CORRELATING TAXATION AND INCOME INEQUALITY: AN INTERREGIONAL STUDY

by

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CHAPTER 1

Introduction

In 1936 John Maynard Keynes - one of the most influential economists of the 20th century – said, “It is better that a man should tyrannize over his bank balances than over his fellow citizens” (Keynes, 1936). Rather than allowing such great inequality to arise that a man is able to “tyrannize” over his fellow citizens, government ought to step into the market to prevent these “tyrannical” extremes of inequality and to limit man’s tyranny to the constraints of his own bank account. Keynes is implicitly advocating the existence of a government role in the economy with the intention of restricting extreme inequality, through measures not yet stated here. Keynes’ other works detail various models of market-intervention empowering the government to reduce inequality – the relevant one, for the purpose of this study at least, being taxation.

State intervention in the market and especially the state’s role in taxation for the purpose of reducing inequality remains a controversial issue that has pervaded political discussion in the United States for decades. Beginning with today’s President Barack Obama and going backwards in time (George W. Bush, Bill Clinton, George H.W. Bush, Ronald Reagan, Jimmy Carter, etc.) a pattern emerges that reflects not only the alternating political identity of the American population, but demonstrates an oscillating volition for government intervention in the economy swinging between the Right and the Left over time like a pendulum.

Income equality is an a high-priority, heated issue today, discussed in the media on a daily basis. In a recent article discussing President Obama’s struggle to combat inequality, Derek Thompson senior editor of *The Atlantic* stated “Income inequality is an obvious phenomenon. But its effects are not obvious, and its cure even less so” (Thompson, 2010). Thompson

addresses a truth increasingly exposed due to globalization and technology: in our modern world there exists, sometimes side-by-side, both extreme wealth and devastating poverty. In Mexico, for example, wealth is almost entirely concentrated in the extremes: "… the average income received by the population's poorest 10 percent is under 2 percent, while the wealthiest 10 percent receives 40 percent of national income. Amazing, isn't it?" (Guzman, 2006). The harsh nature of such inequality often prefers a tendency for some redistribution. If inequality is caused by the uneven distribution of skills and resources, redistribution seeks to target the lowest extreme of the range of inequality within a society, so that it might be able to alleviate the conditions of its socioeconomic status and catalyze the creation of a more equal society.

Various efforts seek to remediate the crushing effects of inequality through the redistribution of skills, filling in the "gaps" not previously addressed by government aid. Funds generated by income tax can be funneled towards social welfare programs that, targeting the lowest sector within the existing range of inequality, ought to help remediate severe extremity (MaCurdy et. al, 2008). These efforts and programs come in many forms and work on many different scales, whether they are government social welfare programs, NGOs, charity organizations, need-based scholarship funds, or local churches volunteering within the community. Examples of such efforts include the Red Cross, unemployment benefits in the American social welfare system, Medicare, Medicaid, the Pell Grant for needy university students, and even local soup kitchens. While such efforts are undeniably generous and sing praises to the good intentions of some individuals, it is often believed that when inequality within a society exists to a very large extent the only force properly scaled to be efficacious in extension and in profundity is the state. One of the most common manners in which the state seeks to alter inequality is through taxation.

Taxation is hardly ever more controversial or contested than when increased tax rates are implemented for the purpose of creating “social or economic justice” or “fighting poverty” or “reducing inequality.” This is especially apparent in the moral-based tax debate in the United States political realm, where for decades the political ideology and corresponding economic strategies have continuously swinging oscillated between the Right and the Left, the shifting political alliance of the party in the executive office reflecting this trend. As the global economic market faces continued economic stagnation, indignant politicians advocate differing policies concerning the “right amount of taxes” that will effect economic growth in today’s precarious market.

While backing their opinions with those of the “classical” economists and founders of economic theories – such as Keynes, von Mises, Kalecki, and Hayek – mainstream, modern media-moguls ground the basis for their viewpoints on taxation in value-laden beliefs, such as nationalism, patriotism, and protection from overreaching government. For example, Glenn Beck – a current well-known, right-wing politician and outspoken advocate against President Obama’s economic policies favoring redistribution – recently stated that any effort towards social justice is really the “forced redistribution of wealth with a hostility toward individual property rights, under the guise of charity and/or justice”(Beck, 2010).

The point is that any discussion on taxes cannot be a purely “empirical” or “objective” commentary but, rather, carries with it implications and bias concerning the role of the government in the economy. The state (or government) is inherently linked to the issue of taxation, constituting the force capable of creating legislation altering taxes in an economy with some degree of freedom. Countries like Norway or Sweden, which display large welfare states and relatively “equal” societies, serve as verifiable examples demonstrating the beneficial nature

of a profound government role in the market.   Thus, any discussion of taxes is actually discussion pertaining to the role of government concerning taxes – as is clearly seen by recent political rhetoric concerning taxation in the United States.

The relationship between taxation and inequality is particularly relevant in the modern context – as the rich, developed democracies of the World become yet richer and more developed, inequality remaining in countries left behind from this trend becomes more exposed and can characterize these countries as "need-to-fix" areas, the "fixing" of which is often funded by taxes. Identifying how taxation and inequality correlate to one another would give conclusion to the ceaseless debate on the role of the state in the economy and would give direction to states seeking to remediate situations of extreme inequality existing within societies. If there exists a positive relationship between taxation and inequality, then an argument against increased taxes could be made (as higher taxes would suggest higher inequality); however, if a negative relationship is concluded between taxation and inequality, perhaps governments will finally have solid evidence to justify more intervention in the market for the purpose of reducing inequality. *What is the correlation between income inequality and taxation?*

Research Question and Rationale

Social conditions correlated with income inequality make desirable redistribution, at least to some extent. Inequality is highly correlated with crime rates. In a 2001 study among U.S. States and Canadian Provinces, a tenfold difference in homicide rates related to inequality was determined. Differences in inequality in each state/province accounted for roughly half of the variation in homicide rates (Daly et al., 2001). A similar relationship was found to exist when examining worldwide homicide and inequality rates (Fajnzylber et al., 2002). According to a

1999 study, “Economic inequality is positively and significantly related to rates of homicide despite an extensive list of conceptually relevant controls. The fact that this relationship is found with the most recent data and using a different measure of economic inequality from previous research, suggests that the finding is very robust” (Lee, 2001).

Unequal distribution of wealth is also linked to social capital, as established by Robert Putnam, Harvard professor of political science (Putnam, 1993) Putnam established a positive relationship between trust within a society and higher levels of equality. Using the United States and Italy as case studies, the findings are as follows: “Social capital and economic inequality moved in tandem through most of the twentieth century. In terms of the distribution of wealth and income, America in the 1950s and 1960s was more egalitarian than it had been in more than a century… Those decades were also the high point of social connectedness and civic engagement. Record highs in equality and social capital coincided. Conversely, the last third of the twentieth century was a time of growing inequality and eroding social capital… The timing of the two trends is striking: somewhere around 1965-1970 America reversed course and started becoming both less just economically and less well-connected socially and politically” (Putnam, 2000).

Due to the nature of the social conditions accompanying inequality, governments often seek to alter inequality to some degree. Where there exists a society characterized by the concentration of wealth within a very small sector, the government can seek to remediate inequality by implementing social welfare programs. Such programs are often funded in large part by taxes and target the lowest extreme within the range of inequality within society.

The programs stemming from inequality-altering efforts result in the creation or expansion of a welfare state. Theoretically, the sector of society having the lowest incomes

benefits from welfare programs and gains means through which self-elevation of socioeconomic status becomes possible, resulting in reduced inequality. The process is as follows: inequality in society generates pressure for redistribution on the government, the government raises taxes, these taxes fund social welfare programs, and the welfare programs target certain sectors of society and subsequently alter inequality. Thus, there ought to exist some kind of link - a relationship - between taxation and inequality. The purpose of conducting this study is to identify the nature of this relationship. *What is the correlation between income inequality and taxation?*

Theoretical Framework

Inequality

I choose to focus solely on the inequality of income because the sector of inequality measured by income offers the most empirical data. While wealth, consumption, level of satisfaction, and many other proxies for well-being can also be used to measure inequality, the lack of current and consistent data reflecting these measures makes preferential other data. When gaging data that is not qua

Figure I-3: Vicious Cycle of Market Performance

ne differences across countries in beliefs about the nature of inequality do not reflect reality. Beliefs about inequality reflect, rather than reality, the efficacy of the indoctrination and formation of beliefs exercised through the political power of the left and right. Education is a key environment in which such indoctrination takes place. Beliefs are highly malleable and susceptible to external influence and, therefore, cannot be used as objective evidence to describe a general trend. Relying on empirical work, inequality – for the purpose of this study, at least – is best measured by the inequality of annual income.

In order to measure income inequality, the distribution of income must be transformed into a single measure that can be used in standard empirical work. The Gini coefficient is the most widely-used and universally-recognized measure of income inequality (Glaeser, 2006). Although many other measures of income inequality exist (for example, what share of total wealth is owned by the richest 5% of a population, which perhaps would give a clearer picture of *why* inequality has occurred), any empirical measures of income inequality within this study indicate use of the Gini coefficient.

Inequality over time

In discussing the appearance of and the increase in its presence, there exist various scholarly explanations outlining theories of income inequality. One such theory emphasizes the changing nature of inequality as a result of time. Perhaps the best reflection of this theory is the Kuznets curve (Figure II-1), which demonstrates how income inequality in countries initially increases and then decreases as countries become richer or more developed over time.

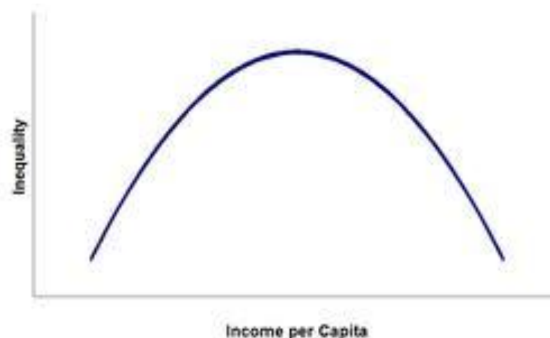

Figure II-1: Kuznets Curve

This curve is both an economic phenomenon and a reflection of political factors. Countries in the early stages of industrialization generally follow a trend of few public efforts to redistribute wealth; inequality declines with development over time as governments are able to take a more active role in redistribution as industrialization proceeds. The U.S. provides an interesting counterexample to this theory, having experienced a striking increase in inequality in recent years when compared to that of most other comparably developed nations (Picketty et. al, 2003). There are three main reasons development increases redistribution: due to increasing government competence, development is associated with greater government size; development is associated with greater education and political skill on the part of its poorer citizens; development generates a structured and readily-applied workforce from a previously dispersed and unindustrialized one (Glaeser, 2006).

Inequality across countries

A major source of contention for scholarly explanation of income inequality centers on inequality across countries. Looking at one country as a whole, the more compact the distribution of skills and resources is, less inequality results. To demonstrate that the inequality of skills and resources across countries causes inequality of income across countries, scholars point to the distribution of skills in developed versus undeveloped states. In egalitarian countries, such as those of Scandinavia, the distribution of skills and resources is quite compact; in countries still developing, like Brazil, the distribution of skill and resources levels is rather heterogeneous between the educated elite sectors of society and those compromised of mostly uneducated workers. The income inequality reflects the variance in these levels of skills and resources distributed – that of Scandinavia is much lower than that of Brazil (Glaeser, 2006).

In inequality in the distribution of skills and resources underlies income inequality across countries the task at hand, then, remains to ascertain *why* skill and resource inequalities are so different across countries. Explanations that allude to cultural and religious causes and to the correlation between ethnic fractionalization and income inequality are some theories frequently cited to give reason to the occurrence of differing skill and resource inequalities across countries. Another explanation of this phenomenon perhaps more relevant for this study, however, credits the large number of government policies (or lack thereof) towards schooling and redistribution as a high-impact factor effecting the distribution of income. There exists a strong negative correlation between inequality and social welfare spending (also referred to as redistributive policies) across countries, suggesting that spending on social welfare programs reduces inequality. Thus, governments have power to reform income inequality by altering income distribution through tax policy and spending. The implications of such policies (for example, taxation policies) on income inequality will be examined in further research (Glaeser, 2006).

If governments can, and often do, exercise power to alter income distribution, they must have motives for doing so. Governments must decide to what extent they wish to invest in redistribution, each government individually influenced by traits or trends specific to its population. Ethnic and racial fractionalization provides an example of a factor tending to limit the redistribution of income. A more heterogeneous society often results in a "protectionist" tendency urging people to "look out for their interests" – those pertaining to their particular classification of society. This is often seen in areas of high racial and wealth conflict, where one demographic may vote against redistributive policies because they prefer not to have their earned income benefit the "other" demographic (Luttmer, 2001). In a more homogenous society, people are less inclined to identify themselves with one particular sector of society but, rather, as

belonging to that society as a whole; therefore, they are more willing to share goods and more inclined to favor redistributive policies. Redistribution across countries declines with ethnic heterogeneity (Alesina et. al, 2004). Other deciding factors influencing to what extent a government invests in redistribution include, but are not limited to, federalism, democracy, growth, financial crisis, industrialization, land distribution, initial inequality, and income inequality itself.

Preferences for the role and size of government

The Meltzer-Richard Model was created in an effort to explain how income distribution affects the choice of tax policy in a state-voting model. Allan Meltzer and Scott Richard concluded that demand for redistribution decreases with income. The median voter's preferred level of redistribution increases with the level of inequality. According to the standard political economy model of redistribution, an increase in inequality should lead to higher public demand for redistribution and, ultimately, more redistribution. The size of the government, measured by the share of income redistributed, is determined by voting. The share of earned income redistributed depends on the voting rule and on the distribution of productivity in the economy. In other words, when the median voter's income becomes more "unequal" (lower than the mean income) there is more preference for redistribution and, as it is determined through majority vote, more government (Meltzer et. al, 1981).

The role of government in inequality

In this study I seek to explain income inequality across countries, which has already been stated as stemming from inequality in the distribution of skills. To remediate inequality, the government can invest in the distribution of skills. What role, then, should the government take

in the economy where redistributary policies are concerned? What do schools of thought pertaining to the governmental role in the economy have to contribute to discussion of redistributive policy and income inequality?

Competing theories explaining the preferable roles the government is capable of pursuing to remediate income inequality through the alteration of income distribution must first be given a setting - the parameters within which they operate. The corresponding schools of thought to follow refer specifically to their application within the free market in a democracy. A free market is that which has no economic government intervention or regulation beyond the measures taken to secure and ensure the execution of contracts and private ownership, traditionally also known as liberalism. Ideally, any regulation is limited to the players within the economy. In a free market economic system, the principle of competition is not debated; however, its outcome is. Competition typically leads to disparity in the distribution of economic goods. Often governments seek to alleviate the negative impacts caused by this disparity affecting those who are least-advantaged in society. Different theories seek to address this product of competition and the role the government ought to have in defining and distributing economic equality.

CASE SELECTION AND RESEARCH DESIGN

Identifying the nature of the relationship between income inequality and taxation will be concluded from the observation of data given by real-world application of taxes and the implementation of skills-distribution policy and programs in various case selections. The data collected by the research design is then analyzed in an attempt to formulate a general theory or establish a general trend identifying how inequality and taxation are correlated. I run regression

analysis on economic data available for countries all over the world to determine if there is a significant correlation between any of the independent variables and income inequality.

The strength of my hypothesis will be tried by observations drawn from data pertaining to OECD countries. Postulating the efficacy of taxation necessitates the presence and/or possibility of change in government policy and the observation of the resulting fluctuations in the economy and in society, as not completely controlled by the government. For this reason, the selection process is constrained by the need for a certain degree of economic freedom. Furthermore, the availability of data is limited – documentation is different or lacking from different databases. Thus, limiting the cases to OECD countries provides comparable and sufficient data.

Sources of information, especially datasets, used in this study include SEDLAC (CEDLAS and the World Bank Group), the World Bank Group, the U.S. Census Bureau, the Luxembourg Income Study database (LIS), the CIA World Factbook, OECD Statistics, Heritage Foundation, the International Monetary Fund, and the U.S. Department of Commerce (especially the Bureau of Economic Analysis).

First, the existing body of literature is examined to gain a general understanding of the way in which taxation targets inequality. Then some of the cases and their economic trends are observed in order to extrapolate which variables will be used to determine if there exists correlation between taxation and income inequality. Finally, the data is run through a regression analysis to determine the strength of the hypothesis.

Outline

Chapter 2 is dedicated to an in-depth analysis of the two competing schools of thought relevant to the topic of the role of the government in the market – the Keynesian and neoclassical

models. I define the key concepts associated in each school of thought, give name to the principle contributors of each, and provide application of the theories to the research question.

Chapter 3 provides discussion of the methodology. The research design is outlined and variables are defined.

In Chapter 4 I state the results of the analysis and draw conclusions from the output of the research design. I check for relationships between dependent and independent variables that are consistent with my hypothesis, and form a conclusion from the results. I discuss the limitations of my research and the implications it may carry. I give an account of how I overcome these obstacles to produce a credible answer to the research question, and close by mentioning any implications for future research pertaining to the topic in light of my findings.

CHAPTER 2

Key Concepts

In order to conduct concise and thorough research, the various concepts addressed and applied in studying the correlation between income inequality and total tax wedge must be defined and expanded. Essentially, I argue that there is a negative relationship between taxation and income inequality. I hypothesize that income inequality (dependent variable) is inversely driven by taxation (independent variable) – if government increases taxes and spends them on social programs, income inequality ought to decrease.

The role of income inequality in economic growth

From the school of classical political economics come several models of economic growth in which inequality plays a role. The neoclassical growth model accepts unemployment as a permanent feature of the economy and thereby mandates inequality. If unemployment benefits remain below the wage level, people have an incentive to find work rather than become dependent upon such benefits. Unemployment cannot be lowered to zero and thus inequality must always exist, at least to some extent. Inequality creates greater social stratification, effecting greater competition for status. Competition drives capitalism. Thus, the neoclassical theory of economic growth ignores the relationship between income distribution and growth for macroeconomic analysis (Slomp, 2000).

Developed by Galor and Zeira, the credit market imperfection approach demonstrates that inequality has a long-lasting detrimental effect on economic development and capital formation in the presence of credit market imperfections (Galor et al., 1993).

The political economy approach to economic growth, developed by Alesina and Rodrik (1994) and Persson and Tabellini (1994), assigns a negative impact from inequality on growth (Alesina et al., 1994) (Persson et al., 1994).

A 1996 study by Perotti confirmed the credit market imperfections approach and refuted the political economy mechanism. The research examined the channels through which inequality may affect economic growth as pertaining to the two models. The association of inequality with lower levels of human capital formation – which is associated with lower growth – was determined (in accordance with the credit market imperfections model). Perotti also demonstrated that there is a correlation between inequality and lower levels of taxation and lower levels of economic growth (Perotti, 1996).

Schools of thought

Perspectives on economic inequality

In the field of the political economy, the size of government – or the role of the state in the market – is highly controversial. The polemic issue of taxation carries with it implications concerning the "proper" amount of state market-intervention. While empirical evidence results from studies that seek to support or refute such theories, arguments concerning the size of government are founded on perspectives of what is "equitable." What follows is a discussion on two broad perspectives concerning what is the "proper" role of the state and the two general economic schools of thought to which they (loosely) ascribe.

The modern political economy of the developed, Western world has its rights in liberalism. A philosophy born from the opposition force to elitist theories such as the Divine Right of Kings, absolute monarchy, nobility and the right of birthplace, lack of social mobility,

and established religion. Its birth known today as the Age of Enlightenment, this powerful rebel force – largely spearheaded by John Locke – served as justification for the overthrow of tyrannical rule in the American and French Revolutions. John Locke promulgated concepts that spoke to the inherent equality of citizens as human beings – that rulers are allowed to rule by the governed as so are subject to the consent of the governed, that humans' natural rights are protected by a social contract that withholds the rule of law, and that every individual has a right to life, liberty and property (Economist, 2006). Liberalism embodied a philosophy opposed to older, more structural and hierarchical models that denied individuals social mobility but, rather, gave privileges to those deemed worthy by their station of birth. Liberals believe in equality and liberty and espouse principals such as freedom of religion, constitutionalism, capitalism, human rights, and free and fair elections (Song, 2006) (Wolin, 2004).

Following revolutions of independence, growth, urbanization and the beginnings of industrialization, liberalism underwent some stratification. As the nineteenth century became the twentieth, polarization between two ends of a spectrum regarding the proper size of the government created two distinct groups of liberalists (Slomp, 2000): neo-classical liberalists (or monetarists) and social (or modern) liberalists (Donohue, 2003).

During the first half of the twentieth century, increased production capabilities resulted in worldwide capitalist competition that left some as "winners" of this system and some as the "losers." State regulation had not caught up to such unprecedented growth, arising to greater levels of inequality. There were those liberalists who believed that the state ought to interfere in such processes to protect individuals from what they saw as "inequitable exploitation." Thus was born the philosophy of social liberalism – the belief that liberalism should be coupled with social justice. Social liberalists believe that individual freedom is harmonious with the good of the

community. Social liberalism espouses the view that the proper role of the state entails, at least to some extent, the provision of protection from undue economic and social harm (De Ruggiero, 1959). Most present-day western democracies adhere to an extent of social liberalism, as evidenced by public goods and services such as free public education systems and unemployment benefits (Fauks, 1999). In American politics, the Center or Center-Left is generally associated with the philosophy of social liberalism.

In opposition to social liberalism, those who feared its "far-reaching" effects pushed themselves towards the opposite end of the liberalist spectrum. Classical liberalism advocates a minimal role of the state. The philosophy commits to the ideals of individual liberties, rule of law, constitutionalism, laissez-faire economics (free markets), due process, and limited government (Dickerson et al, 2009). Classical liberalism surged as a state and policy response to growing trends of urbanization and the Industrial Revolution, advocating progress and competition without constraint. Resurgence in the classical liberal philosophy beginning in the late 19th century and driving into the 20th century advocated a minimalist government – or, that the state be as small as possible. Although the starting line of this revival of interest is not strictly defined, classical liberalism developed into "neo-classical liberalism." Contributors to neoclassical liberalism include Ludwig von Mises, Friedrich Hayek, and Milton Friedman (Richardson, 2001). In the present day, "libertarianism" has also been used in association with neo-classical liberalism – particularly in American politics, where both neo-classical liberalists and right-libertarian strongly identify with conservative, "right-wing" ideology especially as it pertains to minimalist market intervention (Ryan, 1995).

Social liberalism and Keynesian economics

Advocating consumption, rather than thrift, as promoting economic growth is the Keynesian theory of tax incidence. This theory was founded on the works of John Maynard Keynes, an infamous economist, advisor, civil servant, speculator, polemicist, and journalist. He believed in and strongly advocated for the control of business booms and busts through heavy-handed fiscal policy – mainly taxing, borrowing, and spending (Posner, 2009). Echoing his reasoning, John Rawls gives insight into this theory of justice in economic distribution. Rawls states the first responsibility of the government is to guarantee equal civil liberties for all citizens, as "the principles of justice for the basic structure of society are the object of the original [government] (Rawls, 1970)." Created for the purpose of their protection, the government should protect liberties. Essential to any society, liberties cannot be sacrificed in order to increase economic well-being. Nor can any individual's civil liberties be sacrificed for the benefit of others – not even if "the others" refers to the majority. In order to prevent the violation of the liberties of the least-advantaged members of society, the state should distribute economic goods to maximize these people's advantage. In this theory, Rawls permits inequality in the distribution of economic goods; however, this inequality is only permissible if those having more goods will promote the well-being of the least well-off members of society. In this manner, even the most-disadvantaged members of society will have a tolerably decent life. "The general conception of justice imposes no restrictions on what sort of inequalities are permissible; it only requires that everyone's position be improved (Rawls, 1970)."

Rawls argues that the circumstances of one's birth – including individual talents, social status, family influences, etc. – are matters of luck that should not unduly influence peoples' chances in life: "… no one should be advantaged or disadvantaged by natural fortune or social circumstances in the choice or principles (Rawls, 1970)." Thus, a central task of morality is to

constrain the detrimental effects of luck. Applied to a state in a free market system, this theory permits inequality to exist, as it is a byproduct of liberty. The government seeks to maintain a free market economic system that creates inequality because to not do so would be to impede upon liberties. However, the government must also protect some peoples' liberties from being violated by the exertion of other's liberties. Only at this point, when the least-advantaged are become even less advantaged – that is, their liberties are being stifled by others' overexertion of their own – should the government intervene in the distribution of economic justice. This can be done in a variety of ways, such as through the use of welfare systems, social security, tariffs, trade restrictions, currency control, and many more. Rawls argues that this theory of limited government intervention is permissible only in the promotion of liberty and equal opportunity. "The distribution of wealth and income, and the hierarchies of authority, must be consistent with both the liberties of equal citizenship and equality of opportunity (Rawls, 1970)."

Nineteenth century political economist John Stuart Mill suggested the just "distribution of wealth" include the possibility of a social "taking" of wealth or income from "some to be then disbursed to others considered to be more deserving." Mill conceives a link between production and distribution that encourages market devices, such as income transfers from the more to the less affluent, as a form of social intervention in the outcome of distribution. Public policy can correct actual distributional outcomes rendered unsatisfactory by natural constraints. Government, then, has a task (implying an obligation) to oversee the "fair" distribution of national income among the various societal components of a population. The surplus of the privileged ought to be expropriated by the government and distributed among the underprivileged (Gallaway et. al, 2002).

In 1943 economist and business executive Jerome Levy wrote: “The working class is the original and fundamental economic class… The function of the investing class is to serve the members of the working class by insuring them against loss and by providing them with desired goods.” He argued that the existence of the investing class is justified by the service it renders the working class – although the contrary (the working class exists to serve the investing class) does not hold true. The investing class “insures” the working class by providing wages and desired goods. However, “The working class has the right to insure itself through organizations composed of its members or through government, thereby eliminating the investing class.” Levy proposed taxing excessive profits away from industries – those taxes that could not be justified by an industry’s productive risk. The tax would confiscate the excess profit. Production of goods and services for the benefit of the consumers is the purpose of any economic system, according to Levy. A believer of the merits of capitalism, Levy believed that the decisions about what should be produced be left to consumers. Constituting the fundamental class, workers have the right to insist that profits go only to those investors “whose enterprises produced desired goods and services” (Levy, 2001).

Closely tied to the works of Keynes, twentieth century economist Michal Kalecki advocated strict fiscal policies to protect the larger class of poor against the effects of the class incomes of the wealthier by levying indirect taxes on non-essentials (McFarlane, 1971). Kalecki sought an ideal economy, one free from unemployment and economy, which he believed to be chronic features of capitalism (Levy, 2001). According to Kalecki, when a person or business saves less and borrows more, there is greater incentive to investment. Therefore, excess capacity in a capitalist economy, although inevitable, inhibits investment. In order to protect the lower range of income distribution from bearing the burden of high investment, taxes should not be

levied on lower income groups or on necessities but, rather, direct taxes or indirect taxes on non-essentials should be levied on high income groups to restrain consumer demand (McFarlane, 1971).

U.S. President Barack Obama has fashioned his administration's economic development strategies using a very Keynesian approach. In light of the upcoming 2012 presidential election, the economic policy of increasing government spending and decreasing taxes has led to much discussion from economic and political perspectives. Long-term problems such as "the inefficient tax code, the federal deficit, growing debt and the need for entitlement reform" have Americans concerned. As a consequence of the recent economic recession President Obama has implemented "stimulus packages" – bailouts of various types in the financial sector – that account for a very large portion of the current astronomical 12% of GDP deficit (Scherer, 2011). A deficit of 7% of GDD up to 2020 is predicted by the Congressional Budget Office (Alesina et. al, 2010). Many Americans are expressing their concern about these numbers, preferring a more long-term approach to economic strategy than short-term stimulus - reflected in the 2010 exit polls, which found that voters considered reducing deficits a higher priority than spending money to create jobs. Holding that government should increase spending in times of economic hardship, this preference for the opposite is a rejection of Keynesian theories on the part of the American voters. In fact, concern has grown so much that talk about further deficit spending has become too risky for the government. President Obama is proposing smaller initiatives and taking a more careful path, aiming to spur short-term growth without being labeled a "Big Government big spender" by Republicans (Scherer, 2011). Clearly, being a Keynesian in these times has its stigmas.

Neoclassical liberalism and the neoclassical economic model

The neoclassical economic model is the major competing school of thought to the Keynesian model. This theory was largely promoted by Friedrich Hayek, an economist and political philosopher who warned against the intrusion of public law into the area reserved for private law. Hayek was a minimal state theorist, viewing the state as necessary in its classical function – the protective function. He defined the state as the last instance of power against which there is no appeal to another instance. According to Hayek, "public goods" are those goods or services financed by taxes and are indirect byproducts of the state. These goods require and legitimize taxes only when deemed useful or necessary by those who have to finance them (Radnitzky, 2000). Causing a dilemma of economic justice, Hayek states that these goods are compatible with liberal principles so long as "the wants satisfied are collective wants of the community as a whole (Hayek, 1978)." Coercion is central to the nature of governmental taxes; public goods are paid for by taxpayers, many of whom are indifferent to or even dislike the goods and serviced supplied by the state and financed by their incomes. Redistribution takes place through public (tax-financed) goods and services (Radnitzky, 2000).

In his work entitled "The Entitlement Theory of Justice," Robert Nozick relates to this school of thought concerning the just distribution of wealth. Contrary to Rawls, Nozick believes the job of morality is not to eliminate the detrimental effects of luck or, in this case, to strive for any particular economic distribution. The state does not have the right to distribute economic goods, those earned and owned by particular individuals. For Nozick, the role of an economic theory of justice is simply to set down rules that everyone should follow in acquiring and transferring those economic goods. If goods are acquired justly – that is, via transfer from someone who justly owned them – there is nothing else the government need know or remediate.

“A distribution is just if everyone is entitled to the holdings they possess under the distribution [and]… if it arises from another just distribution by legitimate means (Nozick, 1974).” Essentially, Nozick argues that what makes distribution just is not its final outcome, but the rules followed in determining its outcome. This parallels the arguments made by Hayek, who stated that taking from A by force to transfer to B is self-evidently unjust. Hayek found it unacceptable that taxation should have redistribution as its avowed aim but claimed, rather, that what mattered were the consequences, not the intentions, of welfare policies (Hayek, 1960).

According to Nozick’s Entitlement Theory of Justice, government interference in economic distribution entails interference with individual liberty. He believes that “patterned principles of distributive justice involve appropriating the actions of other persons… [which] gives them a property right in you (Nozick, 1974).” When the government interferes in a free market system in order to alleviate the disparity in economic distribution, it is essentially entitling certain members to have claims in others’ property that they justly and independently acquired. Nozick sees this as a direct infringement of personal liberty. “End-state and most patterned principles of distributive justice institute (partial) ownership by others of people and their actions and labor (Nozick, 1974).”

Pertaining to this school of thought is the belief that all liberty is created equal. Competition cannot and does not harm anyone, although there are undoubtedly losers in competition. Harm denotes intention. The losers are not harmed because they have not been wronged by the winners of competition. Thus, the unequal distribution of economic goods generated by the competition of free market systems, being justly obtained, should not be remediated though intervention that takes wealth from those who have committed no wrong or harmful act in acquiring it (Nozick, 1974). Income inequality is harmful for growth because it

leads to policies that fail to protect property rights and fail to allow full private appropriation of returns from investment (Persson et. al, 1994). Nozick argues that any government intervention that impairs competition in a free market economic system is a violation of individual liberty and has negative impacts on both the economy and the society (Nozick, 1974).

Other critics of redistribution argue that some government transfer programs lead to greater inequality because high-income families receive a disproportionately large percentage of the benefits (Perry et. al, 2006). This is usually the case when the individual benefit is linked to the contribution wage, as is the case of contributory programs like unemployment insurance and contributory pensions. Workers receiving a higher wage are entitled to higher benefits and pensions (Forteza et. al, 2009).

Economist Alberto Alesina champions strategies that echo the ideals put forth by Friedrich Hayek regarding the role of the state in the economy, especially as it pertains to redistributary policies. Disputing the need for more government spending to encourage economic growth, Alesina advocates spending cuts instead. Austerity calms bond markets, lowering interest rates and subsequently promoting investment, thereby triggering economic growth. Taxpayers are reassured by deficit-cutting that more fiscal adjustments will not be necessary in the future, reviving their spirits and reviving spending-habits. Taxpayer reassurance is essential for stimulating growth; failure to reassure taxpayers could lead to a financial crisis brought on by fears of government overindebtedness – possibly the greatest current risk to global growth (Coy, 2010).

Called by *The Economist* magazine as "the most influential economist of the second half of the 20th century… possibly all of it ," (Economist, 2006) renowned economist and Nobel laureate Milton Friedman argued that free trade, lower taxes on income and capital, and a

reduction in the burden of regulation would increase economic growth and improve social well-being. He warned against the unintended negative consequences of excessive government intervention in the economy. Having made significant contributions to the University of Chicago tradition, his ideas serve as the basis of mainstream economic policy in various parts of the world. Public policies reflecting Friedman's thinking have effected, to a large extent, the high standard of living enjoyed by Canadians today. Friedman argued the necessary pre-condition of economic freedom for political freedom to exist. Using the Economic Freedom of the Work Index, of which he was a co-founder, Friedman demonstrated empirically that freer economies tend to be more prosperous. Furthermore, societies that are economically freer tend to be more politically free. Competitive capitalism is the economic organization that directly provides economic freedom and subsequently, through its separation of economic power from political power enabling one to offset the other, promotes political freedom. According to Friedman, the fundamental basis for public policy should be the voluntary choices of individuals, not government mandates, because "such a foundation has been shown to produce better economic and social outcomes for people" (Skinner, 2010).

Ludwig von Mises contributes another view on the role of governmental confiscatory activities by assessing their impact on levels of total output, arguing that such activities not only constitute unjustifiable expropriation, but also result in decreased levels of national productivity. According to Mises, products only come into existence already as somebody's property. Therefore, goods must first be confiscated if they are to be distributed. However, any such confiscation and expropriation of private goods violates the nature of capitalism, in which capital accumulation and investments rely upon the expectation that no such expropriation will occur. Rather than saving capital only to have it later taken by expropriators, people will prefer to

consume capital if they cannot expect absence of expropriation. Plans that aim at implementing confiscatory policy while maintaining the notion of private property commit this inherent error – such a system encourages people to spend their capital rather than allowing it to accumulate and be confiscated. A reduction in total production will result from "government efforts taking income from the relatively affluent and redirecting it to those at the low end of the income distribution" (Gallaway et. al, 2002). Mises critiques this so-called "confiscatory interventionism," advocating its negative effect of government actions on the total level of economic activity in an economic system in his work *Human Action: a Treatise on Economics*: "The greater part of that portion of the higher incomes which is taxed away would have been used for the accumulation of additional capital" (Mises, 1998). Economic growth slows and losses mount without that capital. Some scholars believe that this Misesian perception of confiscatory interventionism appropriately interprets and gives reason to events in the American economy over the last few decades (Gallaway et. al, 2002).

Application to Research Question

As it relates to income inequality and redistribution, I prefer the sentiments of social liberalism. I hypothesize that if the government implements redistributive policy (by raising taxes) in order to alter inequality, and that money (collected from taxation) funds social welfare programs, then there ought to exist a negative relationship between taxation and income inequality.

Economic growth is positively correlated with equality, which creates incentive for a society to become more egalitarian (Perotti, 1996). Because greater income inequality slows growth, societies in which great inequality exists ought to see a greater collective want for

redistribution. This link is a positive relationship between inequality and redistribution (Perotti, 1996) (Milanovic, 2000). Therefore, more unequal societies will choose greater redistribution. This may be less apparent in authoritarian regimes, where governments can decide to ignore the preferences of the poor. In free-market democracies, however, the relationship between market-generated inequality and redistribution should be more pronounced (Perotti, 1996) (Milanovic, 1996) (Alesina et. al, 1994).

Because inequality and redistribution are positively linked, the internal predictions of the fiscal policy approach entail that initial income inequality in a democratic society will result in redistribution (taxation) which will, in turn, effect economic growth (Perotti, 1996). Thus, a positive relationship between inequality and taxes can be concluded. The more unequal income distribution is within a democratic society, the more the median voter has to gain through government taxes and transfers, and the more likely he/she is to vote for higher taxes and transfers. Therefore, more unequal societies will should greater redistribution. Voting decisions are based on income before government fiscal redistribution (factor income) (Milanovic, 2000). Greater social transfers are associated with greater inequality in disposable income, empirically concluded in Perotti's 1996 study using data from 67 countries from all regions of the world (Perotti, 1996).

There seems to be little empirical data concluding a positive or negative relationship between taxation and income inequality. Studies have shown the relationship to be mixed, at best, and have focused more on the relationship between *initial* inequality and growth and/or pressure for redistribution (Kula et. al, 2010) (Perotti, 1993) (Alesina et. al, 1994) (Persson et. al, 1994). The wealthy in society must overconsume to a certain extent as a means of "investing" in the market – that is, excess profits used to purchase goods or services that are not essential is an

"investment" in the market as money is put back into it. If the wealthy fail to overconsume a sufficient amount (under-overconsumption), their funds are not reinvested in the market and, to counteract initial inequality, the government must implement higher taxes to effect economic growth. If the wealthy overconsume more than this necessary (over-overconsume), the government must lower taxes to counter initial inequality, resulting in lower economic growth (Kula et. al, 2010).

I hypothesize that the larger state intervention in the market, in accordance with Keynesian economics, will demonstrate the existence of a negative relationship between taxation and income inequality – increased redistribution via taxation ought to decrease inequality.

CHAPTER 3

Introduction

Using multiple regression analysis will allow the impact of each independent variable on the dependent variable. Statistical analysis demonstrates the correlations between the two sets of variables. This chapter explains each variable, what each variable measures, how each variable is measured, and how all the variables are pieced together into the research design model – which will illustrate from where the results derive.

Dependent Variable

Fiscal redistribution

In this study, income inequality is measured by the Gini-coefficient of income inequality – also known as the Gini-index score. The Gini coefficient is the most widely-used and universally-recognized measure of income inequality (Glaeser, 2006). The Gini-coefficient gives income inequality numerical value: ranging from a core of 0.0 - which indicates a perfectly equal society - and a score of 1.0, indicating a perfectly unequal society. The diminutiveness of its numerical value (always measuring between 0 and 1) can limit the precision of the Gini-coefficient; for this reason it is often expressed as if having been multiplied by 100. For example, a measure of 46.8 actually indicates the Gini-coefficient 0.468. Because different measures may rank the same set of distributions in different ways, Gini-coefficients measuring the same case within the same time frame may differ slightly between sources. The Gini-coefficient varies before versus after taxes have been paid and transfers have been made, as the state uses these measures to achieve a more desirable distribution of wealth. The efficacy of taxes in altering

income inequality is measured by fiscal redistribution – or, the reduction of inequality by government action. ("Measuring inequality," 2011).

Independent Variables

Gross domestic product per capita

It would be difficult to draw conclusions from a comparison of aggregate economic factors given the variance between contributing aspects, such as geographical size of an economy, population and labor force size, resource availability, infrastructure, the standard of living, etc. For this reason, most of the analysis relies on per capita or percentage comparisons.

The GDP is defined as the value of all final goods and services provided within the geographical constraints of a nation in a given year. The GDP does not take into account intermediary products, only finished goods and services. It also produces no measure of where the capital used to purchase goods and serves will go – or, what country will be made wealthier by that production. It offers only an indication of the size of a domestic production economy. GDP can vary wildly – the highest GDP value in 2011 (and in this study) is that of the U.S., valuing $15.06 trillion, and the lowest belonging to Iceland, at $14.1 billion in 2011 (CIA World Factbook).

The GDP values provided have been computed at official exchange rate (OER) to allow for a comparison of purchasing power and economic presence in the international marketplace. "A nation's GDP at OER is the home-currency denominated annual GDP figure divided by the bilateral average U.S. exchange rate with that country in that year." All of the cases used in this study measure GDP using the home-currency GDP for 2011 and the average U.S. exchange rate for 2011, for the purposes of precision and of consistency. The GDP per capita is the GDP

divided by a country's population in that given year. Theoretically, it ought to express the level of product per person in a country per given year if that wealth were distributed in a perfectly equal manner.

Overall tax burden

Overall tax burden measures the size of the tax system in a state by calculating the percent of the GDP comprised of tax revenue.

Total tax wedge

Comparing tax rates can be tricky, as methods and rates vary widely from country to country and even within one country. In this study, taxation is measured by the total tax wedge. The total tax wedge is the percentage of gross earning given up in tax, including any social security contributions. It can be calculated for a single worker, a worker with the average number of dependents, or for a worker earning above, below, or on par with the average wage of any given country. Here, total tax wedge is calculated for a single worker without children, earning 100% of the average wage in a given year (Nation Master, 2001).

To provide an example, in 2010 the average wage earned by a single worker in Canada was US$43,692. Taxes paid to the central government amounted to 10.6%, 4.3% to the sub-central government, and 7.3% as employee social security contributions. The total tax wedge is the sum of all these percentages – 22.2%. Thus, if a single worker in Canada earned the average wage, roughly $9,700 of his earning would be extracted as taxes, leaving him $33,392 to use as disposable income. Measuring the family total tax wedge rather than the single total tax wedge is unnecessary, as an OECD comparison of total wedge by family type for the year 2010 indicates the largest discrepancy between the family and single tax wedge of one country is a difference 3.3% (OECD, 2010).

Population density

Population density is included as an independent variable because theoretically, a country must use many more resources to provide public services (such as roads) if a population is much more spread out. Some portion of government spending must be spent on developing and maintaining infrastructure. The variable is expressed as a number representing the number of square kilometers (World Factbook, 2012).

Unemployment rate

The unemployment rate is the percent of the labor force (age 15+) desirable of working but unable to find employment. It can greatly effect inequality as unemployed persons do not produce income for their state and usually receive (state-funded) benefits.

Capital formation

Capital formation expresses what percent of GDP was used as investment for building capital to increase future efficiency and development. I predict that capital formation and redistribution will have a negative relationship because money spent on building capital is given at the opportunity cost of public services or benefits.

Social security contribution

Social security contribution measures what percent of the GDP was collected as social security payments.

Social benefits budget size

This measures the average size of social transfers as a proportion of households' pre-tax income.

Social benefits target efficiency

Target efficiency entails a summary index of the degree to which transfers are targeted toward low-income groups. The measure ranges from -1.0, indicating the poorest recipient receives all transfer income, to +1.0, meaning the richest recipient receives all transfer income.

Research Design

First, the existing body of literature is examined to gain a general understanding of the way in which taxation targets inequality. Then some of the cases and their economic trends are observed in order to extrapolate which variables will be used to determine if there exists correlation between taxation and income inequality. Finally, the data is run through a regression analysis to determine the strength of the hypothesis.

CHAPTER 4

Income Inequality: Drivers

The state drives redistribution through institutions, regulations, and policy. For example, states can provide free, public education. This increases human capital by increasing the supply of skilled labor which decreased inequality due to education differentials (when higher-income jobs require a higher level of education). A minimum-wage level is another state mechanism that drives redistribution by raising the income of the poorest worker (OECD, 2011). Figure IV:1 demonstrates the role of the state in altering inequality in the year 2011, measured by fiscal redistribution. The reasons for changes in the redistributive effectiveness of tax/transfer systems and the impact of public provided services are controversial as they must answer to the question of what the proper size and role of the government should be in the market.

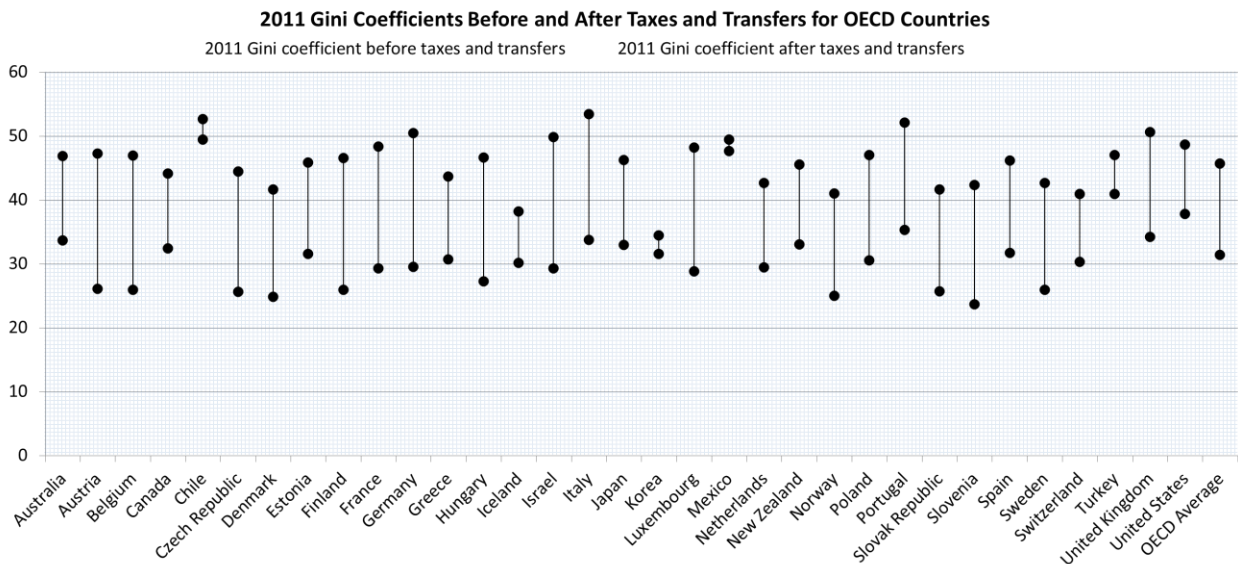

Figure IV:1 2011 Fiscal Redistribution

Across OECD countries, the state was able to reduce inequality by an average of one quarter, with the larger effect in the Nordic countries and the smaller in Chile, Mexico, Iceland, Turkey, and the United States (OECD, 2011). With the interests of this study in mind, I compare some of the lower and higher rates of redistribution with their corresponding total tax wedge, as shown in Figure IV-2.

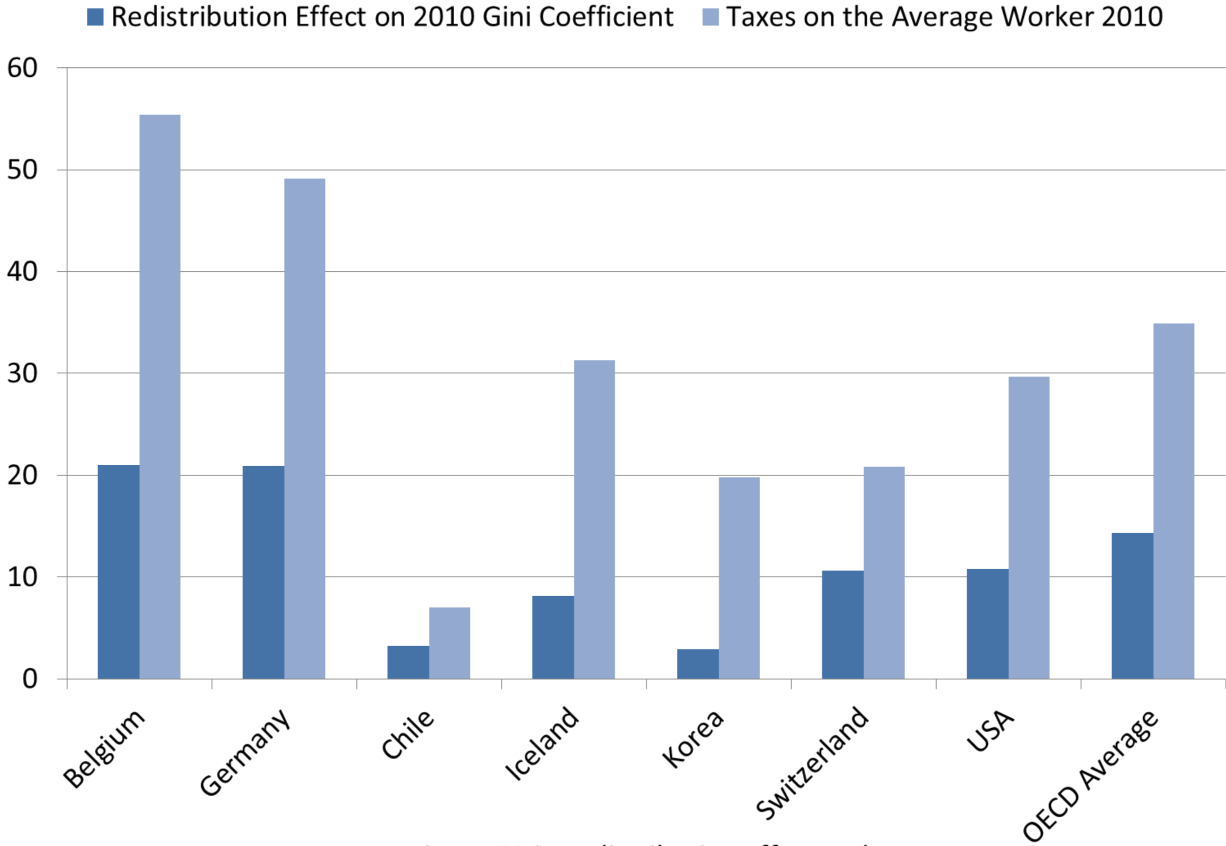

Figure IV-2: Redistribution effect and taxes

Source: OECD (2011), *Taxing Wages;* OECD.Stat

From simply looking at the data, there does appear to be some correlation between fiscal redistribution and taxation – but, to what effect?

Taxes: structure or size?

The revenues collected from taxes are channeled into social security funds, cash transfer benefits, and public social services that drive redistribution (OECD, 2011). This seems simple in theory – that taxes drive redistribution – but begs the question of *what about taxes* drives redistribution. Taxation varies greatly from country to country. Tax systems vary in their structure and in their size. In OECD countries, the largest component of the tax structure is the income tax (OECD, 2011). Income tax rates in different countries differ structurally in terms of their progressivity. A tax that is progressive will see an increase in its rate as the taxable base amount increase (Sommerfeld et al., 1992). As an example of the variance in the size of tax systems, 48.1% of Sweden's GDP in 2010 was comprised of tax revenue while in Korea the tax contribution to GDP came out to 23.3% (World Bank, indicator). Solving this puzzle has serious implications for policymakers and tax systems around the world. If a country hopes to achieve greater equality through more effective redistribution, what should it choose to alter – the structure or the size of its tax system?

The argument for structure

Flat tax rates take an equal percentage of income from all taxpayers. Before the government puts the revenues towards transfers, equality has not improved – wealth is still distributed in the same way, meaning that citizens are in the same relative position to one another in terms of how much wealth they hold. Redistribution then occurs when tax revenues are allocated to social security funds, cash transfers, and public social services. Contrarily, if an income tax is progressive, those taxpayers falling within the highest tax bracket will pay a larger percentage of their income in taxes than will those in lower tax brackets. This directly takes from the highest extreme within the range of distribution. Even before the government allocates tax

revenues, the level of inequality has been altered and redistribution has taken place. The impact of redistribution is then fomented through the allocation of revenues to social security funds, cash transfers, and public social services.

In theory there exists a positive relationship between the progressivity of the tax system and the impact of taxes on driving redistribution. The steeper the progressivity of the income tax, the more equal distribution of income across the board. The argument for structural progressivity of tax systems and its role in mitigating or exacerbating wealth inequality, however, is highly debatable. For example, American economist and politician Paul Ryan claims that tax policy has created a chasm of wealth between the class-structure in America. On the other hand, economists Paul Krugman, Peter Orszag, and Emmanuel Saez have argued that post World War II tax policy has enabled the wealthiest Americans greater access to capital than their lower-income counterparts, increasing income inequality (Saez et al, 2003).

The argument for size

Evidence

To test empirically the strength of each argument, I run a regression analysis of three models. The first models contains only control variables (those that will be included in each model and do not correspond directly with the system of taxation size-versus-structure argument) – the unemployment rate, GDP per capita, capital formation, and population density (Note, however, that population density was dropped after the first model as it had no impact and would have decreased the number of observations in the following models). The second model tests the notion that is the size of the tax system that drives redistribution. In addition to the control variables, it includes the total tax wedge, the overall tax burden, the social security contribution

rate (because this is generally not progressive, but a flat rate tax), and the social benefits budget size. The third model tests for the structure of the tax system by including variables that measure population targeting of benefits and progressive taxation – public sector redistribution from taxes (indexed for progressivity), public sector redistribution from transfers (indexed for progressivity), and the targeting efficiency of social benefits. The results are summarized in Table IV-1.

Table IV-1: Determining size or structure as drivers of fiscal redistribution

	Model 1	Tax System Size	Tax System Structure
	Control Variables		
Unemployment rate	.003	.001	.003
	(.002)	(.001)	(.002)
GDP per capita	-2.63e-09	-2.80-07	1.70e-07
	(8.33e-07)	(4.05e-07)	(7.77e-07)
Population density	.000	-	-
	(.000)		
Capital formation	-.002	-.003*	-.001
	(.002)	(.001)	(.002)
	Independent Variables		
Total tax wedge	-	.002***	-
		(.000)	
Overall tax burden	-	.001*	-
		(.000)	
Social security contribution		.000	
		(.000)	-
Social benefits budget size	-	.003***	
		(.001)	
Public sector redistribution from taxes	-	-	-.289
			(.380)
Public sector redistribution from transfers	-	-	-.287
			(.380)
Social benefits efficiency	-	-	.022
			(.047)
Constant	.173**	.040	28.96
	(.058)	(.031)	(37.56)
R-squared	.160	.980	.328
Adjusted R-square	.010	.971	.253
Number of Observations	**59**	**49**	**61**

Standard errors in parenthesis; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Sources: OECD.stat, LIS Data Bank, World Bank Group

While the "Tax System Structure" model accounts for 25.3% (adjusted) of the variation in redistribution with the given group of independent variables, the "Tax System Size" model accounts for 97.1% (adjusted). Furthermore, the significant variables include the total tax wedge,

the overall tax burden, the social security contribution, and capital formation. The relevance of capital formation is easy to understand – as more state funds are invested in creating capital, less funds are able to go towards driving redistribution (explaining the negative relationship between the two). The total tax wedge is calculated as an average and thereby is an indicator of the size of the tax system for the average worker. Both the tax burden and the social security contribution rate are calculated as a percent of the GDP, irrespective of progressivity. It seems that what matters in the redistribution of wealth is not the actual structure of the tax system but, rather, the size of it. How can these results be accounted for?

Limitations and Implications for Future Research

One handicapping obstacle faced in this study is the lack of data with credibility.

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