Welfare capitalism, regime types and unemployment in the OECD: How do welfare state institutions affect labour market outcomes?

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Foreword

This thesis is the culmination of my Master's Degree in Public Administration at the University of Leiden. When deciding upon the subject matter for this research, I decided to formulate an approach that would incorporate elements of the two courses that I found the most enjoyable and interesting during my degree course – Welfare State Economics and Political Economy in an International Perspective.

It was motivated partly by something that had continued to interest me since the 2008 global financial crisis, the ensuing recessions across much of the economically advanced world and the large-scale unemployment that occurred as a result, which was the role that states themselves and the policy decisions they make have in influencing the level of unemployment in society.

Although initially it was not a subject that I was particularly familiar with from a theoretical or academic standpoint, throughout the course of my research I have managed to develop a much deeper understanding of the unemployment institutions of the welfare state and the how these institutions can influence the behaviour of individuals, which I hope will stand me in good stead for a future career in public policy.

I am grateful to all of my lecturers at Leiden University for broadening my knowledge of economics and governance issues in a way that was both enjoyable and stimulated critical thought, and especially to my thesis supervisor Maarten Berg for his guidance and advice throughout the whole research project.

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1. Introduction

The level of unemployment within a country is often seen as one of the 'big three' economic indicators – alongside gross domestic product and inflation – that interact and provide an overview of the general health of an economy (Graham 2018). In addition to this, the 2008 financial crisis highlighted the issue of high levels of public debt and the potential unsustainability of running budget deficits to fund public expenditures (Neaime 2015). A low unemployment rate is good for individuals and communities, in that it enables workers to demand higher wages as it is more difficult to replace them, it increases their job security and brings social and psychological benefits (Kokemuller, n.d). Moreover, more people in work means greater tax receipts for governments and reduced welfare expenditures, as well as increasing aggregate demand as more people have money to spend which fosters economic growth and innovation. As such, one of the key issues facing domestic policy makers is deciding which employment policies to enact in order to achieve the best possible labour market outcomes at the same time as achieving sustained economic growth, controlling inflation and ensuring that public debt is serviceable. However, much heterogeneity exists in the policy approaches taken by national policy makers, and these different policies create different incentives for individuals to behave in certain ways, which contributes towards the variation in these 'big three' economic indicators that we see between states.

The 2008 financial crisis saw many of the world's economically advanced economies plunge into recession, leading to a sustained period of economic stagnation and widespread unemployment, with the global unemployment rate rising from 180 million in 2007 to 210 million by 2010 (IMF, 2010). In parts of Europe, the effects of the financial crisis were particularly acute, with the aggregate unemployment rate in Greece rising from 7.8% in 2008 to 27.5% by 2013, and the youth unemployment rate in Spain rising from 18.1% to 55.5% over the same time period (OECD, n.d), with potentially serious adverse consequences not just for the states in question but also for the individuals, families and communities that feel the effects of being out of work and are unable to maintain their desired lifestyles. The financial crisis raised the issue salience of unemployment – particularly in those Eurozone states in southern Europe excessively burdened by national debt and lacking monetary sovereignty - and stoked lively debate as to what the most effective policy responses are to stimulate the economy and boost the employment rate (Emmerson and Tetlow 2015).

Despite both suffering a similar sized drop in their respective gross domestic products, unemployment in the United States rose by 5% following the financial crisis, yet in France the increase was only around 1.5% (Tasci 2011). Moreover, over the last twenty years the average aggregate unemployment rate in Germany

has been just under 8%, while in Denmark that figure is around 5%, despite statistics published by the World Bank and OECD showing there being no real difference in the average GDP growth rate over the same period. This raises the question of why unemployment is seen as such a powerful indicator of an economy's health if it is not necessarily directly linked to a country's economic performance. The answer is that GDP growth alone tells us nothing of the distribution of the GDP and whether growth is bringing benefit to citizens in terms of greater employment opportunities and/or higher wages. To take an extreme example, the GDP per capita in oil-rich Equatorial Guinea in 2008 was $20,334, yet 'approximately two-thirds of the population live(d) in extreme poverty', and despite at the time having a GDP per capita higher than Italy, it would surely be folly to argue that the economy was performing well (Sapsuwan 2014). So while it is accepted that the business cycle is likely to be the biggest factor influencing the level of unemployment in a country at any given time and that 'cyclical unemployment is usually the main cause of high unemployment' (Amadeo 2018), the unemployment rate is an independently robust indicator of economic performance in its own right as it is difficult to see how an economy can perform at its most efficiently with vast swathes of the population not producing anything. What this paper seeks to find out is what accounts for cross-national variation in labour market outcomes once the effects of the business cycle have been controlled for. It is believed that a significant factor affecting labour market outcomes will be the particular institutions of different welfare states, in particular the institutions relating to unemployment insurance and unemployment benefits.

How generous should unemployment benefits be? How long should individuals be entitled to claim them for? Who should qualify for unemployment benefits? What actions do individuals need to take in order to continue their benefit entitlement? How much should states spend trying to get unemployed individuals into work? All of these questions remain pertinent to policy makers, yet as will be shown below, the answers look very different depending on where they are being asked and asnwered. An evidence-based approach to answering these questions is therefore crucial in order to create better government policy in the future, and in order to do that it is important to know how and to what extent welfare state institutions affect labour market outcomes. It is this that forms the motivational basis of this study, which seeks to answer the research question '*How do welfare state institutions affect labour market outcomes?*'

1.2 Historical Overview

Government intervention in the economy – or at least the *level* of government intervention in the economy – has historically been at the root of much political division and remains a heated area of political contention today, with acute ideological differences between how citizens and governments believe societal welfare is best achieved (Geoghegan & Wilford 2014). Throughout the early years of capitalism, influenced by the renaissance and the political and economic thought of 18th century liberals such as Adam Smith, the economically and industrially advanced European states adopted a *laissez-faire* approach to society and the economy (Evans 2004). This approach saw the allocation and disposal of resources left to rational, self-interested individuals in free-market exchanges, with the government's only role in promoting societal welfare being to enforce property rights, as according to Smith state intervention in the economy 'would only stifle the equalizing process of competitive exchange and create monopolies, protectionism and inefficiency' (Esping-Anderson 1990; Landauer & Rowlands 2001). Into the early twentieth century, the unregulated capitalism of the epoch was often seen to lead towards worker exploitation, poverty, inequality, general societal discord and 'boom and bust' economic cycles (Rothbard 2010). This, combined with the gradual spread of proletarian enfranchisement throughout the industrial world, meant that a laissez-faire 'nightwatchman' state was no longer a politically viable option, which led to a general acknowledgement that governments had a role to play in offsetting the frictions apparent between capitalism and democracy (Gough 2008). Against this backdrop, and with Marx-inspired socialism gaining traction throughout Western Europe (Sassoon 2000), state intervention in certain spheres of the economy came to be seen as acceptable if it provided the function of improving the performance of markets and/or ameliorating poverty (Menon 2012). However, the direction, level and scope of this government intervention was largely shaped by ideological beliefs and domestic political processes, with sharp differences of opinion between those on opposing sides of the political spectrum on what the optimum level of interaction should be between democracy, capitalism and welfare (Marshall 1950). It was out of these domestic political processes that the nascent welfare state institutions were established, with unemployment insurance schemes beginning to emerge in western European states during the first decades of the twentieth century (Holmlund 1998).

In the advanced states of continental Europe, unemployment insurance schemes were largely modelled on Bismarck's corporatist arrangements between industry and labour, with a 'restricted approach (to providing insurance) derived from participation in productive activity' (Gallie 2000). Under these arrangements, unemployment compensation was linked to the status, vocation and contributions of the

individual worker with the goal of consumption smoothing – providing workers with funds to maintain a similar standard of living outside of the market during the period of unemployment (Barr 2012).

Conversely, unemployment insurance systems based on a liberal ideological approach were established in the United Kingdom and United States. Whereas the Bismarckian welfare states had their focus on consumption smoothing, the liberal welfare states – influenced by the 1942 Beveridge Report - adopted a more residual approach focusing instead on poverty relief, offering the 'widest approach to social protection founded on the notion of social citizenship' (Gallie 2000; Barr 2000). Although the liberal welfare states were residual and intended as a last resort, they were still a long from the *laissez-faire* capitalism of the nineteenth century and the state became the last-resort guarantor that individuals would not sink into destitution.

The post-war period saw the spread of the modern welfare state across Europe and beyond, where – based on Keynes' economic vision of a more interventionist state – states sought to promote full employment and enjoyed rapid economic growth (Esping-Anderson 1994). It was during this 'Golden Age' period that a further welfare state model was established. Based on Social-Democratic ideology, the mainly Scandinavian states' welfare systems drew broadly from the Beveridge approach, however while the system in the UK was residual and aimed at providing subsistence to alleviate poverty, the focus in these Social-Democratic systems was firmly on providing welfare to society as a collective (equality) rather than to individuals in the most need (equity), with a goal of full employment and a society based on the French revolutionary principles of *liberté*, *égalité*, *fraternité* (Holmlund 2015; Barr 2012).

Following oil price shocks in 1973 leading to inflation and rising unemployment throughout Europe, the Golden Age of the welfare state ended in the mid-1970s in fiscal crisis, with a large welfare state and Keynesian government intervention increasingly no longer being seen as an efficient route to prosperity (Moreno 2015). However, despite this, much recent literature has highlighted the path dependency and resilience of welfare state institutions, showing that once established, these institutions tend to persevere over time (Pierson 1996). As such, the ideologies that lay behind the establishment of corporatist, liberal and Social-Democratic welfare states and their particular institutional configurations still tend to persist today, and therefore different types of welfare state remain interesting units of analysis in the field of comparative political economy research.

Today, unemployment remains one of the most important political and economic challenges facing governments, in terms of both the state's economic performance and its societal welfare (Riffkin 2014).

Unemployment insurance schemes offer individuals peace of mind should they become involuntarily unemployed, however providing unemployment benefits to those out of work is often funded by tax contributions of those in work, and evidence exists to show how differing views on 'self-interest, class-interest, and egalitarian values' lead to different attitudes towards welfare recipients, with citizens in liberal welfare states much more reluctant to support welfare policy than those in social-democratic welfare states, for instance (Larsen 2008). Societal cleavages between those in work and those in receipt of benefits have the potential to lead to both stigmatisation and social exclusion, with the term 'scroungers' regularly appearing on the front pages of the tabloid press in the UK to refer to those out of work (Martin 2010). Therefore it is essential that policy makers are equipped with enough information that they can make the best policies possible in order to promote employment, protect individual welfare and maintain social cohesion.

1.3 Government Intervention

A. Intervention for macroeconomic adjustment

While a large body of literature exists relating to the role interest groups - notably trade unions and partisan political parties – have played and continue to play in the creation and operation of the welfare state (Starke 2006; Allan and Scruggs 2004), the focus of this paper is on the welfare states' economic rather than political or social functioning. The issue of unemployment raises a number of economic implications for policy makers to address. The post-war example of the command economies of the Soviet Union show that full employment in its truest sense is an achievable goal, should it be so desired. However, under a capitalist economic system, full employment in the sense of everyone that is physically able to work is actively employed is generally not a desired goal. Some frictional unemployment may be preferable as people move into alternative employment that better matches their ability and is therefore more productive (Moffatt 2018). In addition, if every single person that can work is already in work, it becomes much more difficult for employers to create and fill vacancies as there is no pool of available workers, which could potentially stunt further growth (O'Keefe and Rapp 2017). A lack of unemployed workers available to replace existing workers also leads to increased worker bargaining power and thus higher wages under the threat of industrial action, which in turn increases aggregate consumer demand and drives up market prices, which leads to inflation (Parkin and King 1995). While this may not have been a pressing concern in the Soviet command economies with centralised price and wage controls, in the economically advanced capitalist economies inflation leads to a 'decline in relative competitiveness', exchange rate depreciation and an erosion of the value of savings, and the consensus among policy-

makers is that high levels of inflation should be avoided and intervention in the economy in respect of avoiding this is appropriate (Pettinger 2016). Therefore, when policy makers in welfare states decide on their policies towards the unemployed, they face a trade-off between maintaining high levels of employment at the same time as keeping inflation under control, which is why the term 'full employment' is understood not to mean *full* employment, but an unemployment rate that does not create inflationary pressure, which in the US is accepted as being around 5% (Crook 2018).

B. Intervention to correct market failure

As mentioned above, unemployment can 'bring about a sharp drop in living standards, a weakening of social life, and marginalization with respect to those in work – effects which can become cumulative and lead to a situation of intense poverty and, at the least, of social rupture' (Gallie and Paugam 2000). Therefore, insuring against the risk of losing one's job can provide consumption smoothing and is likely to be utility enhancing for risk averse individuals – indeed 'the fundamental rationale for unemployment insurance is to provide income insurance for risk-averse workers' (Holmlund 2015; Tversky and Kahneman 1981). Despite ideological objections from some scholars of the libertarian persuasion who believe the role of government should be strictly limited to enforcing property rights (Nozick 1974), there is general agreement regardless of partisan political preferences that governments have a role to play in correcting market failures (Barr 2012). In the case of unemployment, market failure occurs in the provision of unemployment insurance due largely to information asymmetries between insurance providers and those wishing to be insured. Adverse selection means that the insurer has no way of knowing information such as the attitude and work ethic of the individual seeking insurance, and thus has no way of knowing if they are a greater or smaller risk of becoming involuntarily unemployed. More importantly, moral hazard means that once an individual has become insured, they are able to act in ways that can impact upon their entry to or exit from the workforce (Barr 2012). In addition to this, unemployment is not always an individual risk, but rather a common shock with correlated risk. Drawing on classic Keynesian theory, unemployment means individuals have less money to spend and therefore have less demand for goods and services. Less demand for goods and services means less demand for workers, which in turn leads to further unemployment. Therefore, due to problems with information asymmetry and correlated risk, unemployment is seen as an uninsurable risk and policies are not offered in private insurance markets despite there being existing demand, leading to market failure due to a missing market, and a need for government intervention (Barr 2012).

C. Economic trade-offs

In addition to the trade-off between unemployment and inflation, policy makers in different states also face a number of other trade-offs that influence the design of welfare state institutions and can have an effect on labour market outcomes.

Consumption smoothing v efficiency: Unemployment insurance provides an income for those not involved in market activity. However, a greater level of income through insurance means individuals are able to maintain an acceptable standard of living away from the market, meaning they may by less likely to re-enter the workforce which will lead to a reduction in a state's productive efficiency (Barr 2012).

Higher benefits v Higher contributions: Unemployment benefits are generally funded by individual contributions, either through compulsory insurance payments (with the exception of some Scandinavian welfare regimes based on the voluntary 'Ghent' system of social insurance) or through general taxation (Holmlund 2015). Therefore generous benefits that contribute to a greater degree of consumption smoothing come at the cost of a larger tax burden, and it is this trade-off that lies at the heart of many of the institutional differences between different types of welfare states (Morel 2012).

Market v State: The role of the market and the role of the state in providing social welfare has been a cleavage that remains prevalent in welfare state regimes. Increased taxation and public spending means that the economic activity of the state can reduce the level of economic activity in private markets, and vice versa (Sanandaji 2012). In the mixed economies that typify all welfare states within the OECD this trade-off is again highly influential in determining the design of welfare state institutions and is likely to have an influence on labour market outcomes.

Budgetary restraint v inequality v employment growth: Despite intuitively seeming to be goals of most liberal democracies, analysis by Iverson and Wren (1998) found that it is only ever possible for contemporary welfare states to satisfy any two of these three goals at a given time, and that the two goals policy-makers choose largely to conforms to the type of welfare state regime that exists within each state. Figure (1) below shows how neoliberal-based models (which broadly conform to liberal welfare regimes) focus on fiscal discipline and employment growth, social-democratic models and welfare regimes focus on earnings equality and employment growth, while Christian-democratic models (which broadly conform to corporatist welfare regimes) focus on earnings equality and fiscal discipline. The pursuit of a particular two goals at the expense of another is again likely to have an influence on labour market outcomes within each state.

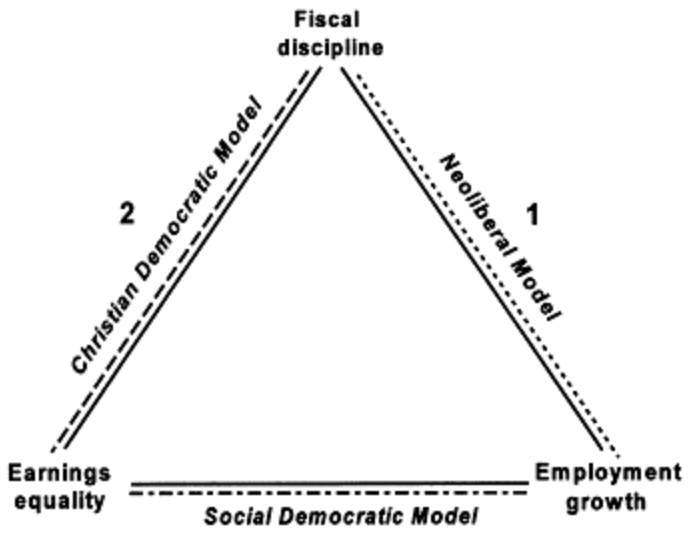


Figure (1) – The trilemma of the service economy[1]

D. Government failure

While market failure in the provision of unemployment insurance can create a need for governments to intervene in the economy, how governments decide to respond and the actions they take can lead to very different labour market outcomes. As noted above, welfare policies that are overly generous may help unemployed individuals in terms of consumption smoothing, but they are expensive and may result in the economy not reaching its most efficient productive possibility as people are disincentivized to work due to the high tax burden (Mankiw 2010). Moreover, generous unemployment benefits may disincentivise individuals to return to work or encourage them to exit work, again leading to a sub-optimal employment outcome (Messacar 2014). Broadly speaking, government interventions in the economy that do not reduce economic inefficiency or 'deadweight loss' (or at least produce a more welfare-enhancing outcome than the alternative of non-intervention) can be termed 'government failure' (Winston 2006). The concept of government failure has taken on prominence over recent decades and has been used by those on the right of the political spectrum to criticize social expenditures they believe to be an inefficient and undesirable allocation of resources (Keech and Munger 2015). While there is no normative objective measure of what constitutes a 'good' outcome – different welfare regimes have different social and

[1] Iversen, T. Wren, A. Equality, employment and budgetary restraint: The trilemma of the service economy. *World Politics*. Vol 50, No.4 (Jul., 1998), p514

economic priorities – the concept of government failure may be useful in explaining the apparent success, failure, or differing outcomes of different welfare state policies.

2. Aims of the Research

The aim of the research is to try and find out why labour market outcomes differ across states, and particularly how different welfare state institutions influence these outcomes. Looking at the divergent paths of East and West Germany, North and South Korea, or more contemporarily Slovakia and the Czech Republic, it is clear that institutions – the 'rules of the game' that constrain the agency of affected stakeholders (North 1991) – play an important role in determining economic outcomes. Indeed, in their classic 2012 work '*Why Nations Fail',* Acemoglu and Robinson consider the different political and institutional choices politicians make to be the crucial determinants behind whether states prosper or struggle. More specifically, and taking a behavioural-economic approach to the research, the paper seeks to explore how individuals respond to the incentives (or disincentives) provided by particular welfare state institutions in terms of their labour market behaviour. The paper seeks to explore what effect different combinations of welfare institutions have on employment outcomes – do individuals respond better to the level of benefit generosity or the strictness of the eligibility criteria? For example, if benefits are too high, does this mean people will abuse the system and make no effort to find work? Moreover, if benefits are not generous enough and people struggle to survive, does this make them try harder to find work? In terms of unemployment the rate may well be lower if there were no benefits at all as individuals would be forced into accepting any job under any terms and conditions in order to survive, but as this is not a feasible political option states have to decide at what level and under what criteria to set benefits, and this research seeks to find out what effect these choices have on the labour market. However, the level of benefits is not the only question policy-makers need to consider, there are also other institutional decisions that must be made that it is also believed can affect labour market outcomes. Do active labour market policies contribute to a reduction in unemployment? Do unions play a role in the rate of unemployment? What welfare institutions are effective in transitioning the unemployed into the work force quickly, and what institutions lead to longer periods of unemployment? These are some of the questions this study seeks to answer, and once the answers have been established, policy-makers can use this information when deciding how to better design the welfare state institutions relating to unemployment as part of their overall employment strategy. For example, they must decide how generous unemployment insurance should be. They must decide how much to tax to levy on people

entering employment. They must decide on how much to spend trying to return people to work. They must decide how much legal protection employees should be entitled to. The research aims to find out how the choices that policy-makers make regarding these issues affect labour market outcomes, and how effective the chosen institutions are in achieving their desired goals. Further to this, the paper aims to discover whether the effects of different welfare state institutions on labour market outcomes are uniform across all types of welfare state or whether there is any significant variation between different types of welfare state, as categorised below in section 3 below.

The research aims to show which welfare institutions – or more specifically the welfare institutions pertaining to employment and unemployment - are effective (or not) in achieving desired labour market outcomes, as 'properly designed unemployment benefits improve the allocation of human capital and thus foster economic growth' (Barr 2012), a key goal of much government economic intervention. Once it has been established which institutions are most effective, policy-makers are able to design better institutional configurations and policies in the future. This takes on extra contemporary significance given the establishment of nascent welfare states in Eastern Europe, East Asia and Latin America that do not have the historical ideological traditions and path dependencies of the fully established welfare states of Europe, North America and Australasia. As noted by Sjoberg (2010) 'it is unlikely that economic globalization will be either politically acceptable or economically efficient without adequate unemployment insurance in the fast-growing economies of Asia and Latin America'.

The research can also be useful in informing policy-makers seeking to reform current welfare state institutions. Much has been made of the impact that the financial crisis of 2008 had on welfare state institutions in terms of austerity politics and retrenchment (van Kersbergen, Vis and Hemerijck 2014), however with much of the dust from that crisis having now settled, comparative political economy research such as this can analyse whether the structural changes to welfare state institutions made in response to the crisis have been effective in achieving desired labour market outcomes – and once this has been established the information can be used should states wish to reform their welfare state institutions so that they operate more efficiently.

2.2 Literature Review

An extremely large body of literature exists relating to unemployment – its causes (Dumas 1986), its solutions (Keynes 1936; Friedman 1977), its costs (Feldstein 1977) and its economic consequences (Gaelle 2000). In terms of unemployment institutions specifically, while again the existing literature is broad, the results are far from conclusive and 'competing research exists on the importance of welfare regimes in

explaining differences in… labour market status' (Hussain, Kangas and Kvist 2012). This section will give a brief overview of some of the existing research on the effects welfare institutions concerning unemployment insurance and benefits have on labour market outcomes.

One major strand of research on the subject concerns how the generosity of unemployment benefits affects the unemployment rate, and the *classic* body of work in this field comes from the 1980s. A large study by Johnson and Layard (1986) found that benefit generosity was positively correlated with the aggregate unemployment rate, meaning that the more generous benefits are, the more people choose not to work. Indeed, the study concluded that it was benefit generosity – specifically in terms of the replacement rate- that was the crucial determinant in explaining the aggregate unemployment rate once the natural business cycle had been controlled for. Layard followed this up with a further large-scale study in collaboration with Nickell and Jackman (1991) which reinforced the initial findings, although the strength of the effect was found to be marginally smaller in the latter study. Similar studies by Reilly (2015) and Krueger and Mueller (2009) also found that benefit generosity and unemployment were positively correlated, with the latter study stating that 'job search is inversely related to the generosity of unemployment benefits, with an elasticity between 1.6 and 2.2'. Further support for this theory comes from Filiz (2017), whose study on Turkey also found that more generous unemployment benefits lead to a lessened probability of transitioning to employment, and this effect in Turkey is actually greater compared to the more economically advanced OECD countries that are the subject of this paper. A study adopting a similar methodology to this research paper by Ding (2014) used panel data from 1980-2010 across 34 OECD countries, and found a statistically significant positive relationship between welfare expenditure and aggregate unemployment, although Ding's research differs in that unemployment welfare generosity was conceptualized as social expenditures as a percentage of GDP, which has recently been criticised by Amine (2016) for potentially leading towards incorrect conclusions from the data as it is unknown how these social expenditures are spent and how many people actually benefit from them.

However, contrary to these findings, another *classic* study by Mortensen (1977) found evidence suggesting that in some instances the opposite is actually true, and generous unemployment benefits actually incentivize those out of work but not in receipt of insurance to transition into employment so that they would qualify for future benefits, and therefore increased benefit generosity sometimes leads to decreased unemployment. In general, most research finds that where it does exist, the actual size of the effect benefit generosity has on unemployment does not tend to be very large. A review of the existing literature by Barr (2012) determined that 'the hypothesis that unemployment benefits exert a substantial

upward effect on the level of unemployment receives only limited empirical support', and a further critical review by Howell, Baker, Glyn and Schmitt (2007) also cast further doubts on the robustness of these theories, instead concluding that 'the evidence is consistent with a more complex reality in which a variety of labour market models can be consistent with good employment performance'.

A second strand of research focuses on how the duration that individuals are able to claim unemployment benefit for affects the unemployment rate. Filiz (2017) used a regression discontinuity analysis around the cut off for benefit exhaustion to find a small but significant correlation between the duration of unemployment benefits and the length of time spent out of the labour force, while Kreuger and Mueller's (2009) research on the United States found evidence that job search intensity (see section 5.2 below) is negatively correlated with the generosity of unemployment benefits, and job search intensity increases as individuals get close to the point of benefit exhaustion. Furthermore, Vodopivec (1995) found that in Slovenia shortly after the breakup of the Soviet Union recipients of unemployment benefits tended to remain unemployed up to the point of benefit exhaustion before taking a job, and that shortening the duration of unemployment benefits shortens the period of unemployment, a finding also advanced by Mortensen (1977).

There are also a number of other factors that studies have shown to be causal influences behind the unemployment rate. Bloom and Michalopoulous's (2001) wide-ranging research in the United States examined how a number of different welfare and work policies affect employment, finding that the most important factor in transitioning into employment was active labour market policies such as education and training. Alternatively, a recent paper by Rueda (2015) suggests that, rather than pecuniary unemployment policies being the driver behind labour market outcomes, instead it is the strictness of the eligibility criteria that is key, as it 'restrict(s) access to social benefits and push(es) those receiving them into the labour market, often through filling the least well-paid and protected jobs'.

In terms of welfare state regimes themselves, which form a significant part of the approach of this paper, the literature is reviewed in greater depth in section 3 below. However, in terms of the effect different welfare regimes have specifically on labour market outcomes the literature is much sparser. While adopting a welfare regime approach, Ngai and Pissarides (2008) examined the effect different welfare states had on employment outcomes, and found that Anglo-Saxon (liberal) regimes encouraged more overall market employment than Scandinavian (social-democratic) regimes. A book by Gallie and Paugum (2000) collated one of the largest bodies of research on welfare regimes and how they affect labour markets, finding largely mixed results depending on the dependent variable in question, although they

conclude that welfare institutions do appear to have an influence on unemployment rates, and this influence is different in different welfare regime types.

2.3 Relevance

This research project is relevant for a number of reasons. Firstly, due to the inconclusive and sometimes contradictory nature of much of the research, there is currently no absolute consensus on the effect welfare state institutions have on labour market outcomes, and therefore further research is necessary to try and establish exactly why, how, and to what extent the two concepts are related.

Secondly, as noted above, although a large body of literature exists concerning welfare state regimes on the one hand and the effect of welfare institutions on labour market outcomes on the other, these strands of research tend to operate in isolation and there have been few studies that combine both strands of research. By taking a welfare state regime approach the research focuses not just on the aggregate effects of individual institutions on a particular outcome but also on how particular welfare institutions work differently in different environments and in different overall institutional configurations. This is important, as particular institutions do not work in isolation. It is not *just* benefit generosity or *just* the length of benefit entitlement that causes particular labour market outcomes, but rather they are contributory parts of an overarching unemployment policy – as 'unemployment benefits affect labour force participation, employment, and unemployment via a variety of channels that involve interactions with other institutions' (Boeri 2008). So while there is some existing research that uses welfare state regimes as the independent variable, it is an approach that as yet has not received a huge amount of attention, and especially so with regards to unemployment.

Thirdly, much of the research published in this field has tended to take a micro approach and uses time-series data within a single country (Kruegar and Mueller 2009; Amine 2016). While the findings of this research is obviously of relevance to the countries in question, it is unknown whether there are endogenous factors influencing the results in those countries that perhaps may not apply externally, therefore a question mark may hang over the generalisability of any findings. Using cross-country panel data means that this research can better gauge the overall effects of different institutions as it reduces the likelihood of there being any endogenous causes of any phenomena that is discovered, which may not be the case in research that solely focuses on one state.

Fourthly, much of the *classic* research in this field occurred in light of the end of the 'Golden Age' of the welfare state and a general withdrawal away from Keynesian interventions in the economy (Holmlund

1998), with much of the most often cited research in the field tending to come from a period before the global financial crisis beginning in 2008. However, research suggests that both the crisis (Van Kersbergen, Vis and Hemerijck 2014) and the effects of globalization more generally (Kwon and Pontusson 2010) have both had substantial effects on both welfare state institutions and labour market outcomes. Therefore this research is relevant in that it incorporates data from both before and after the 2008 crisis so that it can be seen whether the theories and conclusions made before the crisis still hold now in light of these contemporary changes in the structure of the global economy.

Finally, the research is relevant in that it will test whether existing theories still hold when using an alternative dataset and alternative time-period to existing research. Moreover, due to the inconclusive nature of existing research in the field, it is clear that theories in the field are not yet as robust as they could be. It is unclear, for example whether the effect of unemployment benefit is generally weak and of limited importance, or whether the different welfare institutions cancel each other out through push and pull mechanisms. For example, generous benefits may incentivise individuals not to transition to employment, yet at the same time a very strict monitoring and sanction programme may have the opposite effect. Therefore, and especially so in light of the paucity of research from a welfare state regime angle, this research can also be used in a theory-generating capacity to possibly come up with alternative theories that better explain why certain welfare state institutions lead to particular labour market outcomes in different welfare regimes.

3. Welfare state regimes

This research is focused on how welfare state institutions interact and affect labour market outcomes, in aggregate across all states, but also as a comparison between particular welfare state regimes. As such, it requires a typology of welfare regimes from which comparisons can be made. The concept of 'welfare state regimes' was introduced in Esping-Anderson's (1990) seminal publication '*Three Worlds of Welfare Capitalism'*, and these have since been 'embraced by literally hundreds of studies in comparative social policy and comparative political economy' (Scruggs and Allan 2006). Welfare state regimes are 'a system of public regulation that is concerned to assure the protection of individuals and to maintain social cohesion by intervening, through both legal measures and the distribution of resources, in the economic, domestic, and community spheres' (Gallie 2000). Welfare regime typologies reflect the particular mix of markets, the state, and family in the provision of welfare that is found within different societies (Scruggs

and Allen 2006), with Esping-Anderson categorising welfare states using cluster analysis according to the degree of de-commodification and the degree of social stratification prevalent in each type of welfare state, and it is this classification that will also be used in this study. De-commodification – the extent to which individuals are able to maintain a livelihood without relying on the market - is used as a proxy for the overall generosity of the welfare state. Social stratification 'refers to differential access to resources, power, autonomy, and status across social groups' (McLeod and Nonnemaker (1999). In short, social stratification is seen as a measure of social equality within society. Categorising welfare states on the basis of this criteria, Esping-Anderson created a typology of three welfare state regimes – liberal, conservative and social-democratic.

Liberal welfare regimes: Esping-Anderson categorized these welfare state regime as those whose institutions were borne out of the liberal political tradition. These institutions are largely based upon means-tested assistance, meaning only those who do not have the means to support themselves receive state assistance, with only quite modest universal transfers and social insurance plans. Benefits are designed to cater mainly to those on low incomes who are dependent on the state for their livelihoods. Entitlement rules in these regimes are typically strict and often stigmatizing, despite the relatively modest level of benefits, meaning that those in receipt of welfare benefits are viewed negatively by other parts of society. These regimes see the market rather than the state or the family as the best source of providing societal welfare, and as such there are minimal levels of de-commodification and a moderate level of social stratification (Esping-Anderson 1990).

Conservative welfare regimes: These regimes originated out of the Bismarckian tradition, where the governmental focus on efficiency and commodification were never as prevalent as in liberal states. The underlying rationale in these regimes in terms of providing welfare is the 'preservation of status differentials' – welfare rights are linked to the class, occupation and status of the recipients, and as such these regimes are characterized by a high degree of social stratification. These regimes have few redistributive properties and have been historically shaped by Catholicism, corporatism and traditional values of familialism, and are typically more generous than liberal regimes with a moderate level of de-commodification (Esping-Anderson 1990). In short, benefits are generally awarded in line with the recipient's status and previous income rather than on the basis of actual need or on the basis of societal equality. It is important to note, however, that welfare state regime types tend to be enduring and somewhat independent of the partisan political preferences of whoever a state's governing party is at any given time (Kersbergen 2002), and it is quite possible for two states with a similar institutional welfare

structure to adopt quite different public policies, especially concerning fiscal responses to exogenous shocks. To emphasise, the policy responses to the financial crisis of 2008 of the French and German governments were quite dissimilar, with the French government much less fiscally disciplined and adopting a looser monetary policy (Bozio et al 2015). However, in terms of the level of de-commodification and social stratification they remained remarkably similar, giving further support to Pierson's (1996) concept of welfare state resilience once institutions have been established.

Social-Democratic regimes: It is this type of regime that is commonly found in the Scandinavian welfare states. The regime is based on the concepts of universalism and social solidarity, leading to low levels of social stratification due to the high levels of fiscal redistribution. Benefits also tend to be awarded on the basis of equality, rather than simply to relieve poverty amongst the poorest in society as in Liberal regimes. The state typically 'crowds out' the market and is seen as the driver for providing societal welfare. These welfare state regimes typically have high levels of benefit for those in receipt of welfare, therefore they have high levels of de-commodification (Esping-Anderson 1990).

3.1 Welfare regime criticisms

Using a welfare state regime approach can be beneficial in terms of its conceptual clarity, yet the efficacy of doing so has not been universally accepted by all academics. While some authors contend that 'popular regime typologies have degenerated as a research programme, notwithstanding their many achievements' (Schelkle 2012), others still maintain that 'a regime approach is useful in comparative analyses of welfare sates in order to conceptualise distinct typologies in which to classify empirical similarities and differences' (Ebbinghaus 2012). The welfare regime typology approach draws heavily from Weber's sociological concept of 'ideal types', which do not necessarily capture every single characteristic of each case in a specific type, but as Weber himself stated, offer a 'synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those onesidedly emphasized viewpoints into a unified analytical construct' (Kalberg 2016). Therefore, while the welfare states of, for example, Denmark and Sweden may not be identical, they have enough characteristics in common that they are analytically distinct from the welfare states of, say, Spain or Germany, and can be grouped as a single regime type for the purposes of the research. Problems can arise, however, if the categorisation of these ideal types are not sufficiently analytically dissimilar, resulting in large areas of overlap and an abundance of hybrid cases that could

arguably be placed in more than one ideal type. This criticism has been laid at the tripartite classification in *Three Worlds* by Shelkle (2012), whose analysis two decades after its original publication saw it showing 'signs of a Kuhnian paradigm crisis where empirical anomalies abound and require ever more ad hoc explanations'. This perhaps is not surprising given that Esping-Anderson himself acknowledged that his typology was not 'static' and open to future revision based on the ever changing nature of both domestic and international politics (Esping-Anderson 1990). To address this, this study has amended the typology in *Three Worlds* to reflect criticisms of Esping-Anderson's work and also to reflect current academic consensus on the subject.

The first common criticism of Esping-Anderson's typology is that its tripartite classification is too limiting, and omits alternative types of welfare regimes that are empirically distinct from the three in *Three Worlds* (Arts and Gelissen 2010). Notably, various scholars have called for a separate southern European / Mediterranean regime due to the residual nature of their welfare states, and the 'especially strong emphasis on familial support, a direct legacy of the age-old Catholic subsidiarity principle', as well as the low level of state intervention in the provision of welfare (Gallie and Paugam 2004; Art and Gelissen 2010). Although Esping-Anderson argued that the Mediterranean welfare states were just immature or undeveloped Conservative regimes, more recent research from Ferrera (1996) argues convincingly that, for the reasons stated above, they should be seen as distinct and separate units of analysis.

Another criticism is Esping-Anderson's categorization of the states of New Zealand and Australia as belonging to the Liberal welfare regime type (Arts and Gelissen 2010). Although there are similarities with the Liberal model, stemming largely from the same ideological approach to welfare and capitalism commonly found among the Anglo-Saxon states, there are unique institutional differences between the two regimes. Acknowledging that New Zealand's and Australia's welfare states share with other Liberal welfare states a marginal commitment to the state being the main provider of public welfare and a shared commitment to means-testing to determine benefit eligibility, distinction arises due to the high thresholds for that eligibility meaning that large parts of the population receive welfare benefit, and redistribution is generally achieved through industry bargaining rather than through social programs (Arts and Gelissen 2010). Based on this, figure (2) outlines the typology that will be used in this research. While acknowledging that both the typology and the cases attributed to each category are somewhat subjective and open to alternative interpretations, they are in broad consensus with much of the findings in Isakjee's (2017) recent literature on the subject of welfare state regimes.

Figure (2) – Welfare state regime typology

Liberal	• Beveridge principle • Focus on markets to provide welfare • Low de-commodification • Mixed social stratification
Conservative	• Bismarck principle • Focus on both markets and the state to provide welfare • Mixed de-commodification • High social stratification
Social-democratic	• Focus on universalism • Beveridge-based principle • High de-commodification • Low social stratification
Mediterranean	• Focus on the family to provide welfare • Bismarck-based principle • Low de-commodification • Mixed social stratification • Undeveloped welfare institutions
Australasia	• Focus on industry not state re-distribution • Mixed de-commodification • Beveridge principle • Full emphasis on means-testing • Mixed social stratification

3.2 Case Selection

Just as no full academic consensus exists on the 'correct' typology of welfare state regimes, the cases that best represent each regime type are also open to a considerable degree of subjectivity, with different comparative studies often placing the same country into a different regime type depending on which criteria was used to determine that regime type (Arts and Gelissen 2010). For example, while Kangas (1994) – and the vast majority of comparative welfare state regime researchers – place Austria in the Conservative category, Powell and Barrientos (2004) instead determined that Austria was in fact typical of the Liberal regime type. As explained above, it is recognized that welfare state regimes are ideal types rather than exact descriptions of the institutional structure of the welfare states that are representative of each category, and as such the particular cases in this research have been chosen on the basis that they are much closer to one particular ideal type than any of the others, while at the same time attempting to avoid selecting hybrid cases that can plausibly be placed into a number of different categories.

A. Liberal welfare state regimes

As mentioned above, Liberal welfare regimes grew out of an Anglo-Saxon tradition that places emphasis on the market rather than the state in the provision of welfare (Esping-Anderson 1990). As such, the cases chosen for this study are the United Kingdom, the United States, Canada and Ireland. The United States appears to be the archetypal case in this regime, with some commentators noting a distrust of government intervention of any sort among some sectors of society (Parry 2011). This is not to say that governments are particularly small in these regimes, and all of them are enormous in comparison with the size of governments in the laissez-faire epoch of the nineteenth century, however there is much more widespread belief compared to other regime types that it is not the duty of the state to excessively intervene in the economy in pursuit of welfare provision (Rowley 1996). In a literature review of ten comparative political economy studies based on welfare state regime typologies, Arts and Gelissen (2010) found that all ten placed the United States into the Liberal regime type. The same applies too to Canada, which nine of the ten studies in the same article also agreed is typical of the Liberal regime type. The United Kingdom differs in some respect from the cases of Canada and the United States in that there is a greater emphasis on means-testing, however welfare is still provided more as a last resort to alleviate poverty rather than in order to allow individuals to maintain their lifestyle outside of the market (Ferragina and Saleeib-Kaiser 2011). The case of Ireland is slightly more open to question, mainly due to its tradition of Catholicism that has been claimed to be a significant influence in some welfare states throughout Europe (Arts and Gelissen 2010), and studies by Scruggs and Allan (2006) and Bambra (2006) have placed Ireland in the Conservative category on the basis of this. However, in agreement with Sain-Arnaud and Bernard (2003), Powell and Barrientos (2004), Castles and Obinger (2008) and Schroder (2009), this study places Ireland's welfare state in the Liberal category due to its low level of de-commodification and mixed level of social stratification (Esping-Anderson 1990), while accepting that this case may not be as clear cut as the other cases.

B. Conservative welfare state regimes

Conservative welfare state regimes are typically found in the countries of western continental Europe having grown out of the Bismarckian welfare state tradition (Esping-Anderson 1990). The cases chosen for this study are Germany, France, Austria and the Netherlands. Germany, France and Austria all have high levels of social stratification, with the level of welfare benefits tied to the level of previous contributions, based on a close link between workers, industry and the state (Esping-Anderson 1990). As such, in Arts and Gelissen's (2010) review of ten welfare state regime studies there is almost full consensus that these three countries all belong to the Conservative category, with the only real deviation to this

coming from Powell and Barrientos (2004), who instead considered Austria to be part of the Liberal category. As per the discussion above, it is important to make a distinction between the underlying institutional structure of the welfare state in terms of the level of de-commodification social stratification on the one hand and the chosen policy responses to a particular phenomenon on the other. This is why Austria, Germany and France have all been grouped in the same category despite their different approaches to the 2008 financial crisis. However, the case of Netherlands is much less clear cut and open to alternative interpretations, depending on how the welfare state regime is being categorized (Arts and Gelissen 2010). This is because the Netherlands could be considered as something of a hybrid, with some welfare state institutions appearing to more closely resemble the Conservative type, and others resembling the Social-Democratic model. As such, while Kangas (1994), Sain-Arnaud and Bernard (2003), and Schroder (2009) all place the Netherlands in the Conservative category, Powell and Barrientos (2004), Bambra (2006), and Castles and Obinger (2008) instead consider the Netherlands to be a Social-Democratic regime. The main reason for the differing views lies largely in the fact that the level of de-commodification in the Netherlands has traditionally been higher than in the other Conservative states and more closely resembles that of Social-Democratic regimes, yet in terms of social stratification it much more closely resembles the Conservative regimes. As noted by Goodin and Smitsman (2007), 'the Dutch welfare regime looks very different depending upon which basis for classification is used'. The primary reason for including the Netherlands in the Conservative rather than Social-Democratic category is that while the institutions that determine the level of social stratification in the welfare states do not appear to have changed significantly over time, the institutions concerning the level of de-commodification have been reformed and empirical evidence shows considerable welfare state retrenchment in the Netherlands (Green-Pedersen 2007). Therefore, while still typically more generous than welfare states in other Conservative regimes, it appears to more closely resemble them than it does the Social-Democratic regimes.

C. Social-democratic welfare regimes

The social-democratic regimes are those typically found in the Scandinavian countries. In this study the cases chosen in this category are Denmark, Sweden, Norway and Finland. The first three countries all very closely resemble both the ideal type as categorized by Esping-Anderson (1990) and there appears to be something of an academic consensus that these three states belong in the social -democratic category – in Arts and Gelissen's (2010) literature review all ten welfare regime studies reviewed included all three countries as Social-Democratic in their analysis. The case of Finland as a Social-Democratic welfare regime

has, however, been challenged by some authors. While Kangas (1994), Schroder (2009), and Sain-Arnaud and Bernard (2003) all consider Finland to be a Social-Democratic regime, Ragin (1994), Bramba (2006), and Scruggs and Allan (2006) all place them in the Conservative category. This is largely due to the relatively low level of generosity in terms of unemployment benefits (although sickness and pension benefits remained high) compared to the other countries found in the Social-Democratic category. For this study, it has been included in the Social-Democratic category because according to data from the OECD database the Finnish welfare state has become significantly more generous than when the studies placing them in the conservative category were published, with the level of social stratification remaining low throughout. With this in mind, Finland currently appears to more closely resemble the Social-Democratic than the Conservative regime type, and has been included in this category.

E. Australasian welfare regimes

The Australasian welfare state regimes are, unsurprisingly, those welfare states that are found in Australasia – Australia and New Zealand. Due to their Anglo-Saxon history, there are some similarities between these regimes and the other Liberal regimes that originated out of the political and economic culture of the United Kingdom – indeed studies by Sain-Arnaud and Bernard (2003), Bambra (2006) and Scruggs and Allan (2006) all placed both Australia and New Zealand's welfare states into the Liberal category. However, of the ten welfare state regimes analysed by Arts and Gelissen (2010), these were the only three studies that did so. Having included an Australasian category for the reasons stated above – the high number of welfare recipients, the extensive use of means-testing, and the pre-tax fiscal re-distribution - it is logical to consider Australia and New Zealand as being part of this separate category rather than as being typical of the Liberal regime type.

F. Mediterranean welfare regimes

These regimes are those generally found on the Mediterranean coasts of southern Europe and are characterized by their residual nature, low levels of coverage and much stronger emphasis on the family to provide welfare, largely as a result of the historical influence of the Catholic church (Ferragina and Saleeib-Kaiser 2011). In this study, the cases chosen are Spain, Portugal, Italy and Greece. The most questionable case in this category is that of Italy, which Esping-Anderson (1990) considered to be part of the Conservative regime type. However, academic opinion on this is mixed, with Sain-Arnaud and Bernard (2003), Castles and Obinger (2008) and Scruggs and Allan (2006) all calling Esping-Anderson's categorisation into question, largely on the basis that family plays a much larger part than the state in the

provision of welfare in Italy than in the other Conservative welfare states, especially in the south of the country (Simonazzi 2015). Although the level of de-commodification and social stratification in Italy has traditionally been in line with the Conservative ideal type, it is included in the Mediterranean category in this study due to quite large scale welfare state retrenchment due to IMF loan conditionalities in light of the 2008 financial crisis (Simonazzi 2015), which have limited the ability of the state to provide adequate welfare provision.

So while acknowledging that the cases chosen as being typical of each welfare regime clearly differ from each other in regards to the exact institutional structure of their welfare states, and also acknowledging that there will always be a level of subjectivity when deciding which cases to use for the analysis, it is believed that the cases chosen for this study are similarly clustered and analytically distinct enough that they will give a good approximation of each category of welfare regime.

Figure (3) - Cases

Liberal	Conservative	Social-Democratic	Australasian	Mediterranean
United States	**Germany**	**Denmark**	**Australia**	**Italy**
United Kingdom	**France**	**Norway**	**New Zealand**	**Spain**
Canada	**Austria**	**Sweden**		**Portugal**
Ireland	**Netherlands**	**Finland**		**Greece**

Using a welfare regime typology means that it is neither feasible nor instructive to include some welfare states – even some that are long established – that are genuine hybrids and are not legitimately able to be placed into one single category. For instance, Belgium is considered to be typical of the Conservative type by Ragin (1994), Schroder (2009) and Vrooman (2009), yet it is placed in the Social-Democratic category by Bambra (2006), and Scruggs and Allen (2006), while Powell and Barrientos (2004) consider Belgium to have a Liberal welfare state regime. Similarly, the case of Japan also tends to split academic opinion (Arts and Gelissen 2010). As such including states like Belgium and Japan in only one category while some of their welfare state institutions perhaps more closely resemble alternative categories would

only serve to decrease the validity of the results. Moreover, there are institutions for welfare provision in the states of the former Soviet bloc and in the tiger economies of East Asia, yet due to their nascent nature it is too early to accurately determine which category they should be placed in, and they too have been omitted from the analysis.

4. Descriptive statistics

The following statistics in figures (4), (5) and (6) show the mean averages for various welfare state institutions and labour market outcomes for the years 2001 to 2016. Information is displayed for each individual welfare state regime type and the results for all cases in the base sample are shown below in italics.

Figure (4) – Welfare state institutions

Welfare regime	Replacement rate (%)	Unemployment trap (%)	Benefit exhaustion (months)
Liberal	49.8	53.75	11.75
Conservative	63.4	76.12	16.75
Social-Democratic	58.2	71.22	21.5
Australasian	25.9	42.0	60
Mediterranean	55.7	66.77	15.5
Base sample	*53.4*	*64.19*	*25.1*

Figure (4) shows that the average replacement rate – the percentage of the average wage a single worker can expect while out of work - across all cases in the study is 53.4 percent, although there is significant variation across different welfare state regimes. Conservative and Social-Democratic regimes have been most generous during the period under review in this study, with both these and the Mediterranean regimes typically more than twice as generous as the Australasian regimes. What is interesting to note is that in terms of replacement rates, Conservative regimes have actually tended to be even more generous than Social-Democratic regimes, contrary to a commonly held view that the Social-Democratic welfare states are the most generous (Bruenig 2017). However, as might be expected, the more generous welfare regimes also impose the highest *effective tax rate* (the 'unemployment trap') – net income from work minus the amount no longer being received in benefits - upon returning to work, with a rate of over 70 percent in the Conservative and Social-Democratic regimes compared to just 42 percent in the Australasian and 54 percent in Liberal regimes. Benefit exhaustion shows the duration that individuals are

able to claim unemployment benefits for, and again there is significant variation between regime types. While Liberal regimes on average allow recipients to claim benefits for less than one year, the duration is almost twice as long in Social-Democratic regimes, and in Australasian regimes unemployed individuals are able to claim benefits for up to five years.

Figure (5) - Welfare state labour market institutions 2001 to 2016

	ALMP spending (%)	Employee protection (0-100)	Collective bargaining (%)	Union density (%)
Liberal	1.30	18.9	28.30	25.63
Conservative	2.57	51.8	84.06	20.16
Social-Democratic	2.58	46.4	82.94	65.71
Australasian	1.08	29.8	38.67	20.38
Mediterranean	2.00	58.6	76.23	23.41
Base sample	*2.05*	*42.4*	*64.36*	*32.24*

The ALMP spending table show how much on average the different regime types spend on active labour market policies as a percentage of the gross domestic product (GDP) per capita. The results show that both the Conservative and Social-Democratic regimes spend approximately double the amount spent in Liberal regimes, with Australasian regimes spending less still. The employee protection data shows the 'synthetic indicators of the strictness of regulation on dismissals and the use of temporary contracts' (OECD, n.d) on a scale of 1-100. As may perhaps be expected, the level of protection is much higher in the more corporatist Conservative, Mediterranean and Social-Democratic regimes, reflecting a closer three-way relationship between industry, the state and labour that is not as prevalent in Liberal or Australasian regimes (Blanton and Peksen 2016). The collective bargaining data shows 'the ratio of employees covered by collective agreements, divided by all wage earners with right to bargaining' (OECD, n.d), essentially showing the percentage of workers that have a right to collective bargaining, whether that right is actually exercised or not. Figure (5) shows that there are clear differences between welfare state regimes - while just over a quarter of workers in Liberal regimes are covered by such arrangements between labour and industry, that figure jumps to over three quarters of workers in Conservative, Social-Democratic and Mediterranean regimes. The final column shows the percentage of the workforce that are members of a trade union. While almost one in every three workers in Liberal regimes is typically a member of a trade union, this drops to just over one in five in Conservative and Australasian regimes, while around two in every three workers in Social-Democratic regimes is part of a trade union.

Figure (6) – Labour market outcomes

Welfare regime	Aggregate Unemployment rate (%)	Short-term unemployed (%)	Long-term unemployed (%)	Youth unemployment (%)
Liberal	6.92	20.52	24.58	14.41
Conservative	6.88	7.22	38.36	11.87
Social-Democratic	6.58	22.70	19.13	14.97
Australasian	5.71	25.20	17.33	12.63
Mediterranean	12.25	6.44	49.29	29.65
Base sample	*7.89*	*15.48*	*31.10*	*17.35*

As the aggregate unemployment table shows, apart from the relatively high rate of unemployment found in Mediterranean welfare regimes, there is actually not a huge amount of difference on average between the other types of welfare regimes, although unemployment is typically marginally lower in Australasian regimes than elsewhere. The short term unemployed column shows the percentage of individuals who are able to return to or enter employment after being unemployed for less than one month, and the data shows significant polarisation between the Liberal, Social-Democratic and Australasian welfare regimes on the one hand, and the Mediterranean and Conservative regimes on the other. The long term unemployed column shows the percentage of individuals who remain unemployed for one year or longer, and as expected the information is almost a mirror of the short term unemployed column, with those who become unemployed in Mediterranean and Conservative welfare regimes tending to stay unemployed for a longer period than the other regime types, with almost half of those unemployed in Mediterranean regimes remaining unemployed for more than one year. The youth unemployment data again shows that, with the exception of Mediterranean regimes who on average have a youth unemployment rate of almost 30 percent, there is not a huge amount of difference between the other regime types, with youth unemployment tending to be lowest in Conservative regimes at less than 12 percent.

5. Theoretical framework

When an unemployed individual decides that they wish to enter into employment, there are a number of important decisions that they must make. What sector do they wish to be employed in? What location or

locations are they willing to work in? What hours do they want to work? What level of remuneration are they seeking? How much time are they going to spend each day looking for a job? While the answers to these questions are unique to the individual in question and will thus vary on a case by case basis, interestingly the answers are not likely to be static and remain the same – they are likely to change depending on the changing personal circumstances of each individual. Some individuals may have an initial preference for leisure over work and not dedicate very much time towards finding a new job. However, over time they may find that leisure has a diminishing marginal utility (Gershuny 2009) and they instead wish to dedicate more time to work than leisure, and as such either look harder for a job or become willing to accept a job on less advantageous terms than they previously would have done so. Alternatively, some individuals may have savings and be able to maintain their lifestyle outside of the market, but again, over time savings will deplete and the individuals will need to transition back into employment, with the effect on their job searching behaviour being the same as in the previous example. In short, as people's individual circumstances change, this will affect their job search behaviour.

Much of the theory concerning welfare state institutions and their effect on labour market outcomes is based on how different institutions either incentivize or disincentivise individuals to behave in ways that affect both the likelihood of transitioning into employment, and how long that transition to employment takes (Holmlund 2015). At the heart of this are the concepts of job search intensity and reservation wages.

5.1 Reservation wage

The reservation wage is 'the lowest wage rate that would convince you to offer your labor services' (Hall and Lieberman 2008). For example, if someone is offered €2 an hour to carry heavy bricks on a construction site, they may well deem that the hard work involved is worth more than €2 and reject the job offer. While at the other end of the spectrum, if they were offered €100 an hour they would accept the offer immediately. In reality, wage offers will be somewhere in between these two poles, so the person offered the job must decide whether to accept the offer or not. Individuals have an idea of how highly they value their own skillset and with information so readily available in the digital age they will likely have a fair idea of the distribution of wages for their skillset, therefore 'if an individual believes that his skills or services are highly valued, he will reject job offers that fall short of his expectations and remain unemployed', and then 'the individual continues to search and remains unemployed as long as the offers are less than some minimally accepted value' (McCall 1970). Individuals with different preferences must also choose how much time they wish to spend working and how much time they wish to spend indulging in other pursuits, and as such they must optimise the balance between consumption and leisure at an

equilibrium that maximises their utility. Over time, if an individual is unemployed the marginal utility of leisure is likely to decrease and this equilibrium is likely to shift from leisure towards consumption as the opportunity cost of working – that is *not* working – increases as finances become stretched and leisure provides less utility. A study in the United States by Krueger and Mueller (2014) found that individuals' reservation wage decreases over the duration of unemployment as their desire to transition back into employment increases. As such, they will be less choosy when it comes to searching for employment and be more willing to accept job offers for lower wages than was initially the case. This in turn raises the likelihood of them returning to work which will lead to a drop in the aggregate unemployment rate and the duration of unemployment. In short then, an individual's reservation wage is essentially the marginal value of unemployment, as it as at the point where they are indifferent as to whether they will enter employment or remain unemployed (Boeri and van Ours 2008).

5.2 Job search intensity

Job search intensity is the level of effort individuals make towards finding a job. For example, some individuals may apply for one job a day and spend twenty minutes looking at job advertisements, while another may apply for twenty jobs a day and spend six hours looking at job advertisements. While there is nothing wrong *per se* with the latter approach, the opportunity cost of the job search is the time taken to actually carry it out in terms of foregone leisure, which may lead to a utility loss. Therefore 'the optimal intensity of search will be chosen at the level at which the marginal returns to the search are equal to the marginal cost of the search' (Bloeman 2005). As with the reservation wage though, an individual's job search intensity is also dependent on their individual circumstances – the less able they are to maintain their desired lifestyle outside of the market, or stated another way, the more they *need* a job to be able to maintain their desired lifestyle, the higher their job search intensity will be. It stands to reason that the higher an individual's search intensity, the more jobs they will apply for and the more likely they are to be offered a job and make the transition into employment, which again will lead to a lower aggregate unemployment rate.

5.3 Unemployment insurance

Reservation wages and job search intensity are useful concepts in explaining why individuals remain unemployed for the length of time they do, however both of these concepts are influenced by welfare state institutions, the most important of which for the purposes of this study is unemployment insurance.

Unemployment insurance provides a consumption smoothing function that means recipients are able to maintain, or at least partially maintain, their standard of living during a period of involuntary unemployment, meaning that in theory they are able to 'look for a job without too much financial stress' (Le Barbanchon, Rathelot and Roulet 2017). However, as noted above, there is a trade-off between unemployment benefits providing consumption smoothing on the one hand and disincentivising employment on the other. This is because unemployment insurance serves firstly to increase an individual's reservation wage, and secondly to reduce their job search intensity (Holmlund 2015). In the absence of unemployment insurance, unemployed individuals do not have an income and therefore have a greater need to transition back into employment as quickly as possible, so that they do not fall into destitution. However, unemployment insurance means that this risk of destitution is ameliorated, so individuals can afford to be more selective in deciding which job offers to accept, meaning that (initially, at least), they are in a position to reject low wage offers and wait and see if they will receive an offer of higher wages in the future. Having a fall-back option of unemployment insurance therefore raises reservation wages, 'inducing more people not to supply labor at any given wage' (Belot and van Ours 2004). Given that an individual's strategy when seeking a job is to accept any offers above the reservation wage and reject those below it, the probability of transitioning to work depends on the probability of receiving offers above or equal to the reservation wage (Holmlund 2015). As having a higher reservation wage decreases the probability of being offered a job with an acceptable wage, it is less likely an individual will transition into employment, and thus the unemployment rate will remain higher. Unemployment insurance also works along the same channels with regard to job search intensity. The receipt of unemployment benefits while out of work means that there is a less pressing need to immediately find employment, therefore individuals are not as incentivized as they otherwise would be to look hard for a job, or are much more selective in the type of job they apply for, emphasizing the moral hazard problems mentioned above that mean unemployment insurance is not offered in private insurance markets. That is not to say that the issue of moral hazard goes away when unemployment insurance is offered publicly, only that governments have the resources to deal with the problems moral hazard creates and are able to correct the market failure that it creates in private markets by actually creating an unemployment insurance market.

5.4 Hypotheses

A. Generosity

It appears logically consistent that, based on the theoretical outline above, if unemployment insurance serves to increase an individual's reservation wage and decrease their job search intensity, it is the *level* or generosity of unemployment benefit that will determine by how much their reservation wages and search intensity change, and it is therefore the level or generosity of the benefits that has an effect on labour market outcomes. There is a large body of literature relating to the correlation between unemployment benefit generosity and unemployment rates, and although results are not entirely consistent, most studies do find that a higher level of welfare generosity leads to increased unemployment (Holmlund 2015; Reilly 2015; Krueger and Mueller 2009), with Moomaw (1998) asserting that 'the more generous the unemployment insurance system in terms of payments… the less costly it is to be employed. Therefore, greater generosity should be positively related to the unemployment rate'.

Generous unemployment benefits may also affect labour market outcomes in another way too, focusing on the inflow into rather than the outflow from unemployment. For workers on low wages, there may not be a huge difference in income between working and not working if unemployment benefits are very generous, and this may have moral hazard effects that incentivize them to act in a way that will lead to their exit from the workforce and onto unemployment benefits instead (Holmlund 2015).

Hypothesis 1: Increased unemployment benefit generosity will be positively correlated with the unemployment rate

In terms of operationalization, unemployment benefit generosity will be measured as the net replacement rate for a single worker earning the average wage. Replacement rates 'are used to measure a person's financial incentive to work' (Reilly 2015) and are found by calculating the level of an individual's income during a period of unemployment as a percentage of their income while in employment. For example, if a worker earned €50,000 annually in employment, but out of work (because of unemployment insurance) her annual income was €30,000, that means the replacement rate is 60% ((30000 / 50000) x 100). The higher the replacement rate is, the closer an individual's out of work income is to their in-work income, which affects their job search intensity for the reasons outlined above. Using net replacement rates as an indicator of welfare generosity is commonly used in comparative studies of this kind, such as by Johnson and Layard (1986), although other studies have operationalized generosity as welfare spending as a percentage of GDP (Ding 2014). However, welfare spending itself can be directed in many different ways

and on many different policies and policy areas, leading Scruggs (2006) to conclude that using this method 'can lead to making false conclusions'. Although data is available for replacement rates under different circumstances, such as married couples with or without children, this research uses replacement rates for a single worker on the national average wage. This is because an analysis of a married couple with children would require a much broader appraisal of welfare policies as a whole, such as housing and child benefits, which is beyond the scope of this research.

From a welfare regime perspective, it seems likely that unemployment insurance will have a different effect on labour market outcomes depending on the nature of that welfare state's institutions. In Conservative regimes where the level of benefit is directly linked to the status, occupation and contributions of the recipient, individuals should be able to maintain their lifestyle to a greater degree out of work than those out of work in Liberal or Australasian regimes, which are more focused on means-testing as a method of determining the level of benefits. As a result, individuals in Conservative regimes have less incentive to find work quickly and their search intensity will be lower, leading to higher unemployment.

Hypothesis 2: The effect of unemployment benefit generosity will be greater in welfare regimes where payments are based on prior contributions (Conservative / Mediterranean) than in regimes with universal or means-tested benefits (Liberal / Australasian)

B. Duration

A second factor that is linked to, but distinct from, the generosity of unemployment insurance is the duration that those in receipt of benefits are able to continue claiming them for. Research from Krueger and Mueller (2016) found that it was in fact the duration of unemployment benefits, rather than the generosity of them, that was the most important factor in influencing unemployed individuals' transition to employment. While more generous benefits may increase an individual's reservation wage, which in turn makes them more selective over what jobs they take (Boeri and Van Ours 2008), the duration of benefits affects their level of job search intensity. If the duration of benefit entitlement is unlimited, and generous enough for an unemployed individual to maintain an acceptable standard of living outside of the market, then there is little incentive for them to actively seek work and transition back into employment sooner. Likewise, a very short duration of entitlement means that individuals will seek employment quickly as they will not want to be in a situation where their unemployment benefits are stopped and they have no income from either the market or the state. Indeed, some research has found

that 'it is the maximum duration of benefits, as opposed to the level of the replacement rate, that has the strongest effect on unemployment rates' (Boeri and van Ours 2008).

Hypothesis 3a: Longer durations of benefit entitlement will be positively correlated with the duration of unemployment

Hypothesis 3b: Longer durations of benefit entitlement will be positively correlated with the aggregate unemployment rate.

To operationalize the duration of unemployment benefit this paper uses the amount of time a forty-year old individual who has worked (and therefore presumably made contributions towards and become entitled to receive unemployment insurance) for at least two years of the past five years can claim unemployment benefit for. While this is somewhat subjective, and it is acknowledged that in some welfare regimes people of different ages (see Portugal) or with different work histories (see France) are entitled to receive benefits for a shorter or longer period of time, using this variable should capture the essence of what the duration of unemployment benefit is for a *typical* worker who has exited the work place. The duration of unemployment is measured by using the formula outlined in section 6.2 below.

C. Entitlement Effect

In many welfare state regimes, eligibility for having unemployment insurance and therefore receiving unemployment benefits is contingent upon the individual in question having made previous contributions to the insurance scheme, or having a demonstrable history of active work (Holmlund 2015). With this in mind, there are essentially two categories of unemployed people – those who *are* entitled to unemployment benefits while they are out of work, and those who *are not* entitled to the benefits. It is from this distinction that Mortensen (1977) first articulated the theory of the 'entitlement effect' that unemployment insurance has on an individual's job search efforts. This theory suggests that those individuals who are not eligible for unemployment insurance would like to be insured and thus eligible for benefit in the future, which raises the value of having a job and incentivizes them to actively seek work and transition into the workforce (Holmlund 2015). Research from Krueger and Mueller (2016) in the United States found empirical support for the entitlement effect – 'for those unemployed who are not eligible for unemployment insurance or who have exhausted their unemployment insurance benefits, search effort is increasing in the benefit level' – in short, more generous benefits led to those not eligible for unemployment insurance to increase their job search intensity, which logically increases the likelihood of finding a job and transitioning into employment, with Milton Friedman also asserted in his 1977 Nobel

lecture that for those not eligible for benefits 'the availability of unemployment insurance makes it attractive to enter the labor force' (Atkinson 1991). A further study by Hamermesh (1980) found that for those not in receipt of unemployment insurance, an increase in the generosity of insurance benefits has two effects: Firstly, it increases the likelihood of entering the labour force, and secondly it lowers individuals' reservation wage and thus reduces the duration of unemployment (Barron, McAfee and Speaker 1986). This appears to be theoretically consistent. For example, if an individual's reservation wage is €25000 and they are offered €23000 in the absence of unemployment insurance they would reject it. However, if they are offered €23000 plus unemployment insurance and possible future benefits then the offer becomes more appealing and they are more likely to accept the job and make the transition into employment. Intuitively it seems likely that most people with no history of active employment and no contributions to any unemployment insurance scheme will for the most part be young adults, who have not yet had an opportunity to work and become eligible to receive unemployment insurance. The more generous the unemployment insurance is, the more people will wish to be covered by the policy as they will want to be eligible for more generous benefits in the future should they become unemployed . Therefore:

Hypothesis 4(a): The generosity of unemployment benefits will be negatively correlated with youth unemployment

Youth unemployment is operationalized as those aged 15-24 who are not in employment, are available for work, and have taken active steps to find employment within the previous four weeks, taken as a percentage of the youth labour force – those aged 15-24 who *are* in active employment. This definition correctly excludes students from the unemployment figures, which could have a significant impact on any analysis. In respect of welfare state regimes, it is expected that the entitlement effect is much stronger in those welfare state regimes that offer generous unemployment insurance such as Social-Democratic regimes, and in those regimes where benefits are based on prior contributions, such as Conservative regimes, than it is in more residual systems with an emphasis on means testing such as Liberal and Australasian regimes.

Hypothesis 4(b) – The effect of unemployment benefit generosity on youth unemployment will be stronger in Social-Democratic and Conservative regimes than in Liberal and Australasian regimes.

D. The unemployment trap

The unemployment trap, or welfare trap, is a situation that exists as a result of the interaction between benefits and taxation that can arise in welfare states. At its heart lies the issue that maintaining a generous welfare state can be expensive - for example the OECD's 2013 annual expenditure report showed that Denmark allocated 43.8% of its GDP to social welfare expenditures, the highest rate within the OECD. The trade-off of this is that high social expenditures need to be funded through taxation – Denmark's top marginal tax rate is currently 55.8%, which can be contrasted with 37% in the United States (Trading Economics 2018). Conflicting economic theory exists regarding the impact of high taxation on the supply of labour due to the dual income and substitution effects – adherents of the substitution effect claim that tax reduces labour supply by reducing the rewards for productive effort, while those who favour the income effect claim that taxes lower people's income, thus raising the marginal utility of earning more money, which then incentivizes them to supply more labour (Karlsson 2004). However, this argument tends to focus on the role taxation plays in the labour market behaviour of individuals who are already part of the workforce. The situation differs with regard to transitioning from unemployment into employment due to the presence of welfare benefit payments, which would be lost or at least reduced upon entering employment.

Generous benefit payments are intrinsically linked to higher levels of taxation – in the absence of large natural resource endowments generating national income, the former are not possible without the latter without creating inflationary pressure (Dupor and Li 2013). The issue as far as unemployment is concerned is that both high taxes and high benefits combine to create an incentive structure that disincentivises individuals to transition into employment, thus leading to higher aggregate levels of unemployment (Gebauer and Vobruba 2003). When individuals are in receipt of generous benefits and they are offered low-wage employment that combines with the high level of payroll tax that is needed to fund the generous benefits, there may not be a huge amount of difference between their in-work income and their out of work income, and therefore the different welfare state institutions create a large 'effective tax' on returning to work (Barr 2012). As such, the opportunity cost of transitioning into employment – not working and therefore being able to dedicate much more time to leisure activities – may be considered too high and less utility generating considering the relatively little extra financial reward. For example, if unemployment benefits provide an income of €1000 a month and someone is offered a wage of €1500 a month gross but that is reduced to €1200 net after taxes, then they will only be €200 a month better off in work than they are out of work, so unless the marginal utility of the extra €200 income is greater than the utility derived from a large increase in leisure then rational individuals will not accept the job offer. In short, generous benefits and high taxation both serve to increase the reservation wage, which as

explained above, decreases the likelihood of transitioning into employment. Despite this, 'recent research from agencies such as WHO have concluded that the positive psychological effect of labour market participation, even when replacement rates are high, can be a key driver in lessening the impact of an unemployment trap on an individual' (Reilly 2015), so it is possible that this psychological effect also generates utility and this goes some way towards mitigating the effects of the unemployment trap on labour market outcomes.

Hypothesis 5(a): The unemployment trap will be positively correlated with the aggregate unemployment rate

The unemployment trap is operationalized as 'the percentage of gross earnings lost to taxes when a person becomes employed, which occurs through the loss of unemployment benefits combined with higher tax and social security contributions' (Eurostat, n.d). The aggregate unemployment rate is measured as individuals aged 15-64 who are without work, are available for work and have sought work within the last four weeks, it does not include those individuals excluded from the labour force who are not seeking employment (OECD, n.d). Given the high tax rates and generous benefits, it is expected that the unemployment trap will have the largest effect in Social-Democratic welfare regimes, and for the opposite reason it is expected to have the least effect in Mediterranean welfare regimes.

Hypothesis 5(b): The effect of the unemployment trap will be considerably stronger in Social-Democratic welfare regimes than in Mediterranean regimes.

E. Supply-side welfare state policies

Another institutional facet of welfare states is the extent to which states go to reduce unemployment by actively effecting supply-side labour market policies, known as Active Labour Market Policies (ALMP), that help individuals transition into employment. ALMPs are defined by the European Commission as 'public interventions in the labour market aimed at reaching its efficient functioning and correcting disequilibria and which can be distinguished from other general employment policy interventions in that they act selectively to favour particular groups in the labour market', particularly the unemployed (Eurostat, n.d). The broad theory, elucidated by Baily and Tobin (1977), is that effective employment activation policies serve to get individuals into work and thus reduce the structural unemployment rate. Although the exact nature of these policies varies across states depending on the desired outcomes of national policy makers, in general they 'address the activation of the inactive, unemployment and the development of skills' through four broad channels: Public employment services, training and education programmes, private

employment subsidies, and direct job creation in the public sector (Caruana and Theuma 2012). Public employment services include things like job centres, which are able to more effectively match employers seeking workers with those seeking employment and monitor the level of job search intensity, thus improving the efficiency of an individual's job search which in theory means they should be able to find suitable employment more quickly and transition into employment sooner (Kluve 2014). Training and education programmes both serve to increase the skillset and human capital of individuals seeking work in order to make them more attractive to employers and enable them to work in a wider range of sectors, which again should serve to increase the likelihood of them finding suitable employment and entering the workplace. However, these programmes may be costly and time consuming, and while they should lead to positive effects in the longer term, they may have negative short-run effects as individuals are not able to work while they are participating in training and education programmes (Kluve 2016). Private employment subsidies increase demand for labour by reducing the direct cost to employers of hiring new workers, which in theory should see a reduction in unemployment. However, these policies may not do anything to improve the human capital of an individual and increase their likelihood of long-term employment and also may have a displacement effect, whereby employers use cheaper government-subsidized labour instead of labour supplied at the 'market' rate, meaning the net effect of the policies on the overall employment rate is neutral (Caruana and Thuema 2014). The final type of policy – direct job creation in the public sector – comes at the greatest cost, as the wages of individuals must be funded through taxation, therefore these policies tend to be used as a 'safety net of last resort' (Kluve 2014). However, again this type of policy is not without potential problems as creating public sector employment through increased taxation shrinks the size of the private sector, which may see job losses as firms are unable to meet both wage bill and tax bill requirements (Behar and Mok 2013).

Despite the ubiquity of ALMPs across the OECD countries, empirical evidence on their actual effectiveness, and perhaps more pertinently their cost-effectiveness, provides somewhat mixed results, although a literature review by Martin (2014) found that overall most research finds a positive, but small, correlation between ALMPs and lower unemployment. A study by Calmfors, Forslund and Hemstrom (2002) in Sweden found 'some indications of positive effects on labour force participation' although also noting that 'subsidised employment seems to cause displacement of regular employment, whereas this appears not to be the case for labour market training', concluding that 'on the whole, ALMPs have probably reduced open unemployment, but also reduced regular employment' and ALMPs are 'not an efficient means of employment policy'. While studies from Murtin, de Serres and Hijzen (2013) and Belot and Van Ours (2004) suggest that ALMPs do have positive macroeconomic effects in reducing overall

unemployment, a further study by Baker, Glyn, Howell and Schmitt (2005) found them to have no significant effects, so it is fair to say that academic opinion on the effectiveness of ALMPs is mixed. However, this study is concerned with the effect ALMP spending has on labour market outcomes, not with the overall cost-effectiveness of such programmes, which is beyond the scope of this study and a matter for domestic policy-makers to determine themselves. For example, spending large amounts of money to transition a small number of people into low productivity employment may not seem worthwhile to some policy-makers, yet others may decide that if the economy is doing well and there is a budget surplus available then the poor cost-effectiveness of the ALMPs is not of the utmost importance if the outcome is that long-term unemployed individuals have managed to enter the workplace.

Hypothesis 6(a): ALMP expenditure will be negatively correlated with the aggregate unemployment rate.

ALMP expenditure is operationalised as the 'public expenditure on active labour market policies per unemployed' measured as a percentage of the country's GDP per capita (OECD, n.d). Looking at the ALMP spending data in figure (5) above, it is predicted that as spending on ALMPs is significantly higher in Social-Democratic and Conservative welfare states, the aggregate unemployment rate will be lower in these regimes as a result, should hypothesis 6 hold true. However as noted above, much criticism of ALMPs lies in the fact that they are generally not seen as being particularly cost-effective, and the reason that Social-Democratic and Conservative welfare states spend more on ALMPs than other regime types could reflect the fact that the economies have been successful and there is excess tax revenue to spend, rather than a firm belief that ALMPs are a particularly effective way of reducing the unemployment rate. Further to this, although Liberal and Australasian regimes typically spend less on ALMPs than Conservative and Social-Democratic regimes, the government focus on economic efficiency in these regime types mentioned in section 1.3(C) above means that spending may be more narrowly targeted on specific policies that have been proven to be most effective, rather than taking the broader approach adopted by Conservative and especially Social-Democratic states.

Hypothesis 6(b): The actual effect of ALMP expenditure on the unemployment rate will be greater in Liberal and Australasian regimes than it is in Conservative and Social-Democratic regimes.

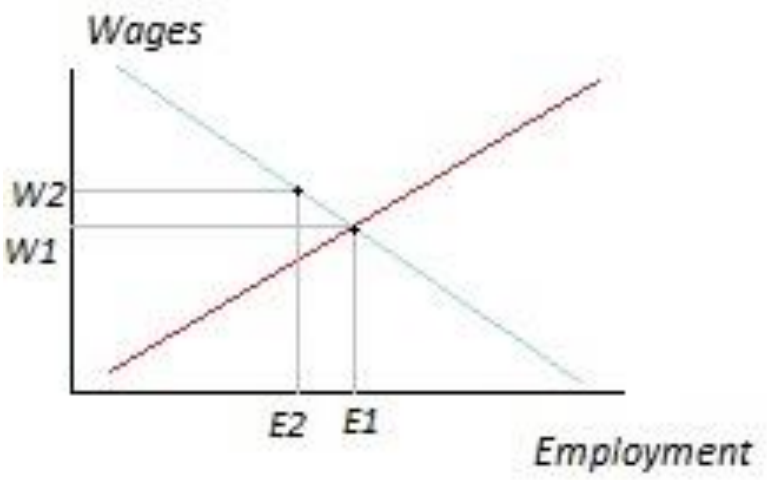
F. Labour market institutions – Union membership and collective bargaining

As well as differing in their welfare state institutions, states also differ significantly in the operation of their labour markets, most notably in the differing relationships between industry, labour and the state. As shown in figure (5) above, considerable variation exists between different welfare state regimes in

terms of the number of workers who are covered by collective bargaining agreements, the number of workers who are members of a trade union, and the level of employee protection that exists within each regime type. The level and importance of these factors tend to determine the relative rigidity or flexibility of the labour market in each country, and a significant body of literature exists showing how this can affect labour market outcomes (Catalan and Villanueva 2012; Tasci 2011), with the research tending to find that labour market rigidity – essentially strong labour power, high levels of union membership, high levels of employee protection and high levels of collective bargaining – is correlated with increased unemployment. For example, according to Amine (2016), France 'is characterized by the 'rigidity' of its public policy in terms of employment protection… this rigidity is responsible for an accentuation of unemployment'. But why is this so? The broad theory underpinning this empirical observation is that labour market rigidity results in the lowering of demand for labour, which raises the unemployment rate.

Trade unions exist to promote the interests of their members in terms of raising their pay and improving their working conditions, and also to protect them against measures by employers that would adversely affect their wellbeing. Union representatives are able to collectively bargain on behalf of their members and then if the demands of the workers are not met, unions are able to mobilise their members and take industrial action against their employers. Therefore, provided that the union is strong enough and covers a large enough proportion of the workforce, it is able to act as a *de facto* monopoly on the supply of labour (Tasci 2011), leading to an equilibrium between wages and employment that may be different from the natural market equilibrium that would have occurred in the absence of collective bargaining. As unions only exist to serve members of particular trades or industries, it creates a cleavage between labour market insiders who are members of the union and labour market outsiders – namely employers and the unemployed (Rueda 2006) - with unions seeking only to protect the interests of the insiders. However, protecting the interests of the insiders creates a negative externality for outsiders by increasing the wage rate and thus the cost of (insider) labour, which in turn reduces the demand for new (outsider) labour, meaning there are less jobs available for unemployed individuals and the aggregate unemployment rate is higher. Figure (7) below shows how this works, with the red line indicating the labour supply curve and the blue line indicating the demand curve. In a natural market equilibrium, the employment rate will be E1 and the wages will be W1, at the point where the two curves intersect. However, a union is able to extract a higher wage for its members by threatening to withhold labour unless wages go up, and as long as the employer acquiesces to the demand then wages will rise from W1 to W2. However, at this new wage level, the employer has less demand for labour, and as such will not hire new staff, meaning that the employment level will fall from E1 to E2.

Figure (7) – Wages and employment in the presence of strong unions



Hypothesis 7(a): Rigid labour market institutions will be positively correlated with the unemployment rate.

Rigid labour market institutions will be operationalized by the union density in the nation's workforce and the percentage of the workforce whose wages are determined by collective bargaining. As figure (6) above shows, there is a significant variation between the Liberal and Australasian welfare regimes and the Conservative, Social-Democratic and Mediterranean regimes, with labour markets in the latter tending to be more rigid overall. Perhaps surprisingly, the Conservative regimes on average only have just over 20% of the workforce as members of a union, however as over 80% of the workforce come under the umbrella of collective bargaining agreements it is expected that this somewhat negates the need to actually join the union. Moreover in Conservative regimes even in the absence of strong unions 'employers often recognize collective bargaining outcomes without being legally required to do so' and 'discriminatory wage policies with disadvantages for non-union members are forbidden', which both serve to incentivize not joining a union and free-riding off those that do (Fitzenberger, Kohn, and Wang 2009).

G. Employee Protection Legislation

Employee protection legislation is another government intervention in the market that it is believed will have an effect on labour market outcomes. In this study, employee protection legislation concerns 'the procedures and costs involved in dismissing individuals or groups of workers and the procedures involved in hiring workers on fixed-term or temporary work agency contracts' (OECD, n.d). As mentioned above, labour market institutions are often characterized by their perceived rigidity or flexibility, and in the case

of employee protection that basically refers to how easy it is to hire and fire workers, with high levels of employee protection often seen as synonymous with rigid labour markets (Helpman 2010).

Employment protection legislation raises the cost to employers of firing staff by, for example, requiring firms to give workers a certain period of advance notice before terminating employment, mandating a certain amount of severance pay, or determining what constitutes a *just cause* when firing an employee (Koranchelian and Fanizza 2005). Therefore, firms may decide that because the cost of firing staff is so high, they will be more cautious when it comes to hiring staff in the first place, and therefore inflows into employment will be lower than they may be in the absence of any legislation. The flipside to this is that while employment protection legislation may result in firms not hiring new workers, the high cost of firing existing workers mean that some workers may remain employed even though in a free labour market they would have been sacked. Therefore employment protection legislation in theory reduces both job creation and job destruction, and evidence has been found that higher levels of employment protection legislation result in lower overall labour *turnover,* regardless of the actual effect on the aggregate level of unemployment (Skedinger 2011).

Despite the widely accepted perception that more flexible labour markets result in lower unemployment, academic research on the effects of employee protection has produced somewhat mixed results. While Lazear (1990) found that higher levels of employee protection led to increased unemployment, a study by Deakin, Malmberg and Sarkar (2014) found instead that employee protection has 'no consistent relationship to unemployment'. The reason for a lack of consensus on the effects of employee protection legislation on labour market outcomes is likely due to it having two different effects that occur at different phases of the business cycle. When the economy is buoyant, employment protection legislation may prevent firms hiring as many new staff due to the fear that it will be difficult to dispose of their services should they not perform to the requisite standard, which it is theorised would lead to both lower productivity and higher unemployment. However, during cyclical downturns, legislation may prevent firms dismissing workers when in a free market they may be more inclined to do so, which would lead to lower unemployment. Indeed, when analysing policy responses to the 2008 global financial crisis, Amable and Mayhew (2011) found that 'unemployment generally rose less in countries with strict employment protection legislation, as it did in those with relatively high collective bargaining coverage'. Therefore, over an entire business cycle with periods of growth and decline, employment protection legislation can be expected to have both positive and adverse effects on the aggregate unemployment rate.

Hypothesis 8(a): The overall effect of employment protection legislation on the unemployment rate will not be statistically significant.

6. Data

The data used in this study has predominantly been obtained from OECD databases, in particular the OECD Jobs database, the OECD tax and benefits database, and the OECD social expenditures database. The OECD usually sources its data either in conjunction with Eurostat and other UN agencies, or from published national accounts from agencies such as the Office of National Statistics in the United Kingdom (OECD, n.d). It was chosen to primarily use OECD data because of the sheer size of the database – data is available for numerous states on a multitude of different categories that are both up to date and spanning back almost five decades in some instances. Data is also acknowledged to be of a high quality – the Guardian newspaper ranked the OECD database as one of the top ten sources of data globally for comparative international development research (Holden 2016). The size and scope of the OECD's statistics department also mean that they are able to devote sufficient resources to ensuring that there is consistency and uniformity in data collection techniques, which should ensure that the data published has been measured in the same way in each case. This means that when any analysis is carried out using the OECD data, the data should be robust enough that the results will have a high level of validity. Moreover, using OECD cross country time series data ('panel data') is a common method in comparative political economy research (Pierson 1996; Plumper, Troeger and Manow 2005), and there does not appear to be any significant criticism of this research on the basis of the quality or reliability of the data. The data concerning the maximum duration of benefits is not published by the OECD and was instead obtained from the Mutual Information System on Social Protection (MISSOC) database

The dataset used for this study covers the time frame 2001 to 2016, which is the latest year in which the OECD has published national data in full. It has been decided to use this time frame for a number of reasons. Firstly, it covers a fifteen year time period which should be long enough that any trends should become apparent after the statistical analysis has been undertaken. Secondly, 2001 appears to be the first year that nearly all of the countries used in this study began publishing full, annual data rather than publishing data either not at all, sporadically, on a bi-annual basis, or every five years. Annual data does exist for a longer time period for some of the key variables in the study, notably the aggregate unemployment rate, however as data for many of the other variables used is inconsistent or unavailable

before 2001, analysing the data without these variables is likely to lead to a significant amount of omitted variable bias (OVB) which will call into question the internal validity of the results. Finally, this time frame covers the periods before, during and after the global financial crisis and OECD-wide recessions of 2008 and the following years, incorporating the effect of any changes in the institutional structure of welfare states as a result of states' policy responses to the crisis.

6.1 Omitted variable bias (OVB)

As with any comparative research project of this nature, it is likely never going to be possible to completely control for *every* single variable that may have an influence on the outcome (Angrist and Pischke 2015), and this is especially so when analysing something like transitioning into and out of employment where individuals' motivations for doing so and how they respond to certain incentives will likely vary considerably. While this paper has attempted to control for any confounding variables as much as is practicably possible, due to a lack of available data when conducting the analysis there are some variables that may possibly have an effect on the results that have not been included, although it is hoped that omitting these variables does not have a significant impact on the results.

The main omitted variable that is believed could affect the results is the strictness of the eligibility criteria for receiving benefits. The eligibility criteria broadly concerns the actions that individuals have to undertake in order to qualify for receipt of unemployment benefits or to avoid being sanctioned. These include actions such as having to actively search for employment, having to accept suitable job offers, or having to take part in active labour market programmes, for instance. Logically, it stands to reason that the stricter the eligibility criteria is, the more unattractive remaining out of work becomes, and individuals may decide that they would rather transition into employment rather than remain living on unemployment benefits.

A recent paper by Langenbucher (2015) attempted to systematically measure how demanding the eligibility criteria for unemployment benefits are, using a composite indicator of eleven weighted factors relating to an individual's availability requirements, their job search requirements, the level of sanctions, and the level of monitoring of benefit claimants. The results are shown below in figure (8) on a scale of 1-5, with one indicating the least strict eligibility requirements and five indicating the strictest.

Figure (8) – Strictness of Eligibility Requirements

USA	2.78	Germany	3.14	Sweden	3.37	Italy	2.97	Australia	3.25
UK	3.69	France	3.16	Norway	3.05	Spain	2.73	NZ	3.43
Canada	2.59	Netherlands	3.25	Denmark	3.45	Portugal	4.15		
Ireland	2.79	Austria	2.91	Finland	2.67	Greece	2.97		
Liberal	***2.96***	***Conservative***	***3.12***	***Social-Democratic***	***3.14***	***Mediter-ranean***	***3.21***	***Australasia***	***3.34***

As figure (8) shows, with the exception of Portugal, who have by a considerable distance the most demanding eligibility criteria, there is not a huge amount of variation between the other states. In terms of welfare state regimes, again there appears to be very little difference between them, although the liberal regimes tend to be slightly less strict than the others. Bearing in mind how similar the different welfare regimes appear to be, it is not supposed that the eligibility criteria will be a major cause of variation in labour market outcomes between the regimes, and therefore not including this variable in the analysis should not lead to significant omitted variable bias. While it would have been preferable to include the strictness of eligibility criteria requirement in the regression analysis, unfortunately the available data only refers to a single year (2014), and as such it is not possible to see what effect changing the criteria may have on labour market outcomes.

6.2 Unemployment duration

In order to effectively test the hypotheses detailed above, data is required on how long on average individuals spend unemployed before making the transition into employment. Unfortunately, data on actual lengths of unemployment are not taken for the majority of cases in this study by any of the major international data collection agencies. Instead, data exists showing the percentage of individuals who return to work within the following time periods: Less than one month; one month to three months; three months to six months; six months to twelve months; and one year plus. In order to be able to analyse this data effectively the following weighting model in figure (9) will be used:

Figure (9) – Unemployment Durations Weighting Model

Less than one month	* 1
One to three months	* 2
Three to six months	* 3
Six to twelve months	* 4
One year plus	* 5

The raw percentages will be multiplied by the appropriate multiplier and then the sum total will be divided by 100 in order to normalise the results, giving a result that will be used as a proxy for unemployment duration, with the lower the number showing the shorter duration of unemployment. Figure (10) below shows two examples of this, leading to figures of 2.66 and 3.57, indicating that unemployment durations tend to be significantly shorter on the example on the left than on the example on the right.

Figure (10) – Examples of Unemployment Duration Calculations

Less than one month	22%	* 1	22
One to three months	18%	* 2	36
Three to six months	36%	* 3	108
Six to twelve months	20%	* 4	80
One year plus	4%	* 5	20

2.66

Less than one month	9%	* 1	9
One to three months	12%	* 2	24
Three to six months	26%	* 3	78
Six to twelve months	19%	* 4	76
One year plus	34%	* 5	170

3.57

While acknowledging that this method is not ideal and open to criticism, particularly given that the intervals used are not of equal duration, it is still hoped that it will give a sufficiently accurate overall impression of unemployment durations that any inferences drawn from the results will remain valid.

7. Methodology

The method used to try and ascertain the effect of welfare state institutions on employment outcomes is to use a multivariate ordinary least squares (OLS) regression on a medium-N dataset, using the following regression equation:

$$\gamma = \alpha + \beta(X) + \delta(D) + \sum\rho(B) + \varepsilon$$

In this equation γ indicates the dependent variable, which will be either the unemployment rate, the youth unemployment rate or the duration of unemployment, depending on what hypothesis is being tested. The parameter α indicates the constant, where the fitted line crosses the Y-axis. The parameter β(X) indicates the effect of the primary explanatory variable of interest, which will be one of the welfare state institutions. The parameter δ(D) indicates the effect of the major exogenous variable, which in each regression will be the year on year change in the GDP of the country, which will control for the macroeconomic effects of fluctuations in the business cycle that are independent of the welfare state institutions being analysed in this study. The parameter ρ(B) represents the cumulative effect of a combination of confounding endogenous variables that are also likely to have an effect on the results, with ε denoting the equation's error term.

Regressions will be run firstly using all of the data in the base sample in order to try and reveal any *overall* trends across all of the different welfare state regimes. Regressions will then be run on welfare state regimes individually in order to try and see what effect the welfare state institutions have in different environments, when they interact with a different set of institutions and thus lead to different labour market outcomes.

To test the robustness of the results, a number of additional analyses will be undertaken to see whether the results remain valid under the same assumptions but when operationalising the concepts in a slightly different way or using an alternative data source. Firstly, a regression will be run using total social expenditures as a percentage of GDP as a proxy for benefit generosity rather than the replacement rate as the independent variable. Secondly, a regression will be run on the Conservative regime type that does not include France to see how this affects the results and to test whether France should continue to be considered as part of the Conservative category, as per the discussion above. Thirdly, noting that in Esping-Anderson's *Three Worlds* (1990) he considered the Mediterranean welfare states to be examples of undeveloped Conservative regimes rather than a unique category, coupled with the fact that the Mediterranean states were the worst hit in terms of unemployment resulting from the 2008 financial crisis, the results will also be analysed with the Mediterranean regimes omitted to see what effect this may have on the results. Fourthly, as the level of union density and the percentage of the workforce that fall under collective bargaining wage agreements are likely to be endogenously linked, the regression will be run twice using the variables individually to see which of the two it is that has the greatest effect on labour market outcomes.

8. Results and Analysis

The results tables show the coefficient results from the multivariate OLS regressions, as per the equation outlined in the methodology in section (7) above. The coefficients have been rounded to the nearest hundredth, so are accurate to two decimal places, and the standard errors are displayed in parenthesis underneath the coefficients. Coefficients that are marked with an asterisk (*) are those that are statistically significant at the 95 percent confidence interval, therefore with any coefficients that are not marked with an asterisk, it is not possible to completely reject the null hypothesis that the explanatory variable in question has no effect on the outcome variable. It should also be noted that due to rounding the results to two decimal places it is possible that the results display coefficients that appear more than twice as large as the associated standard error yet are not marked with an asterisk. This is purely a result of the rounding process - if the coefficient is not denoted as being statistically significant then it means the t-value (the coefficient divided by the standard error) of the actual results was less than plus or minus two, and therefore the possibility remains that the results were down to chance and random variation in the data. For each results table, column (1) will show the overall aggregate results for all of the countries used in the research. Column (2) will show the results for Liberal welfare regimes, column (3) will show the results for Conservative regimes, column (4) will show the results for Social-Democratic regimes, while columns (5) and (6) will show the results for Australasian and Mediterranean regimes respectively.

Table (1) – Causes of Unemployment

Dependent variable = Unemployment rate

	(1)	(2)	(3)	(4)	(5)	(6)
	ALL	**LIB**	**CON**	**SD**	**AUST**	**MED**
Replacement rate	.10	.46*	-.18	-.08	.01	.72
	(.07)	(.12)	*(.09)*	*(.13)*	*(.08)*	(.38)
GDP change	-.47*	-.14	-.03	.02	.11	-.17
	(.09)	*(.13)*	*(.10)*	*(.06)*	*(.06)*	(.16)
Maximum duration	-.01*	.00	.03*	-.02*	-.00	.08*
	(.00)	*(.02)*	*(.01)*	*(.01)*	*(0.0)*	(.04)
ALMP expenditure	-.12*	-.28*	-.06*	-.03*	-.30*	-.67*
	(.02)	*(.06)*	*(.02)*	*(.01)*	*(.03)*	(.11)
Employee protection	.05*	-.16	-.25*	-.30*	.00	-.19*
	(.01)	*(.32)*	*(.09)*	*(.06)*	*(.02)*	(.05)
Unemployment trap	-.13	-.09	.37*	-.01	-.02	-.90
	(.09)	*(.09)*	*(.15)*	*(.17)*	*(.08)*	(.49)
Union density	.01	.29	-.09*	.15*	.21*	-.07
	(.01)	*(.26)*	*(.03)*	*(.03)*	*(.06)*	(.12)
Observations	*269*	*60*	*60*	*60*	*30*	*59*

Table (1) shows the results of the regression analysis when using the aggregate unemployment rate as the dependent variable, therefore the coefficients tell us about the strength of the relationship between the various welfare state and labour market institutions and the unemployment rate.

8.1 Replacement rate

The coefficient of .10 in Column (1) shows that overall, the level of benefit generosity in terms of the replacement rate does appear to have a small positive effect on the aggregate unemployment rate once the other confounding variables have been controlled for. Interestingly though, there is significant variation in the results between the different types of welfare regimes. Column (2) shows that, with a coefficient of .46, in Liberal welfare regimes, there is a strong positive correlation between the replacement rate and the unemployment rate, suggesting that as benefits become more generous more people choose not to work in these states, as was hypothesised above. Columns (3) and (4) show that in Conservative (-.18) and Social-Democratic (-.08) regimes there appears to be a negative correlation between benefit generosity and the unemployment rate, so that increasing the level of unemployment benefit actually leads to a reduction in unemployment. There are a number of possible explanations for these seemingly counter-intuitive results. The first is that the 'entitlement effect' (Mortensen 1977) explained above in section 5.4(C) in these welfare regimes is particularly strong, and individuals wish to be entitled to receive unemployment benefit in the future, and therefore decide to transition into employment which lowers the unemployment rate. This explanation also seems intuitively appealing as the results were strongest in the Conservative regime type, which is the type that places the greatest emphasis on previous contributions (Esping-Anderson 1990), and would therefore be the regime type in which the entitlement effect would be expected to be the strongest. A further possibility is that while the level of generosity is negatively correlated with the unemployment rate, correlation does not necessarily imply causation, and reverse causality could be having an effect. For example, it is theoretically possible that if the economy is already performing well and unemployment is low, policy-makers may find themselves in receipt of more tax revenues and are therefore in a position to offer more generous welfare payments. Columns (5) and (6) show that in Australasian (.01) and Mediterranean (.72) regimes, results were in line with the *a priori* expectations, with generosity having a small positive effect in the former and a much larger effect in the latter regime type. The coefficient in Mediterranean regimes is much larger than any of the others, and significantly bigger than the effect found in studies by Ding (2014) and Filiz (2017), however this could simply reflect that the financial crisis caused such large changes in the unemployment rates in the Mediterranean regimes that controlling for the change in GDP in the

regression is insufficient in fully capturing the exogenous effects of the business cycle. For example, from 2007 to 2013 the unemployment rate in Italy more than doubled, while at the same time the replacement rate became more generous, rising from 57 to 58%. So while it appears that the direction of the correlation is correct, it also suggests that omitted variable bias in terms of the business cycle may be a factor as it is difficult to envisage how the relatively small increases in benefit generosity alone could have such a large effect on the unemployment rate if all possible confounding variables have been adequately controlled for. However, it should be noted that none of the coefficients for benefit generosity are statistically significant, therefore it is not possible to fully reject the null hypothesis and therefore caution will need to be taken when drawing any conclusions from these results. In terms of the hypotheses being tested, the first hypothesis that '*Increased unemployment benefit generosity will be positively correlated with the unemployment rate'* can be accepted, however only with caution. While some evidence to support the hypothesis was found in the Australasian, Liberal and Mediterranean regime types, the results show the opposite effects in the Conservative and Social-Democratic regimes, with the overall effect across all cases was not statistically significant. There also appears to be mixed evidence in support of the second hypothesis - *'The effect of unemployment benefit generosity will be greater in welfare regimes where payments are based on prior contributions (Conservative / Mediterranean) than in regimes with universal or means-tested benefits (Liberal / Australasian / Social-Democratic)'.* While the coefficient for the Mediterranean (.072) regime that does rely more heavily on past contributions is considerably larger than the universalistic Social-Democratic (-.08) and the means-test oriented Australasian (.01) regimes, the effect in Liberal (.46) regimes is in fact considerably larger than that found in Conservative (-.18) regimes. However, caution must again be taken when reading these results. The premise behind hypothesis 2 was that benefits based on previous contributions mean that individuals are able to better maintain their standard of living and be less incentivised to return to work compared to other regime types, however the correlation between benefit generosity and the aggregate unemployment rate is negative in Conservative regimes, meaning that although the effect was greater in Conservative regimes than in Social-Democratic and Australasian regimes as hypothesised, it was not as premised by the theory and therefore an alternative explanation may be required to explain the results. As with the first hypothesis, due to the lack of any statistically significant relationships between benefit generosity and the unemployment rate it is not possible to rule out the possibility that the results obtained are down to chance and random variation, therefore it is not possible to accept hypothesis 2 based on the dataset used in this study.

8.2 GDP Change

Changes in the business cycle and the overall strength of a country's economy are likely to be the biggest drivers and causal factors behind the aggregate unemployment rate at any given time, and this is largely borne out by the results. Table (1) shows a negative coefficient of -.45 across all of the cases in the study, suggesting that increases in GDP lead to a reduction in the unemployment rate. This is as would be expected, as a growing economy stimulates consumer demand and leads to job creation to satisfy that demand. Columns (2), (3) and (6) show that in Liberal (-.47), Conservative (-.03) and Mediterranean (-.17) regimes respectively GDP change appears to be an important factor in determining the unemployment rate in line with the overall trend in column (1), with large negative correlations in Mediterranean and Liberal regimes, and a smaller negative correlation in Conservative regimes. Contrary to this, however, are the results in columns (4) and (5) in the Social-Democratic (.02) and Australasian (.11) regimes, where instead the coefficients show a positive correlation between GDP change and the unemployment rate, suggesting that economic growth is actually linked to an increase in the unemployment rate. It is difficult to know exactly how these results should be interpreted given that they are seemingly so counter-intuitive. One possible explanation could lie in the fact that states found in Australasian and Social-Democratic welfare regimes have different natural resource endowments vis-à-vis the states found in other regime types in this study, with the states typified by low population densities and abundant tradeable natural resources (Ingebritsen 2006). With this in mind, it is possible that as the economies in these states tend to be more specialised and less diversified, when the economies are growing and GDP is increasing, firms are able to invest more money into capital expenditures which enhance the efficiency of the resource extraction industries and boost GDP, yet at the same time unemployment may increase as these expenditures rely more on better technology and automation than human labour. A significant amount of research exists on the subject of 'technological unemployment' (Kim, Kim and Lee 2017; Acemoglu 1997), however analysing whether or not this was the case in the Social-Democratic and Australasian regimes is beyond the scope of this study. Given that none of the coefficients for the individual welfare regimes were statistically significant it remains possible that the results were down to chance and therefore it would be prudent not to place too much emphasis on the analysis of the results beyond noting the disparity between the different regime types.

8.3 Maximum Duration

The results show that across all of the cases in the study there is found to be a very small but statistically significant negative correlation (-.01) between the maximum duration individuals can claim

unemployment benefit and the unemployment rate, contrary to what was hypothesised above. These results are also contrary to studies by Filiz (2017) and Vodopivec (1995), which both found that the maximum duration of benefits had a significant effect on the aggregate unemployment rate. Evidence supporting the hypothesis that maximum durations are positively correlated with is found in Liberal (.00), Conservative (.03) and Mediterranean (.08) welfare regimes, with statistically significant effects found in the latter two. The effect was especially strong in Mediterranean regimes, with the coefficient being four times as large as that in Conservative regimes. However, counterintuitively there was also found to be a very small but significant negative effect in Social-Democratic (-.02) regimes. It is difficult to hypothesis why this is the case, as there does not appear to be any obvious causal mechanism whereby increasing the length of time people can claim benefits would result in them remaining unemployed for less time, which suggests that the results could be affected by omitted variable bias. The results may also not fully capture the effect of maximum durations on the unemployment rate due to inadequacies in the methodology. The data obtained from the OECD shows that once decided, the maximum duration individuals can claim benefits for tends to be remarkably resilient and changes very little over time. To emphasise, in over half of the countries in this study there was no change in the maximum duration over the entire period under review, and in those that did the changes tended to be rare and relatively small. Therefore it is difficult when using an OLS regression technique to isolate the effect of the maximum duration due to the very limited variation in the variable. In order to more effectively capture this effect it would likely be better to use a regression discontinuity approach using data from just before and just after a change in the maximum duration length and seeing how the results differ between the two, however that is beyond the scope of this research.

8.4 ALMP expenditure

Perhaps the most surprising results in this research relate to the effect ALMPs have on labour market outcomes, with reasonably large and statistically significant negative relationships found between ALMP expenditure and the aggregate unemployment rate across all welfare regime types. The negative correlations found are as one would intuitively expect to find – it makes sense that increasing the amount of spending on policies specifically designed to help unemployed individuals transition into employment will result in the unemployment rate decreasing, provided that the specific policies were successful. Column (1) in Table (1) serves to illustrate this point, and shows that when all the cases are examined together the co-efficient is -.12. This indicates that overall a decrease in ALMP spending of 13% results in a 1% increase in the unemployment rate. This is interesting as it suggests a much stronger correlation

between ALMP spending and the unemployment rate than was found in a review study by Kluve (2006). It is important to note, however, that while ALMPs have been criticised by authors in the past for not being an effective means of reducing unemployment, this has largely been in terms of the costs involved and whether the ALMPs were cost-effective rather than simply being effective *per se* (De Koning and Peers 2007). This is an important distinction to make, as while it can be seen that ALMP expenditure is negatively correlated with the unemployment rate, if the costs of administering ALMP programmes are prohibitively high then policy-makers and voters may well decide that a higher unemployment rate is a price worth paying in order to spend the money ALMPs cost in an alternative way. Columns (2) and (3) show that, relative to other welfare regime types, the effect of ALMP expenditure is not as strong in Conservative (-.06) and Social-Democratic (-.03) regimes. This is interesting because, as seen in Figure (5) above, actual spending on ALMPs is considerably higher in Social-Democratic and Conservative regimes than it is in any of the other regime types. Columns (4) and (5) show that the effect of ALMP expenditure on the unemployment rate is strongest in Australasian (-.30) and Mediterranean welfare regimes (-.67), and particularly strong in the latter. This is interesting in light of the quite rapid labour market changes that resulted from the global financial crisis beginning in 2008. The Mediterranean states were heavily hit by the crisis, and as members of the Eurozone they were not able to use monetary policy to stimulate their economies, as was the case in states with a sovereign fiat currency such as the UK and the USA (Martin 2013). As such, they were required to borrow from supranational institutions on the condition that social expenditures, such as ALMPs, were cut (Wroughton, Schneider and Kyriakidou 2015). It is therefore possible that the comparatively large coefficient seen in column (5) could be partly attributable to omitted variable bias, and that controlling for GDP change in the regression may not fully capture the change in unemployment resulting from the business cycle and the poor economic performance of the Mediterranean countries in the years following the financial crisis. For example, if the sharp increases in unemployment seen across all Mediterranean welfare states meant these countries needed to borrow money as tax receipts fell, and they could only borrow money if they cut social expenditures including ALMPs, then there would appear to be a negative correlation between ALMP expenditure and the unemployment rate. However, correlation does not necessarily imply causation and if this scenario was indeed the case then it could also be argued that it is reverse causality in effect, and it is in fact the increase in unemployment that is causing the reduction in ALMP expenditures. So while ALMP expenditure is negatively correlated with the unemployment rate as hypothesised, it is quite possible that the direction of the causation and the size of the coefficients may not accurately reflect the actual strength of the effect.

In section 5.3(E) above, it was hypothesised that *the actual effect of ALMP expenditure on the unemployment rate will be greater in Liberal and Australasian regimes than it is in Conservative and Social-Democratic regimes*, and the results show that this is the case, meaning the hypothesis can be accepted. Indeed, the coefficients of -.28 and -.30 in Liberal and Australasian regimes respectively are considerably larger than the coefficients of -.06 and -.03 found in the Conservative and Social-Democratic regimes. This suggests that, while Liberal and Australasian states may spend less on ALMPs than Conservative and Social-Democratic states, that money is actually better spent and the particular policies chosen are more effective in transitioning individuals into employment.

8.5 Union Density

As column (1) shows, overall the level of union density does not appear to have a major effect on the unemployment rate, with the coefficient of 0.1 showing a very small but statistically insignificant correlation between the two. This means that based on this dataset it is not really possible to accept the hypothesis that higher union density leads to a higher unemployment rate. Interestingly though, within the Conservative (-.09), Social-Democratic (.15) and Australasian (.21) regimes, union density does appear to be a causal factor. Columns (4) and (5) show that, as hypothesised above, union density is positively correlated with the unemployment rate, and this effect appears particularly strong in the Australasian regimes. Contrary to expectations, however, column (3) shows that in the Conservative regimes union density was in fact negatively correlated with the unemployment rate, although the coefficient of -.09 is considerably smaller than the effect found in the Social-Democratic and Australasian regimes. It is difficult to accurately explain why this should be the case. One possible explanation is that it is much more difficult for employers to fire unionised employees compared to those non-unionised, and therefore there are union members in employment that would otherwise not be, and firms have to hire additional workers to fill the production gap caused by unproductive unionised employees. Alternatively, another theory advanced by the Australian Council of Trade Unions suggested that strong unions drive up wages, which in turn stimulates demand and this demand translates into more jobs and a reduction in the unemployment rate (Karp 2018). As explained above, labour representatives typically have much more input into wage-setting in Conservative regimes than in the others via three-way bargaining between labour, industry and government representatives. Therefore if this theory is correct it would be expected that the effect found was strongest in Conservative regimes, as the results appear to show.

8.6 Unemployment Trap

Contrary to the positive correlation hypothesised above, the coefficient of -.13 in figure (1) shows that there is in fact a negative overall correlation between the unemployment trap and the unemployment rate, with the only statistically significant evidence in support of the hypothesis being found in Conservative (.37) welfare regimes. These results are surprising, as it is so intuitively appealing to think that if individuals were little better off in work than out of work then they would not choose to transition into employment. It could suggest that the people gain utility from working and therefore even though they might only be little better off financially if they return to work they are willing to do so anyway. Further to this, the unemployment trap only really affects low-wage workers, as those on higher wages would be significantly better off working than not. It is plausible that people accept earning little more initially from returning to work in the expectation that once in employment their wages will increase in the future, and therefore the effect of the unemployment trap on the unemployment rate is minimal. Although the coefficient of -.90 in column (6) shows that a large effect seems to be found in Mediterranean regimes, the associated standard error is also very large, and as the results is not statistically significant it is unable to say whether this effect exists and therefore it is not possible to reject the null hypothesis. Very little effects were found in Liberal (-.09), Social-Democratic (-.01) and Australasian (-.02) regimes, none of which were statistically significant.

It was hypothesised in section 5.4(D) above that due to the high level of taxation required to fund the Social-Democratic welfare states and the comparatively low level required to fund the more residual Mediterranean welfare states that *the effect of the unemployment trap will be considerably stronger in Social-Democratic welfare regimes than in Mediterranean regimes.* However, the results show that contrary to these expectations, the opposite appears to hold true and in fact the effect appears to be much greater in Mediterranean regimes, although it must be noted that in neither case was the coefficient statistically significant so therefore, based on the sample used in this analysis, it is not possible to fully reject the hypothesis. Again, it is difficult to account for why these counter-intuitive results appear as they do. One explanation could be that individuals in Social-Democratic regimes are more accepting of high taxation as a price to pay for a large welfare state, and thus do not have a problem with a large unemployment trap. Another explanation could be that the individuals in Social-Democratic states find work to be utility enhancing and appreciate the psychological benefits working provides, and as such do not mind that they may earn little more in work than they do out of work. However, to find out exactly why individuals in Social-Democratic regimes seem to be much less influenced by the unemployment trap

than individuals in Mediterranean welfare regimes would require data on the preferences and motivations of individuals that is beyond the scope of this research.

8.7 Employee Protection

As the coefficient of .05 in column (1) shows, overall there appears to be a very small but statistically significant positive correlation between the level of employee protection and the unemployment rate, supporting the theory that the more protections employees have the more reluctant employers are to hire new employees as it is more difficult to sack them if they do not perform, and therefore the employment rate is lower than it otherwise would be. However, while this affect seems apparent at the macro-level, it is difficult to interpret exactly how that is the case, given that at the micro-level there is a stronger and statistically significant negative effect found in Conservative (-.25), Social-Democratic (-.30) and Mediterranean (-.19) welfare regimes, and individually there are no positive correlations found between employee protection and the unemployment rate in any of the regime types. A possible explanation for these counterintuitive results could be that as employee protections go down, individuals become easier to fire and after the financial crisis and subsequent economic downturn and labour market reforms, firms in states with lower employee protections found it easier to lay off staff, and this led to an increase in the unemployment rate. The size of the coefficients could also be influenced by the fact that, as with the maximum durations of unemployment, the data for employee protection shows remarkable consistency with little variation over time in most welfare states. Therefore it is again difficult to fully isolate the effect of employee protection on the unemployment rate using this regression model and the causal effect may be better identified using an alternative methodological approach. As such, the hypothesis that *the overall effect of employment protection legislation on labour market outcomes will not be statistically significant* can be rejected based on the data used in this study.

8.8 Youth Unemployment

Table (2) – Youth Unemployment

Dependent variable = Youth Unemployment Rate

	(1)	(2)	(3)	(4)	(5)	(6)
	ALL	**LIB**	**CON**	**SD**	**AUST**	**MED**
Replacement rate	.31 (.16)	.81* (.24)	.19 (.23)	.52 (.27)	-.15 (.15)	1.38 (.70)
GDP change	-1.21* (.20)	-.27 (.24)	-.21 (.24)	-.15 (.11)	-.07 (.11)	-.27 (.30)
Maximum duration	-.02 (.01)	.00 (.03)	.06 (.03)	.03* (.01)	.01 (.00)	.22* (.07)
ALMP expenditure	-.33* (.04)	-.65* (.11)	-.11* (.05)	-.08* (.03)	-.66* (.06)	-1.6* (.21)
Employee protection	.20* (.03)	-.09 (.59)	-.87* (.22)	-.34* (.12)	-.01 (.04)	.45* (.09)
Unemployment trap	-.01 (.04)	-.25 (.17)	.21 (.38)	-.10 (.33)	-.12 (.15)	1.69 (.92)
Union density	.09* (.03)	.37 (.49)	-.16* (.07)	.37* (.05)	.51* (.11)	.47* (.22)
Observations	*269*	*60*	*60*	*60*	*60*	*59*

Table (2) shows the results of the regression analysis while using the youth unemployment rate as the dependent variable and keeping all other variables the same, testing the hypotheses that *the generosity of unemployment benefits will be negatively correlated with the youth unemployment rate* and *the effect of unemployment benefit generosity on youth unemployment will be stronger in Social-Democratic and Conservative regimes than in Liberal and Australasian regimes.* Analysing the results when using the youth unemployment rate as an alternative dependent variable also adds value in that it allows us to see if younger workers respond to incentives in the same way as workers in general. For instance, while it is assumed that for most people who are unemployed that they have *some* experience of working, and thus will likely have had experience of earning wages, belonging to unions and having an idea of their personal work preferences. However, a large proportion of the youth who are unemployed will not have much experience of these factors. To elaborate, if someone has earned wages previously but is now unemployed in a state with low replacement rates, the drop in income may seem particularly significant and incentivise them to return to work, whereas if a youth unemployed has no experience of having a higher income, they may not feel they are missing out on anything by not working. Therefore, running the regression

using both general and youth unemployment as dependent variables allows comparisons to be made between the two that can potentially be used to generate new theories.

Column (1) shows that overall there is in fact a positive correlation between the replacement rate and the youth unemployment rate, and although the coefficient of .31 is not statistically significant, the associated standard error of .16 means that it is still likely that the correlation is legitimate, and therefore the first hypothesis is rejected. Moreover, the generosity in terms of the replacement rate was only found to have any statistically significant effect in the Liberal (.81) regime type, and this correlation too was positive, indicating that increasing the level of benefit generosity results in a higher youth unemployment rate. Interestingly, the overall effect of benefit generosity was three times greater on youths than it is across all workers, suggesting young people are more incentivised by generous benefits than older workers. This is perhaps not surprising, given that older workers are much more likely to need to work in order to pay rent, bills and support dependents than young people, and therefore even generous benefits may not suffice compared to the income received when in work.

When all the cases in the study are analysed collectively, column (1) shows that in terms of the causal factors behind the youth unemployment rate, as would probably be expected it is the effects of the business cycle measured in terms of GDP change (-1.21) that has the strongest effect, with a much stronger negative correlation between the two than is found across the general population (-.47). This accords with what has been seen across much of the world as youth unemployment soared in the wake of the 2008 financial crisis, with particularly chronic problems found across much of southern Europe (Petroff 2017). According to a 2012 UN report this is because 'during economic downturn, young people are often the 'last in' and the 'first out' – the last to be hired, and the first to be dismissed. This issue has particularly severe implications for the school to work transition, the period when young people enter the labour market to look for their first job' (UNRIC, 2012). So with young workers being the easiest to fire and the least attractive to potential employers during times of poor economic performance, this explains why youth unemployment rises more than the general unemployment rate when the economy is performing badly. Another large negative correlation exists between youth unemployment and ALMP expenditure (-.33), indicating that as ALMP expenditures decrease the youth unemployment rate goes up. The size of this effect is also considerably larger than that found across all age groups (-.12) in Table (1). This is likely to be because when the economy performs poorly, as happened in all countries in this study following the financial crisis, states seek to cut costs and reduce spending on ALMPs such as training schemes that would normally benefit youth workers and help them into work. The fact the effect was

greater amongst youths suggests that many ALMPs are targeted at young adults, which is probably as one would intuitively expect, as getting people into work when they are young increases the prospects of them remaining in work when they are older. This explanation was also the one given in a recent study on the effects of the financial crisis on youth unemployment, which concluded with 'the main policy implication is that effective active labour market policies and better school-to-work transition institutions are particularly needed to reduce the risk of persistence and structural (long-term) unemployment, since young people have been worst affected by the last crisis' (Choudhry, Marelli and Signorelli 2012). Statistically significant correlations were also found between both the level of employee protection (.20) and the level of union density (.09) and the unemployment rate, and again the coefficients were significantly larger than the coefficients found when analysing workers of all ages, which were .05 and .01 respectively. The reasons for this are likely to apply to both variables through the same causal mechanism. Unions serve the interests of their members, who are all individuals currently in employment, and seek to enhance the level of employee protection so that the members are more secure in their jobs. However, they do not serve the interests of those who are not employed, and more protection for those in work comes at the expense of employment opportunities for those out of work, of which youth are the worst affected demographic. Contrary to prior expectations, no statistically significant effect was found between the maximum duration of benefit receipt or the unemployment trap and youth unemployment.

Column (2) shows that for the Liberal welfare regimes, the main causal factors driving youth unemployment are ALMP expenditure (-.65), with a negative correlation found between the two, and the replacement rate (.81). However, no statistically significant correlations were found between youth unemployment and any of the other variables analysed. This suggests that moral hazard is a particularly pertinent problem in Liberal welfare regimes compared to the other regime types, and that labour market institutions such as union density and employee protection have much less of an influence when compared to the welfare regimes found throughout mainland Europe and the southern hemisphere. In Column (3), it is shown that in Conservative welfare regimes, it is again ALMP expenditure (-.11), the level of employee protection (-.87) and the union density (-.16) that are the only statistically significant factors affecting the youth unemployment rate. While ALMP is negatively correlated, likely for the reasons outlined above, interestingly and contrary to the theoretical expectation, both union density and the level of employee protection are too negatively correlated, suggesting that the youth unemployment rate rises in conjunction with decreased union membership and employee protection. It is difficult to theorise why this would be the case, however it is possible that the theory outlined above that unions raise wages, which stimulates demand in the economy and results in extra jobs holds especially true for youths, if those

extra jobs created were at the low-wage/low skill sector of the market. However, the link between employee protection and youth unemployment is one that has received little attention, with a study by Noelke (2011) 'reject(ing) the view that strict employment protection legislation is or has been the cause of high youth unemployment rates or low youth employment rates'. Therefore further research is required in order to determine the causal mechanism that explain exactly why youth unemployment should be negatively correlated with union density and employee protection in Conservative welfare regimes. Column (4) shows that in Social-Democratic regimes, as was the case in Conservative regimes, ALMP expenditures (-.08), employee protection (-.34) and union density (.37) all show statistically significant correlations with the youth unemployment rate. There is also a very small but statistically significant positive correlation found between youth unemployment and the maximum duration of benefit receipt (.03). This effect was as hypothesised above, suggesting that in Social-Democratic regimes youths seeking work increase their search intensity as benefits are due to expire, which increase the likelihood of entering employment. Column (6) shows that this effect is also apparent, albeit much stronger, in Mediterranean (.22) welfare regimes. Statistically significant effects It were also found in line with the overall trends, with a negative correlation between ALMP expenditure (-1.6) and youth unemployment and positive correlations between employee protection (.45) and union density (.47) and youth unemployment. Interestingly, the effects of all of these variables are considerably larger in Mediterranean regimes than the effect found in the other regime types, suggesting youths are much more influenced by welfare state and labour market institutions in Mediterranean states than they are elsewhere.

It was hypothesised in section 5.4(C) above that in terms of welfare regime*, the effect of unemployment benefit generosity on youth unemployment will be stronger in Social-Democratic and Conservative regimes than in Liberal and Australasian regimes.* This was hypothesised because in Social-Democratic and Conservative regimes, unemployment benefits are contingent upon a previous employment history whereas this is not always the case in Liberal or Australasian regimes, and therefore it was thought that the entitlement effect outlined above would be much stronger in these regimes. However, as the results show, the effect was strongest by a considerable distance in Liberal welfare regimes, which was also the only regime type where the effect was statistically significant. This suggests that the entitlement effect outlined in section 5.4(C) above is not as strong as the effect of benefit generosity on individuals' job search behaviour, and therefore the hypothesis can be rejected. However, that is not to say that the entitlement effect does not exist – it is possible that the coefficients in Social-Democratic and Conservative regimes would be larger if unemployment benefits were not dependent upon a previous work history, and the entitlement effect does go some way to mitigating the effect of benefit generosity on the unemployment

rate. However, to know if this was indeed the case would require data showing what the precise motivations were for individuals deciding whether or not to transition into employment, which is beyond the scope of this research.

8.9 Duration of Unemployment

Table (3) – Unemployment Durations

Dependent variable = Unemployment Duration

	(1)	(2)	(3)	(4)	(5)	(6)
	ALL	**LIB**	**CON**	**SD**	**AUST**	**MED**
Replacement rate	-.05 (.02)	.24* (.04)	.12* (.02)	-.02 (.05)	.02 (.05)	-.06 (.05)
GDP change	-.02 (.02)	.04 (.04)	.06* (.02)	.04 (02)	.15* (.04)	.06* (.02)
Maximum duration	-.01 (.00)	.00 (.00)	.00 (.00)	-.01 (.00)	-.00 (.00)	.06 (.05)
ALMP expenditure	.01 (.04)	-.07* (.02)	.00 (.01)	.00 (.06)	-.09* (.02)	-.09* (.01)
Employee protection	.05* (.00)	.06 (.09)	-.01 (.02)	-.11* (.02)	.02 (.01)	.02* (.01)
Unemployment trap	-.05* (.02)	-.04 (.05)	.21* (.04)	.02 (.06)	-.04 (.05)	.06 (.07)
Union density	-.02* (.01)	.02 (.08)	-.04 (.01)	.05* (.01)	.05 (.04)	.04* (.02)
Observations	*269*	*60*	*60*	*60*	*60*	*59*

Table (3) shows the results from the regression analysis using the duration of unemployment as the dependent variable, showing how different welfare state institutions affect the length of time individuals remain unemployed for. This is done in order to test the hypothesis *longer durations of benefit entitlement will be positively correlated with the duration of unemployment,* and also to see if the welfare state institutions not only influence the aggregate rate of unemployment, but also how long individuals typically remain unemployed. Although the concepts are likely to be endogenously related, they are analytically distinct as it is possible to have a low unemployment rate yet those who are unemployed spend a long time unemployed, and vice versa, should the nature of the work be seasonal or on short-term contracts.

Column (1) shows that in general, it is the level of employee protection (.05), the unemployment trap (-.05) and the union density (-.02) that are the most significant causal factors behind the length of an individual's spell of unemployment, with statistically significant coefficients found between these variables. In Liberal welfare regimes, as hypothesised, the level of benefit generosity (.24) is positively correlated with the unemployment duration, suggesting that generous benefits disincentivise individuals

from actively seeking work in these regimes. ALMP expenditure (-.07) is also negatively correlated with unemployment durations, so when ALMP spending is increased the length of time people remained unemployed typically shortens. In Conservative welfare regimes, as was the case in Liberal regimes, there is also a positive correlation between benefit generosity (.12) and the length of time individuals remain unemployed, although the effect is not as strong as in the Liberal cases. The unemployment trap (.21) also appears to be a significant factor behind unemployment durations in Conservative regimes, suggesting that if the effective tax on returning to work rises individuals are less incentivised to do so, and therefore remain unemployed for longer. Column (4) shows that in Social-Democratic regimes, ALMP spending (-.09) and the level of employee protection (-.11) are negatively correlated with the duration of unemployment, and union density (.05) is positively correlated, while in Australasian regimes it appears to be ALMP expenditure (-.09) that is the most important factor behind unemployment durations, with a strong negative correlation between the two. As column (6) shows, in Mediterranean regimes, a relatively large statistically significant negative relationship exists between ALMP expenditure (-.09) and the duration of unemployment, and there are also smaller but still statistically significant relationships between the level of employee protection (.02) and union density (.04) and the unemployment duration.

The results show that there is a clear correlation overall between the aggregate unemployment rate shown in Table (1) and the duration of unemployment, as the direction of the correlations are the same for all but two of the variables being analysed. Interestingly, the major difference is in the replacement rate, with the coefficient when using the unemployment rate as the dependent variable being .10, while that changes to -.05 when using the unemployment duration instead, which suggests that generous unemployment benefits tend to make more people unemployed overall, yet those who are out of work spend less time unemployed between jobs. It is difficult to explain why this would be the case, however the only plausible explanation beyond methodological or data issues is that the entitlement effect explained in section 5.4(C) is in effect, and people work for short periods of time to become entitled to benefits, then when that entitlement is guaranteed they then manufacture an exit from the workplace. However, this theory is especially speculative and further research would be required to explain why these results appear as they do.

One would intuitively expect that the causal mechanisms between the welfare state institutions and the length individuals remain unemployed work in the same way as they do between the welfare state institutions and the aggregate overall unemployment rate, so the explanations offered above in section 8 do not need to be repeated again here. However, as was explained in section 6.2, the measure used to

capture the average duration individuals spend unemployed in each country was somewhat arbitrary and may not have accurately reflected the amount of time they actually spent unemployed in reality. This could perhaps explain some of the coefficient results that are very counterintuitive to what would normally be expected, typically in terms of GDP change. Conservative (.06), Mediterranean (.06) and especially Australasian (.15) welfare regimes all show a strong and statistically significant positive relationship between GDP and unemployment duration, while positive but not statistically significant relationships were found in the other regime types. This would suggest that as economies expand individuals spend a longer time unemployed, however there are no obvious reasons as to why this would be the case. It is theoretically possible that the reason is down to matching, and individuals think that as an economy grows and more jobs are being created, they will not accept certain job offers in the anticipation that a better job that better matches their skillset will become available in the future. Similarly, the coefficients suggest that when the economy contracts and there is less supply and more demand for jobs as individuals become unemployed, unemployment durations tend to be shorter. One explanation for this could be due to the nature of the work that is available. For example, the type of employment could be cyclical, seasonal or only being offered in short-term contracts as firms do not wish to hire full-time staff during economic downturns. If this is the case, individuals may spend lots of short periods in and out of work, and using the model chosen in this study to calculate unemployment duration this would indeed indicate short unemployment durations. For example, if someone is offered a month's work at a time and then has no work for a month, over a year that individual would have spent six months unemployed, yet the coefficient result will indicate the same as it would had six individuals returned to work full-time after only one month of being unemployed. The former would be indicative of poor labour market policy and poorly functioning welfare state institutions while the latter would be indicative of successful policies and institutions, yet the coefficients would both indicate the same figure. While these theory-generating explanations are theoretical possibilities, they are still quite speculative and as yet untested, and it is more likely that in reality the positive correlation between GDP and unemployment durations shown in table (3) is as a result of the model used to calculate unemployment durations rather than being indicative of a true empirical phenomenon. Therefore, to more accurately gauge the effect welfare state institutions have on labour market outcomes, more research is needed and data needs to be collated that indicates the *actual* lengths individuals spend unemployed rather than using approximations based on a somewhat arbitrary model as was used in this study.

8.10 Robustness checks

Table (4) – Generosity: Social Expenditure V Replacement Rate

Dependent variable = Unemployment rate

	(1)		(2)
	ALL		**ALL**
Social Expenditure	.41* (.06)	**Replacement Rate**	.10 (.07)
GDP change	-.23* (.09)		-.47* (.09)
Maximum duration	-.01* (.00)		-.01 (.00)
ALMP expenditure	-.13* (.02)		-.12* (.02)
Employee protection	.02 (.01)		.05* (01)
Unemployment trap	-.03 (.02)		-.13 (.09)
Union density	-.01 (.01)		.01 (.01)
Observations	*269*		*269*

Table (4) shows the regression results when the concept of benefit generosity is operationalised in an alternative way, using total social expenditures as a percentage of GDP as the independent variable, rather than the net replacement rate. This is a commonly used indicator for benefit generosity and has been used in similar studies by Ding (2014) and Huber and Stephens (2001). While the replacement rates tend to refer only to the level of unemployment benefit generosity, social expenditures would be expected to cover a wider range of benefits for those out of work, such as housing and child benefits. The results in Column (1) show the results using social expenditures, while column (2) shows the results using replacement rates.

The most interesting thing of note is the similarity between the results for both independent variables, suggesting using replacement rates to capture the concept of benefit generosity is a reasonably robust methodological approach, however there are is also one particular difference that is of note. While the coefficients for the different conceptions of benefit generosity are positive, suggesting that increased benefit generosity is correlated with an increased unemployment rate, the coefficient for social expenditures (.41) in column (1) is much larger than the coefficient for replacement rates (.10) seen in column (2). This suggests that the receipt of unemployment benefit alone is not the only consideration when individuals are deciding whether or not to transition back into employment, and that they may also

be in receipt of other forms of welfare payments such as housing benefit which also influences their decision. For example, if the replacement rate is low, the theoretical expectation is that individuals would be more likely to return to work, and this is borne out by the results in column (2). However, if those individuals were in receipts of housing benefits as well, the need to return to work quickly may be less acute and their job search intensity may not be as strong as it otherwise would be in the absence of housing benefit. If this is indeed the case, it would explain why the coefficient is much larger in column (1) and the effect on the unemployment rate is larger for social expenditures as a whole rather than when measuring using replacement rates. The biggest problem when analysing these results, however, are the same as those identified in a previous study by Green-Pederson (2004). Firstly, using data for social expenditures as a percentage of each country's GDP gives no indication of how many people are actually in receipt of these expenditures or in which sectors of society they have been spent. For example, an ageing population and falling birth rates throughout the developed world will require greater social expenditures on pensions, however there is little evidence to suggest increasing pension expenditures has any significant effect on the aggregate unemployment rate. Secondly, when using social expenditures it is difficult to identify in which direction the causal mechanism is working. The global financial crisis saw unemployment throughout the OECD rise by 23.8% between 2008 and 2010 (OECD, n.d), which translates into some 8.1 million additional people out of work, the vast majority of whom it is assumed would be requiring some sort of welfare state assistance. Therefore in most countries as unemployment soared, social expenditures had to rise in order to provide welfare to the extra people that were no longer employed, which would explain the strong positive correlation between the unemployment rate and social expenditures. However, these extra expenditures were also coming at a time when states were implementing austerity measures that reduced the level of benefit generosity in many cases, so in effect social welfare expenditure was increasing at the same time as the level of benefit generosity was decreasing. Therefore it is quite possible that rather than high unemployment being caused by high levels of welfare expenditure, it is in fact the other way around and high levels of welfare expenditure are being caused by the high unemployment rate. This possible explanation is also one that was established in a study by Armingeon (2012), which showed how increasing social expenditures happens as a result of automatic counter-cyclical economic stabilisers aimed at mitigating against the worst effects of financial crises.

Table (5) – France: Conservative welfare regime?

Dependent variable = Unemployment Rate

	(1)	(2)
	Inc. France	**Not Inc. France**
Replacement rate	-.18 (.09)	-.43* (.11)
GDP change	-.03 (.10)	-.04 (.10)
Maximum duration	.03* (.01)	.01 (.01)
ALMP expenditure	-.06* (.02)	-.05* (.02)
Employee protection	-.25* (.09)	-.04 (.11)
Unemployment trap	.37* (.15)	.67* (.17)
Union density	-.09* (.03)	-.01 (.04)
Observations	*60*	*45*

Table (5) shows the results of the regression analyses for the Conservative welfare regime type only while using the unemployment rate as the dependent variable, with column (1) displaying the results of all the countries originally included in the Conservative typology, and column (2) showing the results when France are removed from sample, as per the discussion above. As can be seen, although there are some similarities between both sets of results, there are also some notable differences, indicating at first glance that perhaps France is no longer as proto-typical of the Conservative regime type as has been assumed in many previous studies (Esping-Anderson 1990; Arts and Gelissen 2010). The first major difference of note is that once France is removed from the typology, the replacement rate becomes a statistically significant (but negative) causal factor, with a strong negative correlation between the replacement rate (-.43) and the unemployment rate, suggesting that French individuals are perhaps more influenced to remain unemployed by increased benefit generosity. Although this seems counterintuitive at first glance, and contrary to the expectation that benefit generosity would disincentivise individuals from returning to work, it is more likely that reverse causality is a factor for the following reason. As the financial crisis spread, and the economic situation worsened, unemployment rose and governments' tax receipts fell. Austerity measures were rolled out across all of the states in the Conservative welfare regime type, which

included cuts to public expenditures including welfare programmes (Pietras n.d). Therefore as benefits were becoming less generous due to austerity, unemployment was rising and it is likely this that accounts for the negative correlation between replacement rates and the unemployment rate, as including GDP change in the regression does not appear to fully control for the effects of the global recession. However, in 2012 socialist Francois Hollande was elected in France on a platform of reversing austerity measures (Deen and Fouquet 2012), and indeed between Hollande's election and 2015 the replacement rate in France rose from 66 to 68 percent, while it either remained constant or fell in the other Conservative regime types. This may explain why the coefficient for replacement rates is much larger and statistically significant in column (2) once France has been taken out of the regression, as it seems to reflect more the effects of austerity measures on the unemployment rate than the effect of welfare generosity, and Hollande's reforms limited the extent of austerity in France vis-à-vis the other Conservative countries.

The other major differences noticed when France is removed from the regression is that the coefficients for the level of employee protection (-.04) and union density (-.01) become much smaller and also become statistically insignificant, suggesting that the effect of these two variables on the unemployment rate is considerably stronger in France than it is elsewhere in Conservative welfare regimes. This is perhaps not surprising given the historical strength of labour unions and the high levels of employee protections found in France, however it will be interesting to see what effect these variables have in the future, following President Macron's recently announced plans for 'a "major and ambitious" transformation of France's complex labour laws aimed at tackling mass unemployment' that would liberalise French labour laws and bring them more in line with those found elsewhere in western and central Europe (Willsher 2017).

To answer the question of whether France should be categorised as being part of the Conservative welfare regime typology or seen as a hybrid or belonging to an alternative type, the results and data suggest that it probably should be. Despite ideological differences with Germany over the best way to recover from the financial crisis, with France preferring a more Keynesian spending policy as opposed to Germany's preferred Chicago-oriented austerity policy (Deen and Fouquet 2012), the welfare state institutions – benefit generosity, duration of benefit entitlement, and ALMP expenditures primarily – have remained very similar, and thus from a welfare regime perspective it is believed that the two states should indeed be categorised together in the Conservative regime type.

Table (6) – Mediterranean: A distinct category of welfare regime?

Dependent variable = Unemployment Rate

	(1)	(2)
	Inc. Med	**Not Inc. Med**
Replacement rate	.10 (.07)	.06 (.05)
GDP change	-.47* (.09)	-.15* (.07)
Maximum duration	-.01* (.00)	-.01* (.00)
ALMP expenditure	-.12* (.02)	-.08* (.01)
Employee protection	.05* (.01)	.03* (.01)
Unemployment trap	-.13 (.09)	-.05 (.06)
Union density	.01 (.01)	01 (.01)
Observations	*269*	*210*

As noted above, in Esping-Anderson's (1990) original study on welfare state regimes, he did not consider the Mediterranean states of southern Europe to constitute a unique regime type, and instead stated that they were instead merely undeveloped Conservative welfare regimes. For reasons explained above the specific Mediterranean regime type has been used in this study, however it is acknowledged that there is a degree of subjectivity when determining whether or not the regime should be included. Moreover, the Mediterranean states have been those most badly affected by unemployment in the wake of the 2008 financial crisis, with chronic and structural unemployment problems still affecting much of Portugal, Spain, Greece and particularly southern Italy (OECD, n.d), and supranational loan conditionalities have required that major institutional welfare state reform has been undertaken at the behest of the IMF and ECB (Perez and Matsaganis 2017). To ensure that the major changes experienced in Mediterranean welfare regimes have not had an undue influence on the overall results, table (6) shows the results from the regression analysis when all cases are included in column (1), while column (2) shows the results once the Mediterranean states have been omitted from the analysis.

As the results show, omitting the Mediterranean regime type does not seem to have a major effect on the results. All of the statistically significant results remain statistically significant and all of the

correlations continue to flow in the same direction, with negative correlations found between GDP (-.15) and maximum durations of benefit receipt (-.01) and the unemployment rate, and positive correlations between the unemployment rate, the replacement rate (.06) and the level of employee protection (.03). The primary difference between the two sets of results is that once the Mediterranean states have been removed, the size of the coefficients becomes considerably smaller across all of the variables except union density and the maximum duration of benefit receipt, which remained constant. There are two main possibilities for why this is the case. The first is that the effect of the welfare state institutions on the unemployment rate is particularly strong in Mediterranean welfare states compared to other welfare regime types, and this explanation is in line with the coefficient results in Column (6) in Table (1) above, which shows that in general the coefficients did tend to be larger than for other regime types. The second possibility – that will be explained in further depth in below – is that omitted variable bias is affecting all of the results and the employment/unemployment change as a result of a state's economic performance is not fully captured by controlling for GDP change in the regression, and the problem is especially acute with regard to Mediterranean welfare regimes.

Table (7) – Union Density V Collective Bargaining

Dependent variable = Unemployment Rate

	(1)		**(2)**
	ALL		**ALL**
Replacement Rate	.01 (.01)		.10 (.07)
GDP change	-.43* (.09)		-.47* (.09)
Maximum duration	-.00 (.01)		-.01 (.00)
ALMP expenditure	-.15* (.02)		-.12* (.02)
Employee protection	.00 (.02)		.05* (01)
Unemployment trap	-.01 (.02)		-.13 (.09)
Collective Bargaining	.05* (.01)	**Union Density**	.01 (.01)
Observations	*269*		*269*

Table (7) shows the results of the regression when the union density variable is replaced with the variable showing the percentage of the workforce whose wages are determined by collective bargaining in column

(1), which can be compared to the results of the earlier regression using union density in column (2). As can be seen, the results are largely similar whichever variable is used in the analysis, with ALMP expenditure (-.15) and GDP change (-.43) still the biggest causal factors behind the aggregate unemployment rate. Interestingly, the results suggest that there is an interaction between the three labour market institutions – the level of employee protection, the union density and the level of collective bargaining – that combine to have a causal effect on the unemployment rate. As column (1) shows, when collective bargaining is used as the independent variable it has a statistically significant effect on the unemployment rate while the level of employee protection does not appear to have any causal influence. However, as column (2) shows, when union density is used as the independent variable it does not appear to have influence on the unemployment rate, yet the level of employee protection now does. It is difficult to know why this is the case, as the three institutions would intuitively appear to be linked. For example, it is typically union representatives that do the bargaining on behalf of the workforce (EurWORK 2017), and unions have historically played a key role in forcing concessions from employers that enhance the level of employee protection (Stevenson n.d). The combined effect of all three factors was hypothesised above in section 5.4(F) to be positively correlated with the unemployment rate, and the results shown in columns (1) and (2) appear to support that hypothesis, with statistically significant coefficients for the level of employee protection (.05) and the level of collective bargaining (.05) evident. However, the fact that the causal factors appear to be different in the different regressions suggest that the methodology is perhaps not robust enough to capture the isolated effects of each individual labour market institution, and that there is an element of endogeneity in effect. To emphasise, it is difficult to see quite how the level of union density has a very limited effect on the unemployment rate when the level of collective bargaining does, when it is generally the unions that are doing the bargaining. However, an alternative explanation could be that although it is the unions who do the collective bargaining, a free-rider problem exists because unions bargain on behalf of all workers in an industry, whether they are in fact union members or not, and it is the strength of the collective worker body rather than the strength of the unions *per se* that affects the unemployment rate.

8.11 Testing the hypotheses

Figure (11) below provides an overview of the hypotheses that were tested, and whether they can be accepted or rejected in each of the welfare state regime types. Blocks shaded in green indicate where the hypothesis is accepted and red shaded blocks indicate where the hypothesis is rejected. Blocks marked with a triple X indicate that the results were not statistically significant, and therefore it is not possible to say with certainty whether the hypothesis should be accepted or rejected based on the data used in this research.

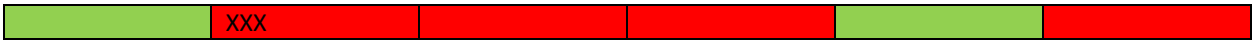
Figure (11) – Hypotheses Results

Overall	Liberal	Conservative	Soc. Democratic	Australasian	Mediterranean
1. Increased unemployment benefit generosity will be positively correlated with the unemployment rate.					
XXX		XXX	XXX	XXX	XXX
2. The effect of unemployment generosity will be greater in welfare regimes where payments are based on prior contributions (Conservative / Mediterranean) than in regimes with universal or means-tested benefits (Liberal / Australasian).					
3.a. Longer durations of benefit entitlement will be positively correlated with the duration of unemployment.					
XXX	XXX	XXX	XXX	XXX	XXX
3.b. Longer durations of benefit entitlement will be positively correlated with the aggregate unemployment rate					
XXX			XXX	XXX	XXX
4.a. The generosity of unemployment benefits will be negatively correlated with youth unemployment					
XXX		XXX	XXX		XXX
4.b. The effect of unemployment benefit generosity on youth unemployment will be stronger in Social-Democratic and Conservative regimes than in Liberal and Australasian regimes.					
5.a. The unemployment trap will be positively correlated with the aggregate unemployment rate					
XXX	XXX		XXX	XXX	XXX
5.b. The effect of the unemployment trap will be considerably stronger in Social-Democratic welfare regimes than in Mediterranean regimes					

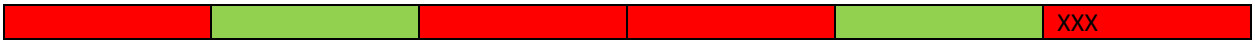
6.a. Supply side policies will be negatively correlated with lower aggregate unemployment rates

6.b. The actual effect of ALMP expenditure on the unemployment rate will be greater in Liberal and Australasian regimes than it is in Conservative and Social-Democratic regimes

7.a. Rigid labour market institutions will be positively correlated with the unemployment rate



8. The overall effect of employment protection legislation on the unemployment rate will not be statistically significant



9. Conclusion

The purpose of the research was to answer the research question 'how do welfare state institutions affect labour market outcomes?' The short answer is that different institutions become different causal factors depending on the type of welfare state regime that is being analysed.

When analysing the aggregate effects of welfare institutions on labour market outcomes including all the cases in the sample and ignoring the welfare regime dimension, they largely appear to conform to the theoretical expectations outlined in section 5 above. Increased benefit generosity leads to increased aggregate unemployment, as does increasing the level of employee protection and the union density, while increasing the amount spent on ALMPs leads to a reduction in the unemployment rate. Therefore, in regard to these welfare state institutions, the research tends to lend further weight to the existing theories. However, it was also found that, contrary to the theoretical expectation, increasing the effective tax rate on returning to work appears to lead to a reduction in unemployment, and increasing the time individuals can claim benefits for also appears to result in a very small drop in the unemployment rate. This casts some doubt on the strength of the existing theories regarding these welfare institutions, however the small size of the coefficients, their lack of statistical significance and no seemingly obvious causal mechanisms to explain why these phenomena have occurred mean that further research will be required to test the robustness of these results before any new theories can be generated on the subject.

In Liberal welfare regimes, increased benefit generosity causes increased unemployment, as does reducing ALMP expenditure. Interestingly, this was the only regime type that it can be said with confidence that unemployment appears to be heavily influenced by the generosity of benefits. This is interesting should Liberal states wish to undertake reforms of their unemployment institutions, as it suggests that a more efficient employment equilibrium might be reached if the actual level of benefits was reduced and individuals were more incentivised to enter employment. The large effect of ALMP expenditure on the unemployment rate also suggests that these policies are very effective in Liberal states, and play a significant role in improving human capital so that individuals are able to transition into employment.

In Conservative regimes, the configuration of the welfare institutions are such that there a number of factors that seem to affect the unemployment rate. The institution that has the biggest effect is the unemployment trap, which causes an increase in unemployment. Moreover, Conservative regimes are the only ones in which the maximum duration benefits leads to higher unemployment rates. This suggests that if Conservative states wish to reduce the unemployment rate, a good way would be to develop a policy that reduces the tax burden on those returning to work while at the same time reducing the amount of time individuals can claim benefits for. Another welfare institution affecting labour market outcomes in an interesting way is the level of employee protection, however in this regime type increased employment protection leads to a decrease in the unemployment rate, counter to the theoretical expectation. On the basis of this, a theory can be generated that in Conservative welfare states, as the level of employee protection goes up and firms become less able to fire unproductive workers, they hire extra workers to fill this productivity gap, thus lowering the unemployment rate. The most surprising finding was that in Conservative regimes, increased union density actually leads to a reduction in the unemployment rate. On the basis of the findings it is possible to generate a theory that in Conservative regimes, strong unions seek not just to protect their existing members but also to create more jobs and grow the economy, which should lead to higher wages in the future. However, this theory is somewhat speculative and much further research on the subject is required.

In Social-Democratic regimes, increasing ALMP expenditure causes a reduction in the unemployment rate, while reducing the length of time individuals can claim benefits for appears to lead to a very slight increase in the unemployment rate, contrary to the theoretical expectation outlined in section 5.4(B) above. As with the Conservative regimes, lowering the level of employee protection actually causes the unemployment rate to increase, however an interesting difference between the two regime types is that

while in both regime types employee protection and unemployment are negatively correlated, in Social-Democratic regimes increased union density leads to an increase in the unemployment rate. Further research is required to establish exactly why this is the case, as it is presently difficult to generate a theory that explains this phenomenon as one would intuitively assume that the effect of the two variables on the unemployment rate would work through the same causal mechanisms. In terms of policy recommendations, the findings suggest that should Social-Democratic regimes wish to lower the unemployment rate, the most effective way to do so would be to increase the level of employee protection and undertake union reforms.

In Australasian regimes, the welfare institution that most affects labour market outcomes is ALMP expenditure as unemployment rises as states spend less on these programmes , while increased levels of union density leads to increased unemployment, likely through the causal mechanisms outlined in section 5.4(E). Therefore, should policymakers in Australia and New Zealand wish to lower the overall and/or youth unemployment rate, the most effective way to do so would be to increase ALMP spending and undertake union reforms aimed at reducing the number of workers belonging to a union.

In Mediterranean regimes, increasing the maximum duration that individuals can claim unemployment benefits for causes an increase in the unemployment rate, as does reducing the amount spent on ALMPs, while increasing the level of employee protection leads to a decrease in the unemployment rate. This suggests that if Mediterranean welfare states wish to reform their institutions in order to reduce the unemployment rate, any policies should focus on reducing the duration of benefit entitlement so that individuals increase their search intensity sooner, spend more on ALMPs that have been shown to be effective in transitioning individuals into employment and enhance the protections of the workforce.

Overall, this research has found that while the existing theories in the field explained in section 5 largely appear to hold true on a macro-level, they appear to be much less convincing at the micro-level, suggesting that welfare state institutions interact and function differently depending on the particular institutional configuration chosen by different regime types. Perhaps the most surprising thing the research has revealed is that ALMP expenditure generally has the largest effect on both the overall and youth unemployment rate across all regime types, as previous studies have found that these policies were often not particularly effective (Kluve 2006). However, the findings in this research were in line with those found by Bloom and Michalopoulous (2001) who determined that ALMPs were the most important factor in transitioning people into employment. Another interesting finding that was contrary to the theoretical expectation was the fact that in Social-Democratic and Conservative regime types, increasing employee

protections actually leads to a reduction in unemployment, and further research is required to establish the exact causal mechanism behind the empirical observation in these welfare regimes and to find out why these effects do not appear to exist in different regime types.

As was mentioned in section 3.1 above, some scholars have questioned whether it still remains valid to adopt a welfare state regime approach when conducting comparative political economy research. The results of the research suggest that the approach is indeed worthwhile, as although there were some similarities across all regime types, there are also lots of differences in the welfare state institutions that affect labour market outcomes in different regime types, as well as differences in the intensity of these effects. For example, had the research simply been aggregated then we would not have learned that increasing the level of union density causes unemployment to go up in Social-Democratic regimes and down in Conservative regimes, or the unemployment trap causes unemployment to go up in Conservative regimes but has little effect at all in Social-Democratic regimes, for example. The results also cast doubt on the notion forwarded by Achterberg and Yerkes (2009) that globalisation has caused a convergence in the way welfare states function, as it is clear from both the descriptive statistics in section 4 and the results that significant variation exists both in the welfare institutions states choose and the way those institutions interact in different regimes. Using a welfare regime approach as well as conducting the research on all of the cases as a whole is also useful in that the data can be used for different purposes. For example, the nascent welfare states deciding which institutions to establish can use the overall results to get a broad overview of the general effects the institutions have on labour market outcomes, however if these new welfare states have a particular welfare model in mind, they can use the individual results of their desired regime type to tailor their institutions in a more specific way.

As was mentioned in the analysis in section 8, it is likely that there were some methodological issues that may have caused the results to be less accurate than they otherwise may have been had a more robust methodological model been adopted. The first issue is that of omitted variable bias. It was hoped that including GDP change in the regression would control for the exogenous effect the business cycle has on labour market outcomes, and that would enable the effects of the welfare state institutions to be isolated and give a clear indication of the exact size of the effect each institution has. However, while the GDP change variable likely controlled for *most* of this effect, the size of the coefficients and some of the counterintuitive results suggest that they have been influenced to an extent by factors not included in the regression. For example, the coefficients in general tended to be considerably larger in the Mediterranean welfare states – the states where unemployment grew most acutely following the 2008 financial crisis –

than in any of the other regime types, and it would seem unlikely that this was only down to the strength of the welfare institutions in these states, which suggests that results were biased to some extent by an omitted variable.

A further issue arose because of the size of the dataset and the number of variables included in the analysis. As reliable data was only able to be sourced for the years 2001-2015, the number of observations for each regime type was only sixty, which reduced to thirty for the analysis of the Australasian regime. However, the regression equation included eight variables, meaning there was quite a high observations per variable ratio. Although a study by Austin and Steyerburg (2015) concluded that 'linear regression models require only two subjects per variable for adequate estimation of regression coefficients, standard errors, and confidence intervals', results are obviously more robust the higher the number of observations that are able to be used. The relatively low observations per variable ratio mean that there is a possibility of overfitting occurring, meaning that the model could be unstable as some of the residual variation (or 'noise') is included in the coefficient results that would have rightly been omitted in a properly fitted model (Burnham and Anderson 2002). This could mean that the coefficients became volatile and their signs change from positive to negative or vice versa very easily on the basis of small variation in the data, and this could perhaps account for some of the seemingly counterintuitive results explained in section 8 above. However, reducing the number of variables to avoid the problem of overfitting simultaneously introduces the problem of omitted variable bias, as all of the variables for different welfare state institutions are believed to have an influence on labour market outcomes for reasons explained in section 5 above. Therefore, while the approach taken in this study is believed to be the correct one, the robustness of the results would be enhanced should the same regression be run in the future when there is more data available and the variables to observations ratio is much lower.

However, despite these methodological issues, it is hoped that this research has contributed to the existing body of literature in a small way and deepened our understanding of how welfare state institutions affect labour market outcomes. Unemployment continues to be an issue of high societal and academic relevance and the more evidence-based information policy-makers receive on the subject the better policies they will be able to make in the future. Approaching the issue of unemployment from a welfare regime perspective is an area of research that has thus far received very little academic attention, and it is hoped that the findings in this study that show how different welfare state institutions affect labour market outcomes differently in different welfare regimes can be used as a starting point for further

research and to generate new theories that explain exactly why this is the case more adequately than currently existing theories are able to do.

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