesis is inspired by the conceptual framework put forward by Stiglitz (2015)[26], along with the opposing perspective of Acemoglu et al (2012b)[27]. As such, I have attempted to add additional empirical evidence to the vast quantities of literature from other researchers who have investigated the role of institutions on innovation, and economic growth.

A novel quantitative research design was employed, utilizing data on innovation obtained from the World Economic Forum. In addition, using data on competitiveness from IMD as a means of providing additional robustness to the analysis. Data was also acquired from V-Dem in order to measure style of governance, including data from the World Bank used as control variables. The data from V-Dem provided two separate measures of style of governance used as independent variables, namely liberal democracy and egalitarian democracy. As such, this approach essentially enabled me to examine whether it is more important that people are provided de jure freedoms and opportunities, or in fact societies should aim at providing de facto freedoms and opportunities, in regard to creating a society that is conducive to innovation. In addition, by separating the polyarchy component (free and fair elections) from the

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[26] Stiglitz, J. (2015) Leaders and followers: Perspectives on the Nordic model and the economics of innovation.
[27] Acemoglu, D., Robinson, J. & Verdier, T. (2012a) *Can't We All Be More Like Nordics? Asymmetric Growth and Institutions in an Interdependent World*.

independent variables, it provided additional significant findings to the analysis. Particularly concerning the role of democracy on business sector innovation and competitiveness.

Essentially, the major findings in this thesis are that the *election aspect* of democracy is particularly important for business sector innovation as countries emerge into high income countries. However, it had a negative impact when measuring the whole world. This I argue may be explained by how for democratic countries to have long-term economic growth, it is predicated on how developed the democratic institutions are. In other words, whether the elections in the country are free and fair. If not, autocratic countries may arguably be more fruitful. This is predicated on whether the rulers have a firm grip on power and manage to stay in power, in addition whether they have a certain degree of inclusive economic institutions. In this case, it is possible to have immense economic growth without the citizens necessarily having institutions that enables them to hold their incumbents accountable. This finds further support in findings from the regression pertaining to egalitarian *component*, which showed that for developing countries, the more equal individuals and groups are within a society, has a substantial positive effect in regard to increasing competitiveness. As such, equality enhancing mechanisms in terms of education, healthcare, public goods and resources, is important for economic growth.

The results also suggest that both the liberal- and egalitarian style of governance has a positive effect on business sector innovation, however, the effect was significantly greater for egalitarian democracy. This suggests that business sector innovation in high income countries benefit substantially from societies that provide equal opportunity, political participation, access to resources, and access to social insurance, and equal access to public goods, such as education and health.

Concerning the two hypotheses I presented in the beginning:
H1: A more egalitarian style of governance increases business sector innovation.
H2: Democracy increases business sector innovation

Based on the findings in this thesis, I believe we may conclude that (H1), suggesting that an egalitarian style of governance increases business sector innovation, can be considered true, but it seems to matter only when countries emerge into high income countries. These findings support much of the literature presented earlier, which provided strong arguments for why an egalitarian style of governance will increase business sector innovation.

Further, when it comes to (H2) the answer is more complicated. The findings do suggest that democracy increases business sector innovation. However, this result also applies to high income countries, and the polyarchy component showed a negative effect on the world. Therefore, we can conclude with that whether democracy increases business sector seemingly *depends* on the quality of democratic institutions. Put simply, are the election in the nations free and fair, whereby the citizens are able to hold incumbents accountable.

Finally, in this thesis I aimed to answer the question: *what style of democratic governance is most conducive to innovation?* Based on the findings from the regression, this thesis supports the theory and empirical evidence suggesting that an egalitarian style of governance is most conducive to business sector innovation. In fact, the regression indicated that an egalitarian style of governance has a significantly more positive impact than the liberal style of governance when nations emerge into high income countries.

8.1 Future Research

In this thesis I measured both innovation and competitiveness by applying datasets I have obtained from WEF and IMD. However, I believe it is important to note that both these organisations' datasets have seen a fair share of criticism concerning various aspects, especially the WEFs Global Competitiveness Index. The criticism includes how they make up one overall measure by summing up performances across individual indicators, wherein they miss systemic interactions among them (Ketels, 2016, p.29). In addition, the level of objectivity has also been called into question (Kozyr et al, 2018; Bergsteiner & Avery, 2019).

The last authors are most critical in their assessment, claiming that the WEFs index is flawed on the basis of mixing input and output, negating the importance of social and environmental outcomes, and their strong ideological bias (p.863). In terms of the first issue addressed, they believe that it leads to a fundamental error in terms of research methodology, as inputs account for more than two thirds of the indicators which they argue leads to dramatic distortions (p.864) Alluding to WEF measuring aspects that they *believe* have a positive impact on competitiveness. However, arguably it is difficult to assess what impact they actually have, seeing as they are inputs and not outputs (measured outcomes). Concerning the second issue addressed, they argue that the WEF has a narrow view of economic growth and downplay social concerns and irresponsible utilisation of natural resources (p.865). Finally, the WEF ranking is considered to choose indicators based on ideologically driven motives. As such, they

argue that specific countries such as the United States and United Kingdom (along with other Anglo-Saxon countries) do well in the ranking seeing as the rankings are positively biased towards a more neoliberal doctrine (p.863).

I believe the last point is particularly relevant in terms of this thesis, seeing as the thesis is predicated on measuring two styles of governance, liberal versus egalitarian. As such, the datasets may potentially have been biased towards the liberal style of governance. Bergsteiner & Avery (2019) re-rank the countries taking some of these issues into account, whereby they find that the United States and the United Kingdom actually score much lower. Therefore, there is definitely a need for corresponding future research that investigates democratic style of governance in relation to innovation and competitiveness. However, applying alternative datasets and indicators for measuring innovation that arguably to a lesser extent are ideologically biased. Nevertheless, it is immensely challenging coming across datasets similar to WEF and IMD's dimensions, which places certain limitations I regard to solving this issue.

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10.0 Appendix

Definitions of Terms:

- o WENAO countries[30]
    - ▪ Developed countries
    - ▪ High income countries
    - ▪ Old industrial economies
- o Liberal Style of Governance
    - ▪ Liberal Democracy
    - ▪ Liberal market economy
    - ▪ Cutthroat capitalism
    - ▪ Liberal capitalist countries
    - ▪ Anglo Saxon countries
    - ▪ Liberal component[31]
- o Egalitarian Style of Governance
    - ▪ Egalitarian Democracy
    - ▪ Coordinated market economy
    - ▪ Cuddly capitalism
    - ▪ Egalitarian capitalist countries
    - ▪ Nordic/Scandinavian countries
    - ▪ Egalitarian component
- o Innovation Capabilities
    - ▪ Business Sector Innovation
    - ▪ Competitiveness [32]

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[30] WENAO = Western European, North American, Oceania and Japan.

[31] The liberal- and egalitarian *component* pertains to the independent variables utilized in this thesis where the aspect of democracy (polyarchy/free-elections) is not included in the measurement. Thus, only the core values specific to the liberal- and egalitarian style of governance are captured, whilst the free and fair election becomes its own variable in the regressions.

[32] Even though the IMD competitiveness index does not directly capture innovation in the same manner as the WEF innovation index. IMDs index is still applied in this thesis as a proxy for innovation capabilities, premised on it capturing many of the aspects that are central for innovation.