ECONOMIC FREEDOM AND PHILANTHROPY

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ABSTRACT

This thesis provides an empirical testing of the relationship between economic freedom and philanthropy. At present, a wealth of literature exists on the relationship between economic freedom and other macroeconomic indicators like growth and income, but no relationship has been defined between economic freedom and philanthropy. Using data provided by the National Center for Charitable Statistics, as well as the Economic Freedom of North America Index provided by the Fraser Institute, we are able to test this relationship in a number of different specifications to control for various different factors. We find results that indicate that there is a positive, and statistically significant relationship between economic freedom and philanthropy in a number of our specifications, and, moreover, we find that these results are robust to various controls for endogeneity.

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CHAPTER 1: INTRODUCTION

It is widely accepted throughout the literature on economic freedom that it is positively associated with economic growth. Additionally, there is a growing body of literature on the effect that economic freedom has on such things as social capital and happiness. The former attempts to delineate what could be referred to as a ‘traditional’ economic relationship, in that the study is primarily related to the discovery or veracity of a relationship associated with various macroeconomic factors, like growth. The latter, however, is concerned with something very different, in that such studies are concerned more with the effects that such institutions as economic freedom have on human well-being.

Many of these newer studies seek to determine whether or not there may be unintended side-effects that come to pass as a result of greater economic freedom as it pertains to the human condition. Yes, economic freedom gives way to economic growth, but in this quest for growth, do we leave members of our society behind? Or, perhaps, does the alternative occur, where economic growth through the vehicle of economic freedom yields economic conditions wherein the average person has greater economic power to direct resources to assist individuals and causes they believe to be most deserving? In essence, as individuals have greater freedom to direct their economic activity, how do they choose to wield this newfound freedom?

These questions are very relevant to the role that economic freedom can play in driving philanthropic activity. In general, economic freedom implies a less robust system of so-called ‘social safety nets’ or government welfare programs to assist the poor and indigent in society, since these programs, almost by nature, require the state to exercise their authority to requisition resources from the private sector through such mechanisms as taxation. By definition, such programs are antithetical to the notion of economic freedom, so the empirically testable question becomes “what happens to philanthropic activity as economic freedom changes?” In the absence of the state-mandated funding for such programs, will the private sector pick up the slack through charitable activities, or will they instead choose to act in their own self-interest or, perhaps, through greed?

It is the belief of the author that an increase in the level economic freedom will free up resources for the private sector, and will, in fact, result in greater levels of charitable giving, and this is the general hypothesis that this research hopes to address. This will be achieved through empirical testing of the relationship between a number of charitable giving statistics compiled from the National Center on Charitable Statistics at the Urban Institute as well as the Economic Freedom of North America index created by the Frasier Institute. Through these sets of data, and with additional data included to control for various macroeconomic and socioeconomic factors, we are able to compile a set of panel data with which to conduct our analysis.

Additionally, we will be able to examine the question of what aspect of economic freedom is responsible for driving the relationship between economic freedom and philanthropy? This is achievable through the economic freedom index, which provides data on these economic freedom subcomponents at the state level.

CHAPTER 2: LITERATURE REVIEW

In this chapter, I give an overview of the existing literature, as well as background information, on topics related to economic freedom and philanthropy. The first section will focus primarily on the role of economic freedom in a modern society. The second section will examine literature from a variety of social science subfields on the nature of philanthropy. The third section will examine the idea of public provision of private goods and services. Lastly, I will discuss the lack of literature specifically examining the relationship between economic freedom and philanthropy, and illustrate the role of this research in contributing to the overall economic freedom literature.

2.1. Economic Freedom

Economic freedom is defined by Gwartney et al. (1996) in *Economic Freedom of the World, 1975–1995* as follows: “Individuals have economic freedom when (a) property they acquire without the use of force, fraud, or theft is protected from physical invasions by others and (b) they are free to use, exchange, or give their property as long as their actions do not violate the identical rights of others.” While the definition may vary slightly depending on the source, most definitions will encompass the same general notions of freedom of private property, freedom of exchange, and personal choice in economic activities.

Given this, it is clear there is a vital role to be played by institutions in upholding these conditions. North (1991) defines institutions as “humanly devised constraints that structure political, economic, and social interaction”. North also argues that institutions can be informal (sanctions, taboos, customs) or formal (constitutions, laws, and property rights). It is clear from North’s definition that formal institutions, such as a criminal justice system, are clearly integral to upholding a society in which the citizens are considered to be economically free.

It's equally important that informal institutions develop that recognize these basic tenets of economic freedom as well. A society whose members are taught to behave with disregard to the idea of property rights, for example, will likely face greater transaction costs, even with a formal institutional system in place. The formal institutions (in this case a police system and potentially court system) should provide for recourse in the event of a violation of these rights. This recourse will undoubtedly, however, cost time and other resources, and could potentially result in penalties against one of the parties that have spillover costs. Thus, having customs or traditions that result in a negative cultural attitude towards the disregard of others' rights lends itself positively toward economic freedom.

Central to the idea of economic freedom is also to define the role of a government within society. According to Dr. Milton Friedman, considered by many to be the Father of Economic Freedom, "Government has three primary functions. It should provide for military defense of the nation. It should enforce contracts between individuals. It should protect citizens from crimes against themselves or their property. When government – in pursuit of good intentions tries to rearrange the economy, legislate morality, or help special interests, the costs come in inefficiency, lack of motivation, and loss of freedom. Government should be a referee, not an active player" (Friedman 1962).

It is quite clear from Dr. Friedman's idea of an ideal government, as well as the prior definition of economic freedom, that as the size and scope of government increases, as the government finds itself intruding further into the daily economic decision-making processes of its citizenry, economic freedom is reduced. The ways in which a government may intrude into these processes are many. An easy example is that of an autocratic regime in which citizens are assigned occupations based on aptitude with no regard for personal preferences for work. More subtle examples, however, could be the ability for a parent to choose the school their children attend, or whether or not professional licenses are required for certain occupations to practice their chosen business. In each of the above cases, some amount of freedom to act in one's own self-interest, or the interest of their family, based on their own preferences is forfeited to government edict.

Gwartney et al. (1996,2009) also created the Economic Freedom of the World Index which, subsequently, paved the way for the Economic Freedom of North America Index, an intranational index of economic freedom measurements at the state-level for North American countries. These indices have proven to be fundamental to much of the research that has been conducted on the various effects that economic freedom has on a society. The remainder of this section will provide a survey of the existing literature that examines these effects.

The impact that greater levels of economic freedom has on an economy has been examined in several contexts. It is widely accepted in the literature that economic freedom has a strong, positive impact on economic growth, and a survey paper by De Haan (2003) found that most of the literature existing at that time found a positive relationship between economic freedom and growth. It is noted in this paper, however, that this relationship isn't robust across all studies, and Carlsson and Lundström (2002) found that the relationship is highly dependent on which components of economic freedom are being considered. Additionally, Compton et al (2011) found a strong positive relationship between changes economic freedom and growth, but also found that these results do not hold for every sub-component of economic freedom.

Another identified relationship includes a positive relationship between increasing levels of economic freedom and income. Cebula (2013) further analyzed this concept by identifying the relationship between specific measures of economic freedom and per capita income, finding a positive relationship between per capita income and business freedom, freedom from corruption, investment freedom, monetary freedom, government size freedom, trade freedom, and property rights freedom. This relationship was found to be statistically insignificant for financial freedom and labor freedom.

Ashby and Sobel (2008) utilized the intranational Economic Freedom of North America index created by Karabegovich and McMahon (2002) to examine whether or not economic freedom reduces income inequality at the state-level in the United States. Ashby and Sobel sought to evaluate this relationship in a context in which the cross-sectional units (in this case individual states in the US) had significantly lower variation in their freedom scores than the units in the cross-country studies. This is because key aspects of the EFW include such categories as monetary stability, tariff policy, and military conscription, which simply do not vary among intranational units within the United States.

This study built upon previous studies by Berggren (1999) and Scully (2002) which examined this relationship in a cross-country context. These studies had conflicting results, with Berggren reporting that higher levels of economic freedom are associated with greater levels of income inequality, while also finding that change in economic freedom is positively associated with lower income inequality. Scully reported results almost entirely to the contrary. He found that changes in freedom were associated with higher inequality, while greater levels of freedom were associated with lower inequality.

The results of Ashby and Sobel’s research mirrored Berggren’s in that they found changes in economic freedom to be associated with higher income and higher rates of income growth, and with a reduction in relative income inequality. They were unable, however, to substantiate his result that greater levels of economic freedom are negatively related to income inequality, and found this relationship to be statistically insignificant. They also found support for the positive relationship between economic freedom and income and income growth.

A lesser explored relationship is that between economic freedom and social capital. While there is no scholarly consensus on defining, or measuring social capital, there are some common underlying themes that persist. According to Jackson et al (2015) social capital consists of ‘personal relationships’, ‘political/civic engagement’, ‘activities expressing social responsibility’ and ‘activity in the community more broadly’. Berggren and Jordahl (2006) argue that economic freedom increases social capital at the international level, but these results aren’t upheld by Jackson et al. at the intranational level for the United States.

Based on the foregoing survey of studies concerning the effect of economic freedom, it is clear it has a very important effect on a number of different measurements of a society and economy’s well-being.

2.2. Philanthropy

In general, philanthropy can be considered as any action that is taken to benefit the welfare of other members of society. Philanthropy can take many forms, but perhaps the most well-known form is donating one’s money either directly to the intended beneficiary, or to a charitable institution whose goal is to provide the intended support or assistance.

Not all charitable contributions are intended to benefit the needy or poor members of society. In fact, according to a Freeland et al. (2015) 32% of charitable contributions in 2014 were made to organizations in the ‘religion’ category. This is twice as much as the next highest category, the education category, which received 15% of the total contributions in 2014. Not surprisingly, the biggest source of charitable contributions is private individuals, comprising

72% of the total contributions, or $258.51 billion, in 2014. The remainder is split amongst foundations with 15%, bequests with 8%, and corporations with 5%.

So why do individuals choose to donate their hard-earned money to charitable causes? The intuition behind donating to a religious or educational charity is fairly straightforward and easy to understand. One might choose to donate to a religious organization simply because they belong to that given religion and feel it is their religious duty to help further that cause. When it comes to education, one might see value in belonging to a society of well-educated citizens, and may believe that this better educated citizenry will provide spillover benefits to more than just those receiving the education and will benefit society at-large as well.

In determining the motivations behind philanthropic activities that are intended to benefit the least well-off members of society the picture can become more convoluted, as we begin to examine the concept of altruism and what it means to be altruistic. To truly be altruistic, a person's actions must be considered wholly selfless, and only concerned with the well-being of others.

In an economic context, private charity has been modeled by Roberts (1984) by modelling an individual's utility function as a function their own personal consumption as well as that of another individual. In this sense, person A is considered to be an altruist and receives some amount of utility from an increase in the ability of person B to consume additional goods and services.

Another type of giving may also be referred to in the literature as "warm glow giving", so-called because people may experience a good feeling "like a warm glow" just from the act of giving (Andreoni 1989). Andreoni has also described this type of motivation as egoistic, and calls these givers "pure egoists", since their charitable contributions are made not because they receive utility from another individual’s ability to increase consumption, but rather they receive utility by purchasing this “warm glow”.

In contrast, this same phenomenon has been described in the literature in a less ‘dismal’ sense. Garnett (2008) describes this “warm glow” as a “happiness effect” of philanthropic activity, and argues that this effect as a result of gratitude and other positive emotions increases an individual’s awareness of their capacity and desire to give. These two conceptions of what are, seemingly, the same effect demonstrate two polar opposite viewpoints, in the sense that Andreoni essentially labels this effect as motivating egoism through purchasing good feelings, whereas Garnett argues that this good feeling will drive further philanthropic activity through positivity.

Whether charitable behavior can truly be attributed to altruism or is, rather, as Becker (1974) describes, “motivated by a desire to avoid scorn of others or to receive social acclaim” can be difficult, if not impossible, to determine, as even self-reported motivations may require a level of self-reflection and personal judgment that may prove difficult. A somewhat burgeoning subfield of literature in the field of experimental economics have attempted to divine this information. Crumpler and Grossman (2008) designed an experiment such that a pure altruist has no incentive to donate, and their results found that participants, on average, donated 20% of their endowments, and about 57% of participants made some kind of donation, which would give support to the notion of warm-glow giving.

Another experiment was carried out by DellaVigna et al. (2012) to determine if social pressure motivates an individual to give. In their experiment, they provide prospective donors the ability to either seek or avoid the door-to-door solicitation of the donation. Their results found about half of donors would prefer not to be contacted either because they would prefer not to donate, or would prefer to donate less. They also found that their solicitations on average lowered the utility of potential donors. This would suggest that there is a very strong social pressure motivation behind an individual's decision on whether to donate.

Rather than examining what social or psychological motivations may be behind an individual's decision to give, some researchers have approached this problem from a public policy standpoint by examining the relationship between government payments to nonprofit institutions (NPIs) and the amount of private donations to those institutions. Andreoni and Payne (2011) found that government grants cause significant reductions in fund-raising, and advocate that policymakers should account for behavioral responses of NPIs, not just donors, to government grants. Sokolowski (2012) found, however, that government payments have a positive impact on aggregate philanthropic donations to nonprofits. Field level analysis did indicate that there was "philanthropic flight", or displacement, from "service" to "expressive" activities when government payments are made to "service" NPIs.

As mentioned previously, not all donations are made by individuals. Corporations are also active in charitable giving, and the motivations for doing so are numerous. First, many argue that the role of a business has changed in modern times, and that corporations have a duty to give back to their communities. It is argued that corporations have this duty because the communities that support them offer tax breaks, provide legal framework for limiting their liability, and help provide institutional support that provides an educated workforce. Koehn and Ueng (2009) state that based on this, justice demands that these corporations use their unique status and role in both society and the economy to provide benefits in-turn to their communities.

As evidenced by these studies, there are a number of various factors that play a role in an individual's decision to give to charity. Largely absent from the literature, however, are empirical studies that aim to test the relationship between charitable giving and general macroeconomic conditions. This gap provides a role for this research to identify these relationships and add to the existing theoretical literature.

2.3. Public vs. Private Provision of Public Goods

The relationship between economic freedom and philanthropy has the potential to be useful from a policy analysis standpoint. Given the fact that major components of the economic freedom indices created by Gwartney et al. involve government spending as a percentage of income, as well as taxes, it's clear that advocating for or against greater economic freedom involves looking at the ever-present economic question of whether or not public goods and services should be provided by private individuals or, rather, should be funded and provided through governmental intervention. Illuminating a relationship between philanthropy and economic freedom should, then, be able to provide insight to policymakers when it comes to taxation and budgetary questions.

In the aforementioned paper by Roberts (1984), a model is devised that provides support for a previously-held belief in the literature that public transfers crowd out private charity dollar for dollar, and provides as evidence data showing that a large growth in public transfers from the Great Depression corresponded with the crowding-out effect, as well as a transformation in the nature of private charity away from so-called antipoverty efforts into other categories such as the arts, religion, education services, and other social services. Milton Friedman (1989, p.12) notes this change in philanthropic expression as well, saying "The crowding out effect is misunderstood because it means crowding out in the sense not necessarily of the aggregate amount of voluntary charitable activity, but of the character of voluntary expenditures."

To illustrate the crowding out effect, Roberts provides data from 1929-1935 (Geddes 1937) on Expenditures for Relief from Public and Private Funds in thousands of 1929 dollars. Indeed, public provision grew from a level of $33,449 in 1929 to $1,035,206 in 1935, while private funds grew from $10,296 in 1929 to just $14,536 in 1935. Private funds did peak at $71,619 in 1932, however they subsequently declined, and the value is still dwarfed by the 1932 public provision of $315,061.

Roberts provides two explanations for this type of redistribution. Firstly, he characterizes poverty alleviation as a public good and, as a result, the ever-present free-rider problem exists, and the private solution is, thus, inefficient. This is modeled utilizing a Cournot-Nash solution in a two-player game where each player participates in a non-cooperative game to provide assistance to a third 'player'. This third player's consumption factors into each of the initial two players' individual utility functions, thus making them altruists. In this game, it is demonstrated that cooperation between the two could, theoretically, allow them to move outside of their individual budget constraints, and provide additional assistance to the third player. The inefficiency of this noncooperative game is used as the basis of the assumption that this inefficiency would persist as a free-rider problem when expanded to many altruistic 'players'. Milton Friedman made a similar argument about private charity being afflicted by the free-rider problem. According to Friedman (1962, p. 157) "It can be argued that private charity is insufficient because the benefits from it accrue to people other than those who make the gifts... We might all of us be willing to contribute to the relief of poverty, provided everyone else did. We might not be willing to contribute the same amount without such assurance." His argument follows closely with the idea that a noncooperative equilibrium would result in an inefficient output of the public good in question, in this case poverty alleviation, and Friedman says that he accepts this argument 'justifying governmental action to alleviate poverty'.

The second possible explanation provided by Roberts is, as he says, captured crudely by the remark 'taxation is theft', meaning that as political influence is used to garner a larger slice of the economic 'pie', individuals are then less likely to utilize their smaller slice for poverty alleviation.

2.4. Economic Freedom and Philanthropy

In the foregoing sections I have provided evidence of relationships that have been shown to exist between economic freedom and a number of other economic phenomena, including, but not limited to, economic growth, social capital, and various measurements of income. I have also provided a background on the literature that exists surrounding the economics of philanthropy, as well as literature from other social science subfields that attempt to explain the nature of philanthropic giving.

There does not exist, however, to any noticeable degree, a body of literature that examines the role of economic freedom in philanthropic giving. This lack of a discernable relationship provides the basis for the research conducted in the following chapters. Delineating this relationship, as mentioned, should prove to be useful to policymakers in analyzing a number of different policy propositions, as this research hopes to illuminate the socio-economic conditions that may induce private charity, and may provide arguments for or against different policy proposals in the areas of government spending, taxation, and labor market regulation.

CHAPTER 3: DATA & METHODOLOGY

This chapter will serve to describe the characteristics and sources of the data utilized to delineate the impact of economic freedom and philanthropy. Included in the dataset are various economic freedom indicators, charitable giving data, as well as a number of control variables. Each of these subsections will be described in detail.

3.1. Economic Freedom Index

The economic freedom data utilized in this study was obtained from the Economic Freedom of North America Report published yearly by the Fraser Institute. Currently, this data is available from 1981-2013.

The index contains two levels of measurement: the subnational level, and the all-government level. The subnational level is measured only at the state and local government level, while the all-government level includes the federal government level, in addition to state and local. This allows researchers to examine whether there are changes to various freedom scores when the highest level of government measured is changed.

The subnational index works by assigning each State or Province a score on a scale of 0 to 10 in three major freedom components, referred to as areas, with a score of 10 representing the highest attainable level of freedom, and 0 representing no freedom or, perhaps, totalitarian rule. The three major freedom areas in the subnational are Government Spending, Taxes, and Labor Market Regulation, and each of these major areas are also broken down into smaller, more specific measurements referred to as subcomponents.

The Government Spending area has three subcomponents in the subnational index: General Consumption Expenditures by Government as a Percentage of Income, Transfers and Subsidies as a Percentage of Income, and Insurance and Retirement Payments as a percentage of

Income. Each of these subcomponents, as well as the overall area, can also be considered to be a measurement of the size of government within a given State or Province, given that each subcomponent essentially measures the extent to which government entities and actions replace private enterprise and free exchange.

The Taxes area contains four subcomponents in the subnational index: Income and Payroll Tax Revenue as a Percentage of Income, Top Marginal Income Tax Rate and the Income Threshold at Which It Applies, Property Tax and Other Taxes as a Percentage of Income, and Sales Tax Revenue as a Percentage of Income. These individual subcomponents are straightforward, as they all measure the extent to which an individual's ability to direct their economic activity is diminished as the government requisitions portions of their income for state-funded programs and projects.

The third and final area, Regulation, contains only one true subcomponent in the subnational index – Labor Market Freedom – but this subcomponent contains three subcomponents of its own. For simplicity, these three subcomponents will be treated and referred to as the subcomponents of the area. They are Minimum Wage Legislation, Government Employment as a Percentage of Total State/Provincial Employment, and Union Density.

Each of the aforementioned areas contain additional subcomponents in the all-government level, however this study will utilize only the subnational level of data, and so no additional attention will be given to describing the extraneous all-government-only subcomponents.

There are additional indices that are compiled and provided by different think tank organizations, however they are not without their drawbacks. The Heritage Foundation, for example, provides an economic freedom index as well. Their index, however, only contains country-level data, and, thus, would not be applicable to this study.

The CATO Institute also publishes a Human Freedom index, which encompasses a number of the same components as the economic freedom index, but which also includes a number of non-economic freedom measures as well. As a result, this would likely not provide us with the type of information we require for this analysis. Additionally, this index is also only available at the national level.

3.2. Charitable Giving

The data utilized in this study to reflect charitable giving is provided by the National Center for Charitable Statistics. The NCCS derives this dataset from tax return data collected by the IRS, and provides the dataset in panel form at the state level in the US for the years 1995-2013.

This dataset provides several key variables: number of itemized returns (NIRET), amount of itemized charitable donations (AICD), average charitable contribution per return (ACCRET), average charitable contribution per itemized return (ACCIRET), and finally average adjusted gross income. The variable for number of itemized returns represents, quite simply, the number of tax returns that received itemized deductions, rather than the standard deduction. This distinction is important, given that charitable contributions would need to be itemized on the return in order for the filer to receive their tax taxable income reduction. AICD represents the simple sum-total of all itemized charitable deductions within a given state for a given year. This figure is not weighted or adjusted in any way. ACCRET is a simple average of the amount of charitable contributions by the number of returns. ACCIRET is the same as ACCRET, with the caveat that only itemized returns are included, rather than a grand total of returns.

Because this data represents only charitable activities that were itemized on an individual's tax returns, it is not a perfect measurement of the entirety of philanthropic activity in the United States. In an ideal world, we would have the ability to track every single dollar received by a non-profit organization and attribute it appropriately to a dataset that would encompass all activities in the country. This is, however, obviously not an ideal world, as individuals may neglect to record every donation made to a NPI, may wish to remain anonymous as donors, or may choose to receive the standard deduction, rather than taking the time to itemize their donations. This data is, however, a reasonable proxy for charitable giving in the United States, and should provide us with enough information on state-level charitable activity to examine this relationship.

Each of the aforementioned variables are relevant to our analysis, as each variable provides a different representation of charitable giving. As such, each will be included in the forthcoming model, mostly as dependent variables, but, in some cases, as independent variables as well.

3.3. Control Variables

In order to isolate the impact that economic freedom has on philanthropy, this study will utilize a number of control variables. The foregoing section will provide a description of each of the controls, as well as the intuition behind its inclusion in the study. All control variables are annual and are log transformed.

Two measurements were chosen to control for the impact of personal income and personal income inequality between the different states. The personal income variable was chosen because it is believed that income could significantly impact a person's willingness to give, as it directly impacts their capacity to give. Income inequality was chosen because it is believed that states with greater inequality could psychologically drive a person's willingness to engage in charitable activities. If a person lives in an area of the country that experiences greater inequality, perhaps those on the 'beneficial' end of the inequality would recognize this fact, and seek to rectify it through charity. It is, of course, entirely possible that the opposite would occur. The variables occur within the dataset and results as PIPop and Gini. PIPop is a personal income measurement created using data provided by the Census Bureau, and Gini is simply the Gini coefficient measurement for each state.

Another control variable that is included is unemployment. The inclusion of this variable is somewhat related to the inclusion of the income variables, as it is expected that the impact of unemployment could be significant on charitable activities within a state. Because unemployment depresses wages, it is expected that areas with higher unemployment rates would experience lower rates of charitable giving, as individuals simply have less disposable income with which to engage in these activities. This variable is represented in the dataset and the results as UE.

A standard educational control variable is also included, and is represented in the dataset and results as EDUC. The inclusion of this variable is to control for the possibility that those with greater educational attainment levels may be more willing to engage in charitable activities. This variable was constructed using educational attainment data provided by the Census Bureau, and represents the percentage of a state's population over the age of 25 that has achieved a Bachelor's degree or higher.

Perhaps the most unique control variable that has been included in this study is a Herfindahl-Hirschman Index of racial homogeneity (HHI). This variable is constructed utilizing racial composition data from the Census Bureau, who organizes citizens into four racial groups:

White, Black, American Indian & Alaska Native, and Asian & Pacific Islander. The index is constructed using the following formula:

$$HHI_i = \sum_{k=1}^{4} s_{i,k}^2$$

where k indexes for the racial group in state i, and s is the percentage of the total state population represented by each racial group.

The HHI is included in the study because it is believed that there is a possibility that the racial homogeneity of an individual's community or region may influence their decision to participate in philanthropic activities, as it is believed that people may exhibit so-called 'ingroup bias', and be more willing to show compassion to those who they perceive as a member of their group.

A final control variable included in the study is an index of citizen political ideology, represented as CPOL in the dataset and results and provided by Berry et. al. (1998). The inclusion of this variable is to examine the role that political ideology may play in an individual's decision to participate in philanthropic activity. The index ranges from 0 to 100, with the lower end of the spectrum representing more 'Conservative', and the higher end of the spectrum being more 'Liberal'.

Table 3.1 contains the descriptive statistics for all included dependent and independent variables.

Table 3.1 – Descriptive Statistics

VARIABLES	(1) N	(2) mean	(3) sd	(4) min	(5) max
GOVT	1,650	1.976	0.170	0.631	2.262
TAX	1,650	1.866	0.126	1.238	2.158
LAB	1,650	1.827	0.187	0.776	2.158
EF	1,650	1.898	0.109	1.406	2.140
NRET	950	2.671e+06	2.893e+06	220,498	1.760e+07
NIRET	950	13.08	1.124	10.33	15.69
AICD	950	14.28	1.168	11.59	17.10
ACCRET	950	6.870	0.360	5.688	9.432
ACCRETAAGI	950	-3.882	0.256	-4.653	-2.054
ACCIRET	950	8.111	0.326	7.257	11.63
ACCIRETAAGI	950	-2.642	0.332	-3.380	0.772
CPOL	1,650	3.853	0.335	2.134	4.564
Gini	1,650	-0.571	0.0821	-0.779	-0.340
UE	1,650	1.744	0.345	0.833	2.879
EDUC	950	-1.343	0.206	-2.064	-0.768
NGDP	950	10.62	0.188	10.27	10.87
PIPop	1,200	3.379	0.307	2.587	4.175
HHI	1,200	-0.311	0.181	-0.734	-0.0237

Table 3.2 contains a glossary of the various dependent variables, economic freedom variables, and control variables that will be used in the forthcoming testing procedures.

Table 3.2 – Variable Descriptions

Variables	Description
EF	Subnational Overall Score
GOVT	Subnational Overall Score for Government Spending
TAX	Subnational Overall Score for Taxes
LAB	Subnational Overall Score for Labor Market Regulation
AICD	Amount of Itemized Charitable Deductions
ACCRET	Average Charitable Contribution per Return
ACCRETAAGI	Average Charitable Contribution per Return per Average Adjusted Gross Income
ACCIRET	Average Charitable Contribution per Itemized Return
ACCIRETAAGI	Average Charitable Contribution per Itemized Return per Average Adjusted Gross Income
CPOL	Citizen Political Ideology Index
PIPop	Personal Income by Population
Gini	Gini Coefficient
UE	Unemployment Rate
HHI	Herfindahl-Hirschmann Index of Racial Homogeneity
EDUC	Education
NGDP	National Gross Domestic Product

Table 3.3 – Correlation Matrix

	NIRET	CPOL	PIPop	Gini	UE	HHI	EDUC	NGDP
NIRET	1.000							
CPOL	0.160	1.000						
PIPop	0.263	0.370	1.000					
Gini	0.202	-0.016	0.400	1.000				
UE	0.273	0.045	0.271	0.268	1.000			
HHI	-0.376	-0.050	-0.160	-0.194	-0.297	1.000		
EDUC	0.300	0.387	0.720	0.205	0.128	-0.084	1.000	
NGDP	0.126	0.153	0.809	0.443	0.418	-0.128	0.450	1.000

Table 3.3 above contains a correlation matrix of all included control variables to test for potential multicollinearities between them. We find a relatively high degree of correlation between NGDP and PIPop; however NGDP is only included in two of the eight model specifications, and is largely included to proxy for macroeconomic trending that might otherwise be accounted for with a time trend.

3.4. Methodology

This paper will utilize a panel fixed effects method in order to examine the relationship between economic freedom and charitable giving. The general form of the model is as follows:

$$CG_{it} = \beta_0 CG_{it-1} + \beta_1 EF_{it} + \beta' X_{it} + \gamma_i + \lambda_0 t + \varepsilon_{it}$$

The general form of the equation contains a lagged dependent variable, denoted CG_{it-1}; the economic freedom variable of interest, EF_{it}; the set of independent variables X_{it}; state fixed effects γ_i; and a linear time trend, $\lambda_0 t$.

The general form of the above equation is estimated in a number of forms, and the results of this empirical testing will comprise the following chapter. Additionally, after presenting the results of the standard OLS specifications, robustness checks will be included to validate these results. These robustness checks will include two-stage least squares estimation using instrumental variables, as well as a model utilizing lagged values of all right-hand side variables. In both cases we are ensuring that the results of our testing are robust to controls for endogeneity.

CHAPTER 4: EMPIRICAL RESULTS – OVERALL SCORES

This chapter will present the results of the empirical testing outlined in the previous chapter. This chapter will be presented such that each subchapter will be dedicated to the relationship between one charitable giving variable and economic freedom. From there, each subchapter will be divided into two sections, with section one detailing the results of the standard OLS model, and section two detailing the results of the tests for endogeneity within the model. Additional results that detail the relationships between charitable giving and specific economic freedom subcomponents will be included and summarized at the end of the chapter.

The OLS regression outputs will be provided in a table format, and the various specifications of the general model will be displayed in columns from left to right. Column (1) will represent the simple fixed-effects regression relationship between the charitable giving variable being tested and the subnational overall economic freedom score variable (EF). This is to establish a baseline relationship between the two variables, and to outline how the relationship changes as various controls are added to the model. Column (3) is similar to the first column, but with added independent variables to control for various macroeconomic conditions. Column (5) adds in a time trend, and Column (7) includes a national GDP variable to account for macroeconomic trending in lieu of the time trend.

Columns 2, 4, 6, and 8 are the same as the column that immediately precedes them but including a lagged dependent variable. The purpose of the inclusion of a lagged dependent variable is to control for possible omitted variable bias on the economic freedom variable. Essentially, it creates a ‘bracketing effect’, where we can be reasonably sure that the true value of the coefficient lies somewhere between the estimates from both specifications. We are not interested, however, in the value of the coefficient on the lagged dependent variable.

The outputs for the robustness checks will be presented in a tabular format as well, and will follow the same structure with respect to model specification. Unique to the two-stage least squares specifications will be a number of test statistics included to evaluate the instruments. Included are the Hansen J statistic, the Kleibergen-Paap statistic, and the Durbin-Wu-Hausman test for endogeneity.

In the case of the Hansen J, the null hypothesis is that the overidentifying-restrictions are valid, and that our selected instruments are not correlated with the error term and are correctly excluded from the model.

Additionally, the Kleibergen-Paap test tells us whether or not our instruments are considered weak, with the null hypothesis being that the instruments are, in fact, weakly correlated.

Finally, the Durbin-Wu-Hausman test tells us whether or not the variable that is being treated as endogenous during the two-stage least squares process can actually be treated as exogenous. The null hypothesis of this test is that the variable can be treated as exogenous, and rejection of this null hypothesis indicates that we must treat the indicated variable as endogenous, and conclude that the OLS results obtained are biased. This conclusion also indicates that we should rely on the estimates provided by the two-stage least squares specifications, as they are unbiased, but inefficient.

In the case of all of the aforementioned test statistics, the value being reported in the foregoing tables will be the p-value obtained from the testing.

4.1. AICD and EF

4.1.1. AICD and EF (OLS)

This subsection will focus on the results of the OLS testing of the relationship between the Amount of Itemized Charitable Deductions (AICD) and economic freedom. Table 4.1 provides the results of the empirical testing of this relationship.

Table 4.1 – AICD and Economic Freedom (OLS)

VARIABLES	(1) AICD	(2) AICD	(3) AICD	(4) AICD	(5) AICD	(6) AICD	(7) AICD	(8) AICD
EF	2.933***	0.385***	0.604**	0.254	0.641**	0.276	0.610**	0.310
	(0.546)	(0.098)	(0.264)	(0.174)	(0.273)	(0.181)	(0.273)	(0.194)
NIRET			0.180*	0.110	0.182*	0.112	0.144*	0.099
			(0.091)	(0.071)	(0.093)	(0.072)	(0.074)	(0.063)
CPOL			-0.026	-0.047**	-0.025	-0.046**	-0.075*	-0.069***
			(0.046)	(0.022)	(0.046)	(0.022)	(0.038)	(0.023)
PIPop			1.147***	0.637***	0.903***	0.523*	0.403	0.308
			(0.133)	(0.232)	(0.279)	(0.289)	(0.244)	(0.215)
Gini			0.434***	0.340***	0.374**	0.312***	0.091	0.159**
			(0.144)	(0.076)	(0.149)	(0.076)	(0.149)	(0.078)
UE			-0.151***	-0.101***	-0.187***	-0.119***	-0.172***	-0.117***
			(0.030)	(0.026)	(0.038)	(0.023)	(0.028)	(0.026)
HHI			-0.650	-0.316	-0.397	-0.179	0.223	0.179
			(0.794)	(0.412)	(0.774)	(0.435)	(0.753)	(0.479)
EDUC			0.030	0.004	0.001	-0.009	-0.059	-0.038
			(0.068)	(0.032)	(0.068)	(0.033)	(0.065)	(0.040)
NGDP							1.090***	0.595***
							(0.243)	(0.130)
L.AICD		0.794***		0.368**		0.364**		0.315**
		(0.038)		(0.156)		(0.154)		(0.135)
Observations	950	900	950	900	950	900	950	900
R-squared	0.090	0.820	0.863	0.864	0.864	0.864	0.877	0.869
Between R-squared	0.0204	0.999	0.647	0.966	0.701	0.975	0.647	0.976
Overall R-squared	0.0243	0.987	0.574	0.931	0.574	0.935	0.390	0.899

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

We find support for the positive, statistically significant relationship between AICD and the overall measurement for economic freedom in all specifications that do not include a lagged dependent variable. The results are even significant at the 5% level in columns 3, 5, and 7, while it is significant at the 1% level in column 1. The R-squared values for each specification signal that the model has predictive power, and especially encouraging is the strength of the within R-squared values, as this suggests the within-unit estimation is strong.

Coefficients for EF range from 0.604 to 0.641 in the standard specifications, and range from 0.254 to 0.310 in the dynamic specifications. Since the variables are logged, these can be interpreted as quasi-elasticicities, meaning that the results would indicate that a one percent increase EF would yield an increase in AICD by roughly 0.254% to 0.641%.

Regarding control variables, we find that unemployment is significant across the board at the 1% level and maintains a negative relationship with AICD. This is expected in an intuitive sense, given the effect that unemployment has on an individual's ability to participate in charitable activities.

We also find that the PIPop measurement has significance at the 1% level in a number of specifications, and the same is true of the Gini and CPOL measurements, albeit the latter's significance is more limited. NGDP is highly significant and positive where included, and since the value of the EF coefficients in those specifications is between those given in columns 3 and 5 it appears as though it functions well as a proxy for time.

No significant relationship is found between AICD and HHI or EDUC, and there is little value in examining the nature of their coefficients, as they do not seem to always yield the same influence.

4.1.2. AICD and EF (IV)

The first test of robustness we examine is the two-stage least squares model using instrumental variables. The included instruments in all specifications, and for each dependent variable, are lagged values of CPOL and economic freedom, which in this case is the EF variable. Table 4.2 provides these results.

Table 4.2 – AICD and Economic Freedom (IV)

VARIABLES	(1) AICD	(2) AICD	(3) AICD	(4) AICD	(5) AICD	(6) AICD	(7) AICD	(8) AICD
EF	3.968***	-0.147	0.837***	-0.194	0.953***	-0.136	0.806***	-0.070
	(0.405)	(0.235)	(0.297)	(0.370)	(0.334)	(0.418)	(0.294)	(0.380)
NIRET			0.180**	0.112*	0.182**	0.113*	0.144**	0.101*
			(0.088)	(0.064)	(0.091)	(0.065)	(0.072)	(0.057)
CPOL			-0.027	-0.045*	-0.026	-0.044*	-0.075***	-0.067***
			(0.029)	(0.026)	(0.029)	(0.027)	(0.023)	(0.019)
PIPop			1.128***	0.663***	0.865***	0.566**	0.387*	0.339
			(0.108)	(0.170)	(0.218)	(0.234)	(0.203)	(0.217)
Gini			0.445***	0.321***	0.386***	0.300***	0.100	0.149
			(0.095)	(0.077)	(0.095)	(0.075)	(0.092)	(0.092)
UE			-0.131***	-0.137***	-0.163***	-0.149***	-0.155***	-0.147***
			(0.026)	(0.025)	(0.022)	(0.019)	(0.023)	(0.023)
HHI			-0.628*	-0.318	-0.354	-0.203	0.242	0.164
			(0.355)	(0.289)	(0.320)	(0.231)	(0.308)	(0.230)
EDUC			0.031	0.002	0.001	-0.009	-0.058	-0.039
			(0.063)	(0.061)	(0.056)	(0.052)	(0.054)	(0.049)
NGDP							1.090***	0.578**
							(0.189)	(0.236)
L.AICD		0.802***		0.373***		0.369***		0.320***
		(0.046)		(0.124)		(0.124)		(0.115)
Observations	950	900	950	900	950	900	950	900
R-squared	0.079	0.816	0.863	0.863	0.864	0.863	0.877	0.868
R-squared Bet.	0.02	0.999	0.647	0.965	0.692	0.975	0.607	0.982
R-squared Ovr.	0.024	0.988	0.575	0.929	0.571	0.934	0.385	0.905
Hansen J	0	0.613	0.476	0.191	0.541	0.220	0.170	0.0901
Kleibergen-Paap	0	0	0	0	0	0	0	0
DWH	0.000101	6.38e-07	0.0973	0.376	0.0407	0.545	0.0631	0.633

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In the case of the relationship between EF and AICD, we find that the results from the OLS model are largely confirmed. We find positive and significant results for the EF coefficient, and values range from 0.806% to 0.953%.

Interpretation of our various R-squared measurements is also favorable across the board, indicating that the model has predictive power.

In all specifications we find that we fail to reject the null in the Hansen J test at the 5% level, and in all cases but one even the 10% level. Additionally, we find that the null hypothesis of the Kleibergen-Paap test is summarily rejected across the board, indicating that the instruments are not weakly correlated with the other regressors.

Finally, in examining the DWH test for endogeneity, our results show that we only fail to reject the null hypothesis three of the specifications, which would imply that we cannot safely conclude that EF can be treated as exogenous in this relationship, and we would prefer to interpret the results of the two-stage least squares model, since they are unbiased. The two-stage least squares results are, however, considered to be inefficient, so they are not without their drawbacks, either.

4.1.3. AICD and EF (LAG)

Our final robustness check is a specification of the base OLS model using right-hand side variables that are lagged one period. Comparison of the results from this model to those obtained in the standard OLS model will allow us to determine if the results obtained in the OLS model are free from endogeneity. These results can be found in table 4.3.

Our results from the lag model specification for AICD are very similar to the results achieved in the OLS model. The magnitudes of the coefficients for L.EF are slightly higher across the board than those for EF, but they remain positive and highly significant.

Additionally, the R-squared values remain much the same as well, and indicate that a good fit and strong predictive power.

The biggest difference between the two lies in the significance of the control variables. Whereas unemployment was highly significant across the board in the OLS specification, it is only slightly significant in two specifications in the lag model. The same is true of PIPop and Gini as well.

Table 4.3 – AICD and Economic Freedom (Lag)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	AICD	AICD	AICD	AICD	AICD	AICD	AICD	AICD
L.EF	3.390***	-0.129*	0.697**	0.380**	0.806**	0.446***	0.725**	0.410***
	(0.460)	(0.075)	(0.297)	(0.142)	(0.329)	(0.149)	(0.322)	(0.151)
NIRET			0.207*	0.111	0.205*	0.112	0.175*	0.105
			(0.116)	(0.084)	(0.115)	(0.084)	(0.102)	(0.078)
L.CPOL			-0.072*	-0.051**	-0.072*	-0.052**	-0.108***	-0.066**
			(0.038)	(0.024)	(0.038)	(0.025)	(0.037)	(0.031)
L.PIPop			0.966***	0.375	0.451	0.121	0.358	0.181
			(0.135)	(0.256)	(0.276)	(0.240)	(0.237)	(0.174)
L.Gini			0.256**	0.042	0.107	-0.031	-0.033	-0.055
			(0.113)	(0.062)	(0.122)	(0.075)	(0.126)	(0.093)
L.UE			-0.038	0.037	-0.112**	-0.004	-0.051*	0.028
			(0.030)	(0.027)	(0.042)	(0.036)	(0.030)	(0.031)
L.HHI			-0.029	0.338	0.413	0.560	0.684	0.586
			(0.731)	(0.286)	(0.734)	(0.355)	(0.735)	(0.421)
L.EDUC			0.078	0.055	0.031	0.031	0.015	0.032
			(0.060)	(0.037)	(0.058)	(0.036)	(0.055)	(0.036)
L.NGDP							0.884***	0.336
							(0.255)	(0.209)
L.AICD		0.804***		0.510***		0.497***		0.478**
		(0.040)		(0.187)		(0.182)		(0.186)
Observations	950	900	900	900	900	900	900	900
R-squared	0.135	0.819	0.796	0.841	0.801	0.843	0.807	0.843
Between R-squared	0.0216	1	0.732	0.983	0.682	0.971	0.495	0.968
Overall R-squared	0.0276	0.988	0.624	0.961	0.532	0.946	0.382	0.940

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Overall, however, we find support in these results to conclude that the relationship between EF and AICD is positive and significant, and is robust to this control.

4.2. ACCRET and EF

4.2.1. ACCRET and EF (OLS)

Table 4.4 contains the results of our testing of the second charitable giving variable that will be analyzed, ACCRET; or Average Charitable Contributions per Return. As with AICD, we immediately notice a positive, and strongly significant relationship between ACCRET and EF. We find that the coefficient for EF is significant at the 1% level in all specifications except for 4 and 6, where they are still significant at the 5% level.

We again have mostly good R-squared values, and again have strong within R-squared values across the board, indicating a good fit for the within estimation.

Our EF coefficients range from 0.815 to 0.820 in the standard specifications and 0.406 to 0.460 in the dynamic specifications. This would imply that we would expect a one percent increase in EF to yield an increase in ACCRET of between 0.46% and 0.82%, depending on the specification of the model.

Regarding controls, we once again find that the unemployment control variable is negative and significant across the board, albeit this time at varying levels of significance. PIPop is once again also positive and significant across the board. As was the case with AICD, we once again note that EDUC is not significant in any specification, and HHI only yields significance in columns 7 and 8, and the significance is somewhat limited.

Table 4.4 – ACCRET and Economic Freedom (OLS)

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
EF	2.609***	0.306***	0.815***	0.412**	0.820***	0.406**	0.817***	0.460**
	(0.416)	(0.083)	(0.253)	(0.166)	(0.258)	(0.167)	(0.259)	(0.178)
CPOL			-0.026	-0.041*	-0.025	-0.042*	-0.069*	-0.059**
			(0.044)	(0.021)	(0.044)	(0.021)	(0.038)	(0.023)
PIPop			1.091***	0.582**	1.059***	0.617**	0.438**	0.340*
			(0.091)	(0.240)	(0.247)	(0.306)	(0.215)	(0.190)
Gini			0.078	0.092	0.070	0.101*	-0.216*	-0.048
			(0.101)	(0.059)	(0.110)	(0.057)	(0.122)	(0.085)
UE			-0.102***	-0.051*	-0.107***	-0.045*	-0.120***	-0.063**
			(0.030)	(0.027)	(0.037)	(0.023)	(0.027)	(0.028)
HHI			0.457	0.457	0.491	0.413	1.190**	0.848*
			(0.536)	(0.316)	(0.551)	(0.323)	(0.558)	(0.430)
EDUC			0.008	-0.000	0.004	0.004	-0.070	-0.033
			(0.063)	(0.032)	(0.062)	(0.030)	(0.061)	(0.041)
NGDP							0.928***	0.429***
							(0.211)	(0.140)
L.ACCRET		0.743***		0.384**		0.385**		0.340**
		(0.054)		(0.172)		(0.171)		(0.163)
Observations	950	900	950	900	950	900	950	900
R-squared	0.113	0.741	0.796	0.789	0.796	0.789	0.812	0.793
Between R-squared	0.0507	0.985	0.0426	0.473	0.0358	0.502	0.0171	0.148
Overall R-squared	0.0543	0.881	0.291	0.589	0.282	0.607	0.101	0.361

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.2.2. ACCRET and EF (IV)

Our results for the two-stage least squares model for ACCRET and EF once again produce favorable results, as we see that the coefficients for EF are positive and significant at the 1% level in the standard specifications. Coefficients for EF range from 0.884 to 0.954 in the standard model. This is shown in table 4.5 below.

Table 4.5 – ACCRET and Economic Freedom (IV)

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
EF	3.345***	-0.134	0.936***	-0.050	0.954***	-0.085	0.884***	0.030
	(0.315)	(0.253)	(0.286)	(0.370)	(0.321)	(0.409)	(0.282)	(0.381)
CPOL			-0.026	-0.040*	-0.026	-0.040	-0.069***	-0.057***
			(0.026)	(0.024)	(0.027)	(0.025)	(0.022)	(0.018)
PIPop			1.082***	0.604***	1.042***	0.664***	0.432**	0.373*
			(0.089)	(0.182)	(0.200)	(0.252)	(0.195)	(0.213)
Gini			0.084	0.075	0.075	0.089	-0.213**	-0.056
			(0.098)	(0.090)	(0.097)	(0.088)	(0.093)	(0.118)
UE			-0.092***	-0.086***	-0.096***	-0.079***	-0.114***	-0.095***
			(0.026)	(0.025)	(0.023)	(0.019)	(0.023)	(0.023)
HHI			0.469	0.451*	0.510*	0.379*	1.197***	0.823***
			(0.302)	(0.269)	(0.274)	(0.214)	(0.264)	(0.281)
EDUC			0.008	-0.003	0.004	0.003	-0.070	-0.034
			(0.062)	(0.061)	(0.055)	(0.052)	(0.055)	(0.051)
NGDP							0.928***	0.406*
							(0.165)	(0.236)
L.ACCRET		0.754***		0.394***		0.395***		0.351***
		(0.061)		(0.134)		(0.135)		(0.135)
Observations	950	900	950	900	950	900	950	900
R-squared	0..104	0.737	0.796	0.787	0.796	0.787	0.812	0.791
R-squared Between	0.051	0.995	0.044	0.481	0.036	0.528	0.016	0.156
R-squared Overall	0.054	0.881	0.289	0.591	0.278	0.617	0.101	0.374
Hansen J	0	0.955	0.967	0.779	0.956	0.767	0.573	0.587
Kleibergen-Paap	0	0	0	0	0	0	0	0
DWH	0.000205	3.85e-07	0.510	0.0831	0.496	0.0780	0.558	0.142

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

We also find that we universally fail to reject the null hypothesis for the Hansen J and Kleibergen-Paap statistics, indicating that our selection of instruments was appropriate.

With respect to the Durbin-Wu-Hausman test, we again find varying results, and again do not find universal support to treat EF as exogenous, as we would reject the null hypothesis in columns 1, 2, 4, and 6. Thus, we would again refer to the results of the unbiased but inefficient two-stage least squares model.

4.2.3. ACCRET and EF (LAG)

Once again we will now examine the relationship between ACCRET and EF by examining the model with lagged right-hand side variables, and once again we find that our results are promising. The coefficients for EF are once again positive and strongly significant, with all but three specifications yielding significance at the 1% level and the other three at the 5% level.

Table 4.6 displays these results.

Table 4.6 – ACCRET and Economic Freedom (Lag)

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
L.EF	2.814***	-0.097	0.860***	0.399**	0.915***	0.431**	0.867***	0.418**
	(0.353)	(0.091)	(0.282)	(0.167)	(0.304)	(0.170)	(0.299)	(0.170)
L.CPOL			-0.037	-0.017	-0.038	-0.018	-0.069*	-0.027
			(0.038)	(0.022)	(0.038)	(0.023)	(0.037)	(0.029)
L.PIPop			0.951***	0.387	0.686***	0.256	0.449**	0.259
			(0.096)	(0.254)	(0.249)	(0.258)	(0.204)	(0.159)
L.Gini			-0.218**	-0.227**	-0.294**	-0.265**	-0.442***	-0.292**
			(0.101)	(0.089)	(0.121)	(0.104)	(0.116)	(0.143)
L.UE			-0.001	0.050**	-0.039	0.030	-0.011	0.045*
			(0.031)	(0.022)	(0.042)	(0.028)	(0.030)	(0.025)
L.HHI			1.092*	0.870**	1.318**	0.986**	1.652**	1.043*
			(0.579)	(0.397)	(0.628)	(0.452)	(0.619)	(0.556)
L.EDUC			0.076	0.062*	0.052	0.050	0.023	0.047
			(0.055)	(0.035)	(0.055)	(0.035)	(0.053)	(0.036)
L.NGDP							0.704***	0.208
							(0.189)	(0.199)
L.ACCRET		0.755***		0.507**		0.503***		0.488**
		(0.058)		(0.189)		(0.187)		(0.196)
Observations	950	900	900	900	900	900	900	900
R-squared	0.146	0.739	0.698	0.768	0.700	0.768	0.710	0.769
Between R-squared	0.0527	0.996	0.000430	0.335	0.00523	0.244	0.0251	0.206
Overall R-squared	0.0619	0.883	0.0922	0.488	0.0505	0.419	0.0191	0.386

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The coefficient values for EF range from 0.86 to 0.915 in the standard specifications, and 0.399 to 0.431 in the dynamic specifications. These values are very comparable to those obtained in the OLS specification.

We also notice fairly strong R-squared results, especially with respect to the within R-squared values. As has been the case previously, any deterioration of the overall R-squared attributable to deterioration of the between R-squared

4.3. ACCRETAAGI and EF

4.3.1. ACCRETAAGI and EF (OLS)

The third dependent variable of interest that we will examine is ACCRETAAGI, or average charitable contribution per return per average adjusted gross income. This variable is constructed by taking ACCRET and dividing it by average adjusted gross income. Our OLS estimation results are displayed in table 4.7.

We again find that the coefficient for EF is positive across the board, and significant at the 1% level in all three of the standard specifications. The coefficients for EF range from 0.663 to 0.665 in the standard specifications, and 0.261 to 0.315 in the dynamic panel specifications. This would imply that we would expect a 1% increase in EF to yield an increase in ACCRETAAGI of 0.261% to 0.665%, depending on model specification.

The R-squared values for this relationship aren't as strong as they were in the previous relationships outlined in this chapter. Outside of column 2, the highest overall R-squared value we find is 0.114, which isn't very high. The within R-squared values are more promising, as is expected. They, too, however, are still fairly low, ranging from 0.219 to 0.294.

In examining the coefficients for the control variables, we find that HHI is significant across the board at the 5% level, and is significant at the 1% level in columns 7 and 8, with the inclusion of the NGDP variable. The sign on the coefficient is positive as well, which would indicate that greater levels of racial homogeneity are positively correlated with ACCRETAAGI.

Table 4.7 – ACCRETAAGI and Economic Freedom (OLS)

VARIABLES	(1) ACCRET AAGI	(2) ACCRET AAGI	(3) ACCRET AAGI	(4) ACCRET AAGI	(5) ACCRET AAGI	(6) ACCRET AAGI	(7) ACCRET AAGI	(8) ACCRET AAGI
EF	1.179***	0.344***	0.663***	0.268	0.663***	0.261	0.665**	0.315*
	(0.151)	(0.119)	(0.241)	(0.165)	(0.245)	(0.165)	(0.249)	(0.177)
CPOL			0.025	0.013	0.025	0.013	-0.014	-0.003
			(0.045)	(0.024)	(0.046)	(0.024)	(0.039)	(0.024)
PIPop			0.298***	0.112	0.298	0.150	-0.287	-0.151
			(0.091)	(0.089)	(0.247)	(0.164)	(0.207)	(0.103)
Gini			0.176	0.038	0.175	0.047	-0.088	-0.078
			(0.111)	(0.063)	(0.117)	(0.071)	(0.121)	(0.068)
UE			-0.030	0.002	-0.030	0.007	-0.046	-0.007
			(0.030)	(0.020)	(0.035)	(0.019)	(0.028)	(0.021)
HHI			1.224**	0.895**	1.225**	0.850**	1.881***	1.305***
			(0.556)	(0.408)	(0.566)	(0.396)	(0.567)	(0.485)
EDUC			0.034	0.026	0.034	0.030	-0.036	-0.005
			(0.064)	(0.034)	(0.063)	(0.032)	(0.060)	(0.037)
NGDP							0.832***	0.405***
							(0.203)	(0.110)
L.ACCRETAAGI		0.446***		0.411***		0.411***		0.369***
		(0.096)		(0.121)		(0.120)		(0.110)
Observations	950	900	950	900	950	900	950	900
R-squared	0.095	0.269	0.219	0.282	0.219	0.282	0.273	0.294
Between R-squared	0.0302	0.933	0.0737	0.0789	0.0737	0.0924	0.0475	0.0111
Overall R-squared	0.0371	0.766	0.0344	0.0999	0.0344	0.114	0.0225	0.0224

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Another aspect we find for the first time is that neither unemployment nor the citizen political ideology index yielded any significance in any of the specifications.

Once again we find no significance for education in any specification.

4.3.2. ACCRETAAGI and EF (IV)

We again must examine the relationship between ACCRETAAGI and EF in a two-stage least squares context to ensure that the results presented are robust to controls for endogeneity.

Output table 4.8 below shows that we, again, find that the relationship is positive and significant at the 1% level in all standard specifications.

We again note that our instrument diagnostics are once again favorable to our selection of instruments. We find that we fail to reject the Hansen J in all specifications but column 1, and we, again, universally reject the null for the Kleibergen-Paap test.

Table 4.8 – ACCRETAAGI and Economic Freedom (IV)

VARIABLES	(1) ACCRETAAGI	(2) ACCRETAAGI	(3) ACCRETAAGI	(4) ACCRETAAGI	(5) ACCRETAAGI	(6) ACCRETAAGI	(7) ACCRETAAGI	(8) ACCRETAAGI
EF	1.370***	0.303	0.830***	0.188	0.834***	0.163	0.783***	0.230
	(0.139)	(0.198)	(0.259)	(0.299)	(0.286)	(0.332)	(0.255)	(0.307)
CPOL			0.025	0.014	0.025	0.013	-0.014	-0.003
			(0.026)	(0.024)	(0.026)	(0.024)	(0.022)	(0.019)
PIPop			0.285***	0.117	0.277	0.160	-0.297*	-0.143
			(0.078)	(0.086)	(0.178)	(0.173)	(0.167)	(0.183)
Gini			0.183**	0.034	0.182**	0.043	-0.083	-0.080
			(0.088)	(0.073)	(0.087)	(0.070)	(0.084)	(0.077)
UE			-0.016	-0.005	-0.017	0.000	-0.036	-0.014
			(0.024)	(0.023)	(0.022)	(0.019)	(0.022)	(0.021)
HHI			1.239***	0.892***	1.248***	0.841***	1.892***	1.297***
			(0.303)	(0.314)	(0.291)	(0.298)	(0.282)	(0.342)
EDUC			0.035	0.025	0.034	0.030	-0.035	-0.005
			(0.057)	(0.053)	(0.052)	(0.047)	(0.051)	(0.044)
NGDP							0.832***	0.400**
							(0.144)	(0.194)
L.ACCRETAAGI		0.449***		0.413***		0.414***		0.372***
		(0.092)		(0.100)		(0.100)		(0.100)
Observations	950	900	950	900	950	900	950	900
R-squared	0.092	0.269	0.218	0.291	0.218	0.281	0.273	0.294
R-squared Between	0.030	0.947	0.065	0.078	0.064	0.093	0.045	0.011
R-squared Overall	0.037	0.776	0.029	0.099	0.029	0.115	0.021	0.022
Hansen J	0.00529	0.579	0.375	0.168	0.388	0.173	0.126	0.0781
Kleibergen-Paap	0	0	0	0	0	0	0	0
DWH	0.0229	0.942	0.241	0.733	0.223	0.682	0.300	0.707

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Results for the Durbin-Wu-Hausman test are also fairly favorable. In all specifications but column 1, we fail to reject the null hypothesis that EF can be treated as exogenous. As a result, this implies that our results for the OLS model are not biased, and we would prefer to interpret those results.

4.3.3. ACCRETAAGI and EF (LAG)

We again turn our attention to the lag specification of the model to further evaluate the robustness of the results obtained in the OLS specification, and again we find that this specification supports the findings in the OLS specifications. In table 4.9 we find that the results are positive and significant at the 5% level in columns 3, 5 , and 7, and significant at the 10% level in the dynamic specifications.

As was the case with the OLS specifications, we see R-squared values that wouldn't be considered high, particularly with respect to the overall R-squared values. This is, again, however, largely contributable to the between R-squared values, and the within R-squared values suggest adequacy in several specifications.

Table 4.9 – ACCRETAAGI and Economic Freedom (Lag)

VARIABLES	(1) ACCRET AAGI	(2) ACCRET AAGI	(3) ACCRET AAGI	(4) ACCRET AAGI	(5) ACCRET AAGI	(6) ACCRET AAGI	(7) ACCRET AAGI	(8) ACCRET AAGI
L.EF	1.084***	0.199**	0.616**	0.292*	0.648**	0.309*	0.622**	0.315*
	(0.143)	(0.099)	(0.266)	(0.165)	(0.279)	(0.167)	(0.281)	(0.171)
L.CPOL			-0.008	-0.014	-0.008	-0.015	-0.039	-0.028
			(0.041)	(0.023)	(0.041)	(0.023)	(0.037)	(0.024)
L.PIPop			0.246**	0.107	0.090	0.033	-0.239	-0.105
			(0.098)	(0.088)	(0.253)	(0.146)	(0.194)	(0.089)
L.Gini			-0.144	-0.191**	-0.188	-0.213**	-0.360***	-0.286**
			(0.113)	(0.081)	(0.127)	(0.093)	(0.128)	(0.112)
L.UE			0.018	0.030	-0.004	0.019	0.008	0.025
			(0.031)	(0.018)	(0.042)	(0.025)	(0.030)	(0.019)
L.HHI			1.589**	1.048**	1.722**	1.114**	2.130***	1.327**
			(0.636)	(0.494)	(0.665)	(0.520)	(0.666)	(0.585)
L.EDUC			0.082	0.059**	0.068	0.052*	0.031	0.037
			(0.051)	(0.028)	(0.051)	(0.029)	(0.048)	(0.029)
L.NGDP							0.681***	0.309**
							(0.193)	(0.135)
L.ACCRETAAGI		0.454***		0.434***		0.433***		0.408***
		(0.095)		(0.117)		(0.116)		(0.113)
Observations	950	900	900	900	900	900	900	900
R-squared	0.089	0.264	0.113	0.283	0.115	0.283	0.152	0.290
Between R-squared	0.0327	0.976	0.0720	0.0600	0.0650	0.0489	0.0522	0.0192
Overall R-squared	0.0393	0.794	0.0490	0.0779	0.0445	0.0654	0.0347	0.0316

4.4. ACCIRET and EF

4.4.1. ACCIRET and EF (OLS)

The next dependent variable that will be analyzed is ACCIRET, or average charitable contributions per itemized return. This variable is similar to the previous variable ACCRET; however it differs in the sense that it only accounts for itemized returns, rather than the total number of returns.

In examining the results of the OLS testing of the relationship between ACCIRET and EF, we find that this relationship is only significant in columns 1, 2, and 5 of table 4.10, suggesting that the relationship expressed in the first two columns is not robust to the various control variables included in subsequent specifications. Additionally, the relationship in column 5 is only significant at the 10% level.

In examining the effects of the control variables, we again find that unemployment is highly significant and negative across the board. We also, again, find significance in a handful of the specifications for the variable HHI, and the sign is consistently negative. This implies that, for ACCIRET, greater levels of homogeneity would yield lower levels of ACCIRET. This is contrary to the findings in the relationship between EF and ACCRETAAGI, which indicated that greater levels of HHI, or greater levels of homogeneity, would yield greater levels of philanthropic activity as defined by ACCRETAAGI.

Finally, in examining the R-squared values for the various model specifications, we note that the overall R-squared values generally perform slightly better than they did in the ACCRETAAGI, but worse than ACCRET or AICD. Again, as is expected to be the case, the within R-squared primarily drives the overall R-squared, while the between R-squared is generally worse.

Table 4.10 – ACCIRET and Economic Freedom (OLS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	ACCIRET	ACCIRET	ACCIRET	ACCIRET	ACCIRET	ACCIRET	ACCIRET	ACCIRET
EF	1.953***	0.601***	0.518	0.071	0.575*	0.132	0.519	0.079
	(0.283)	(0.218)	(0.337)	(0.343)	(0.339)	(0.348)	(0.334)	(0.338)
CPOL			-0.090**	-0.086**	-0.088**	-0.082**	-0.108**	-0.092**
			(0.044)	(0.041)	(0.043)	(0.040)	(0.042)	(0.039)
PIPop			0.608***	0.520***	0.241	0.191	0.341**	0.432***
			(0.060)	(0.090)	(0.171)	(0.173)	(0.138)	(0.128)
Gini			0.379*	0.314*	0.289	0.233	0.259	0.274
			(0.202)	(0.175)	(0.196)	(0.168)	(0.211)	(0.184)
UE			-0.154***	-0.151**	-0.208***	-0.201***	-0.161***	-0.154**
			(0.050)	(0.059)	(0.052)	(0.060)	(0.051)	(0.061)
HHI			-0.936**	-0.945**	-0.553	-0.552	-0.637*	-0.830**
			(0.399)	(0.429)	(0.432)	(0.471)	(0.369)	(0.408)
EDUC			-0.020	-0.043	-0.063	-0.080*	-0.051	-0.053
			(0.045)	(0.040)	(0.051)	(0.043)	(0.049)	(0.045)
NGDP							0.379**	0.129
							(0.173)	(0.188)
L.ACCIRET		0.272**		0.016		0.011		0.014
		(0.104)		(0.059)		(0.054)		(0.059)
Observations	950	900	950	900	950	900	950	900
R-squared	0.071	0.105	0.392	0.276	0.397	0.280	0.395	0.276
Between R-squared	0.0697	0.706	0.0801	0.0782	0.199	0.207	0.168	0.0994
Overall R-squared	0.0583	0.410	0.175	0.126	0.292	0.238	0.269	0.152

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.4.2. ACCIRET and EF (IV)

In examining the two-stage least square specification for the relationship between ACCIRET and EF, the first thing that is readily apparent in table 4.11 is the extremely low p-values for the Hansen J test. Because the null hypothesis of the Hansen J test is that the overidentifying restrictions are valid, and that the instrumented variables are correctly excluded from the model, the rejection of this null hypothesis implies that the variables are, in fact, correlated with the error term, and should've been included in the regression.

Table 4.11 – ACCIRET and Economic Freedom (IV)

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
EF	2.172***	0.335	0.121	-0.566	0.283	-0.393	0.098	-0.567
	(0.262)	(0.352)	(0.371)	(0.368)	(0.405)	(0.410)	(0.367)	(0.370)
CPOL			-0.089**	-0.083**	-0.087**	-0.080**	-0.107***	-0.088***
			(0.036)	(0.035)	(0.036)	(0.036)	(0.033)	(0.032)
PIPop			0.639***	0.564***	0.277	0.253	0.374*	0.488**
			(0.097)	(0.122)	(0.224)	(0.237)	(0.204)	(0.212)
Gini			0.360***	0.289***	0.278**	0.219**	0.239**	0.254**
			(0.121)	(0.112)	(0.116)	(0.106)	(0.112)	(0.103)
UE			-0.188***	-0.202***	-0.232***	-0.239***	-0.198***	-0.205***
			(0.046)	(0.049)	(0.043)	(0.047)	(0.046)	(0.050)
HHI			-0.972**	-0.948**	-0.593	-0.585	-0.676**	-0.848***
			(0.386)	(0.385)	(0.367)	(0.365)	(0.335)	(0.313)
EDUC			-0.022	-0.047	-0.063	-0.081	-0.053	-0.056
			(0.065)	(0.064)	(0.057)	(0.055)	(0.058)	(0.058)
NGDP							0.378**	0.113
							(0.181)	(0.187)
L.ACCIRET		0.278**		0.020		0.014		0.018
		(0.113)		(0.065)		(0.061)		(0.064)
Observations	950	900	950	900	950	900	950	900
R-squared	0.070	0.104	0.391	0.271	0.396	0.277	0.394	0.272
R-squared between	0.070	0.873	0.057	0.038	0.167	0.107	0.125	0.045
R-squared overall	0.085	0.461	0.154	0.088	0.274	0.175	0.242	0.103
Hansen J	2.19e-05	0.373	0.00121	0.000468	0.00229	0.000983	0.000303	0.000180
Kleibergen-Paap	0	0	0	0	0	0	0	0
DWH	0.878	0.00670	0.563	0.244	0.994	0.574	0.449	0.191

Robust standard errors in parentheses

We also find that the same lack of statistical significance persists in the two-stage least squares specification regardless, providing little further evidence of a meaningful relationship.

Finally, we also note that the results of the Durbin-Wu-Hausman test indicate that the variable EF can be treated as exogenous in all specifications except one and, as a result, the OLS results are unbiased and, thus, preferred.

4.4.3. ACCIRET and EF (LAG)

To conclude our analysis of the relationship between ACCIRET and EF, we once again turn our attention to the lag specification of the model. As was the case with the two-stage least squares specification, we find no further evidence of a relationship between EF and ACCIRET, as the table below indicates that the variable is not significant in any model specification that includes additional control variables. Table 4.12 shows the results of this estimation.

With respect to control variables in the lag model, we find that the significance of the unemployment variable that was present in the OLS specification is erased when lagged. We do find, however, that the lagged Gini coefficient gains significance at the 5% level or better across the board.

Table 4.12 – ACCIRET and Economic Freedom (Lag)

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
L.EF	1.761***	0.275	0.230	0.205	0.322	0.296	0.231	0.205
	(0.268)	(0.328)	(0.350)	(0.310)	(0.358)	(0.318)	(0.351)	(0.310)
L.CPOL			-0.137***	-0.133***	-0.138***	-0.134***	-0.140***	-0.135***
			(0.038)	(0.038)	(0.039)	(0.039)	(0.040)	(0.041)
L.PIPop			0.439***	0.410***	0.001	-0.013	0.391**	0.374**
			(0.063)	(0.093)	(0.171)	(0.168)	(0.154)	(0.142)
L.Gini			0.458***	0.440***	0.332**	0.319**	0.436***	0.424***
			(0.154)	(0.162)	(0.145)	(0.149)	(0.143)	(0.142)
L.UE			-0.034	-0.027	-0.098	-0.089	-0.035	-0.028
			(0.063)	(0.072)	(0.069)	(0.080)	(0.065)	(0.074)
L.HHI			-0.302	-0.267	0.073	0.094	-0.249	-0.227
			(0.408)	(0.426)	(0.435)	(0.438)	(0.347)	(0.349)
L.EDUC			0.001	0.002	-0.039	-0.037	-0.004	-0.002
			(0.042)	(0.041)	(0.043)	(0.042)	(0.042)	(0.041)
L.NGDP							0.067	0.051
							(0.180)	(0.192)
L.ACCIRET		0.275**		0.047		0.043		0.047
		(0.113)		(0.079)		(0.077)		(0.081)
Observations	950	900	900	900	900	900	900	900
R-squared	0.065	0.099	0.236	0.237	0.241	0.243	0.236	0.238
Between R-squared	0.0703	0.904	0.168	0.268	0.319	0.406	0.209	0.311
Overall R-squared	0.0579	0.462	0.197	0.249	0.258	0.298	0.217	0.266

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.5. ACCIRETAAGI and EF

4.5.1. ACCIRETAAGI and EF (OLS)

The final dependent variable of interest is ACCIRETAAGI, which is similar to the previously analyzed variable ACCRETAAGI, with the notable exception being that it is ACCIRET that is being adjusted for AAGI, instead of ACCRET. The results of our OLS estimation of this relationship are displayed in table 4.13

Table 4.13 – ACCIRETAAGI and Economic Freedom (OLS)

VARIABLES	(1) ACCIRETAAGI	(2) ACCIRETAAGI	(3) ACCIRETAAGI	(4) ACCIRETAAGI	(5) ACCIRETAAGI	(6) ACCIRETAAGI	(7) ACCIRETAAGI	(8) ACCIRETAAGI
EF	0.522**	0.225	0.366	-0.032	0.419	0.029	0.367	-0.026
	(0.214)	(0.241)	(0.351)	(0.358)	(0.355)	(0.365)	(0.350)	(0.353)
CPOL			-0.039	-0.032	-0.037	-0.028	-0.053	-0.036
			(0.040)	(0.037)	(0.040)	(0.036)	(0.037)	(0.034)
PIPop			-0.185***	-0.242***	-0.520***	-0.570***	-0.384**	-0.308**
			(0.064)	(0.063)	(0.175)	(0.161)	(0.144)	(0.140)
Gini			0.476**	0.408**	0.394**	0.330**	0.387*	0.379**
			(0.186)	(0.163)	(0.185)	(0.161)	(0.194)	(0.171)
UE			-0.082	-0.080	-0.132**	-0.128**	-0.087	-0.081
			(0.052)	(0.059)	(0.053)	(0.059)	(0.054)	(0.060)
HHI			-0.170	-0.131	0.181	0.262	0.054	-0.043
			(0.404)	(0.430)	(0.425)	(0.464)	(0.372)	(0.421)
EDUC			0.007	-0.014	-0.033	-0.050	-0.017	-0.021
			(0.040)	(0.036)	(0.046)	(0.038)	(0.044)	(0.041)
NGDP							0.283	0.096
							(0.178)	(0.190)
L.ACCIRETAAGI		0.073		0.012		0.007		0.011
		(0.086)		(0.053)		(0.049)		(0.054)
Observations	950	900	950	900	950	900	950	900
R-squared	0.008	0.007	0.062	0.087	0.068	0.092	0.065	0.087
Between R-squared	0.0217	0.591	0.443	0.719	0.388	0.340	0.517	0.719
Overall R-squared	0.0176	0.350	0.277	0.354	0.286	0.260	0.350	0.382

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

As was the case with ACCIRET, we again find no significant relationship between ACCIRETAAGI and EF that is robust to any controls.

We also find that the within R-squared values are very small relative to the between R-squared values, which implies that more variation is being explained between units, rather than within units, which isn't as useful for our analysis.

4.5.2. ACCIRETAAGI and EF (IV)

We once again analyze the relationship between ACCIRETAAGI and EF in a two-stage least squares specification to ensure any potential relationship can be considered robust to controls for endogeneity. As was the case with ACCIRET, table 4.14 shows that our p-values for the Hansen J statistic are extremely small, indicating a rejection of the null hypothesis that the instrumented variables are correctly excluded from the regression, and that the overidentification restrictions are valid.

Table 4.14 – ACCIRETAAGI and Economic Freedom (IV)

VARIABLES	(1) ACCIRETAAGI	(2) ACCIRETAAGI	(3) ACCIRETAAGI	(4) ACCIRETAAGI	(5) ACCIRETAAGI	(6) ACCIRETAAGI	(7) ACCIRETAAGI	(8) ACCIRETAAGI
EF	0.198	-0.256	0.015	-0.600*	0.163	-0.432	-0.003	-0.605*
	(0.169)	(0.206)	(0.344)	(0.363)	(0.372)	(0.400)	(0.341)	(0.364)
CPOL			-0.038	-0.029	-0.037	-0.027	-0.051*	-0.033
			(0.033)	(0.033)	(0.032)	(0.033)	(0.030)	(0.029)
PIPop			-0.158*	-0.200**	-0.489**	-0.514**	-0.355**	-0.256
			(0.086)	(0.086)	(0.204)	(0.206)	(0.177)	(0.180)
Gini			0.460***	0.385***	0.385***	0.317***	0.369***	0.359***
			(0.112)	(0.109)	(0.109)	(0.104)	(0.102)	(0.097)
UE			-0.112**	-0.125**	-0.152***	-0.162***	-0.119***	-0.127**
			(0.045)	(0.049)	(0.043)	(0.047)	(0.046)	(0.050)
HHI			-0.202	-0.137	0.145	0.230	0.019	-0.062
			(0.384)	(0.394)	(0.377)	(0.388)	(0.345)	(0.345)
EDUC			0.005	-0.017	-0.033	-0.050	-0.019	-0.023
			(0.058)	(0.058)	(0.051)	(0.051)	(0.053)	(0.054)
NGDP							0.282*	0.082
							(0.163)	(0.173)
L.ACCIRETAAGI		0.083		0.016		0.010		0.014
		(0.087)		(0.060)		(0.056)		(0.060)
Observations	950	900	950	900	950	900	950	900
R-squared	0.005	0.002	0.060	0.083	0.067	0.089	0.063	0.083
R-squared between	0.022	0.450	0.505	0.260	0.430	0.276	0.617	0.304
R-squared overall	0.018	0.258	0.274	0.179	0.308	0.216	0.379	0.205
Hansen J	5.95e-08	1.88e-09	1.47e-05	3.30e-06	3.20e-05	8.48e-06	2.99e-06	1.03e-06
Kleibergen-Paap	0	0	0	0	0	0	0	0
DWH	0.838	0.894	0.632	0.370	0.946	0.774	0.486	0.269

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Also similar to the ACCIRET analysis is that the coefficients are largely insignificant, with only two specifications showing minor significance. This is, however, largely meaningless as a result of the failure of the Hansen J test. We also note that the results of the Durbin-Wu-Hausman test indicate that EF can be treated as exogenous in the initial regression, and that the OLS results are unbiased, and that no statistically significant relationship exists between the two.

4.5.3. ACCIRETAAGI and EF (LAG)

Finally, we analyze the ACCIRETAAGI and EF relationship in our lagged right-hand side specification, and the results are displayed in table 4.15. As was the case with the previous two specifications, we find that there is no statistically significant relationship between the two variables. Additionally, we find no consistency among the signs of the coefficients across specifications.

The R-squared values obtained for this model resemble those of the OLS specification as well, given that the within R-squared values are very small, especially by comparison to the between R-squared values.

Table 4.15 – ACCIRETAAGI and Economic Freedom (Lag)

VARIABLES	(1) ACCIRETAAGI	(2) ACCIRETAAGI	(3) ACCIRETAAGI	(4) ACCIRETAAGI	(5) ACCIRETAAGI	(6) ACCIRETAAGI	(7) ACCIRETAAGI	(8) ACCIRETAAGI
L.EF	0.032	-0.348	-0.014	-0.020	0.055	0.050	-0.013	-0.019
	(0.188)	(0.225)	(0.366)	(0.349)	(0.368)	(0.351)	(0.366)	(0.349)
L.CPOL			-0.108***	-0.107***	-0.108***	-0.108***	-0.110***	-0.109***
			(0.031)	(0.031)	(0.031)	(0.030)	(0.031)	(0.031)
L.PIPop			-0.266***	-0.263***	-0.595***	-0.590***	-0.297*	-0.292*
			(0.070)	(0.066)	(0.154)	(0.155)	(0.158)	(0.166)
L.Gini			0.532***	0.525***	0.438***	0.433**	0.518***	0.512***
			(0.161)	(0.171)	(0.158)	(0.166)	(0.156)	(0.159)
L.UE			-0.015	-0.014	-0.063	-0.061	-0.016	-0.015
			(0.066)	(0.070)	(0.071)	(0.076)	(0.068)	(0.071)
L.HHI			0.195	0.194	0.476	0.473	0.230	0.226
			(0.448)	(0.442)	(0.452)	(0.441)	(0.407)	(0.398)
L.EDUC			0.007	0.007	-0.023	-0.023	0.004	0.004
			(0.037)	(0.037)	(0.037)	(0.036)	(0.036)	(0.036)
L.NGDP							0.044	0.040
							(0.191)	(0.198)
L.ACCIRETAAGI		0.083		0.015		0.012		0.015
		(0.091)		(0.056)		(0.055)		(0.057)
Observations	950	900	900	900	900	900	900	900
R-squared	0.000	0.010	0.094	0.094	0.098	0.098	0.094	0.094
Between R-squared	0.0224	0.273	0.445	0.484	0.276	0.293	0.410	0.449
Overall R-squared	0.0141	0.172	0.297	0.322	0.222	0.235	0.287	0.311

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

CHAPTER 5: EMPIRICAL RESULTS – AREA SCORES

This chapter will provide a brief analysis of additional testing results similar to those provided in Chapter 4; however the results that will be highlighted in this section will be concerned with delineating the area of economic freedom that is driving the results obtained in the previous tests.

As stated previously, the Economic Freedom of North America index also provides scores for each individual state in each of three areas of economic freedom: government spending, taxes, and labor market regulation. Each of these three areas are referred to as areas one, two, and three, respectively.

The foregoing chapter will be a brief overview examining which of the three areas of economic freedom are the primary cause for the relationships delineated in the previous chapter. Because there is no statistically significant relationship between EF and ACCIRET or ACCIRETAAGI, these two will not be examined in this chapter. They were, however, tested, and the results of these tests can be found in the appendix of this thesis, should the reader be so interested.

Additionally, only specifications that yielded statistically significant for the various area variables will be included. As was the case with the other dependent variables, any omitted test results will be included in the appendix.

An important note to make prior to this chapter is that the independent variables for economic freedom represent overall *scores* in that area, not levels of the underlying measurement (i.e. taxes). This means that the interpretation of a positive coefficient implies an increase in the score, or an increase in economic freedom as is measured by that given area.

5.1. AICD and Taxes

In examining the results of the testing between AICD and the various areas of economic freedom contained in the index, we find that only areas two and three yield significant results in the OLS specification, as a result this subsection will focus on the results of the testing using taxes, while the following subsection will focus on that with labor market regulation. Table 5.1 contains the results of the OLS estimation using area 2 as the primary explanatory variable of interest.

Table 5.1 – AICD and TAX (OLS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	AICD	AICD	AICD	AICD	AICD	AICD	AICD	AICD
TAX	2.988***	0.232***	0.398**	0.207*	0.382**	0.199*	0.405**	0.243*
	(0.529)	(0.066)	(0.179)	(0.109)	(0.179)	(0.109)	(0.187)	(0.121)
NIRET			0.181*	0.111	0.183*	0.112	0.145*	0.101
			(0.091)	(0.071)	(0.092)	(0.072)	(0.074)	(0.064)
CPOL			-0.019	-0.042*	-0.018	-0.041*	-0.067*	-0.063***
			(0.046)	(0.021)	(0.046)	(0.021)	(0.038)	(0.022)
PIPop			1.162***	0.641***	0.971***	0.552*	0.417	0.311
			(0.133)	(0.234)	(0.280)	(0.287)	(0.251)	(0.219)
Gini			0.449***	0.351***	0.399***	0.327***	0.106	0.171**
			(0.135)	(0.073)	(0.139)	(0.073)	(0.137)	(0.075)
UE			-0.209***	-0.126***	-0.240***	-0.142***	-0.231***	-0.148***
			(0.024)	(0.021)	(0.036)	(0.020)	(0.022)	(0.018)
HHI			-0.720	-0.356	-0.521	-0.246	0.153	0.135
			(0.758)	(0.393)	(0.736)	(0.414)	(0.712)	(0.459)
EDUC			0.026	0.004	0.003	-0.007	-0.063	-0.039
			(0.070)	(0.033)	(0.070)	(0.034)	(0.068)	(0.042)
NGDP							1.091***	0.599***
							(0.246)	(0.131)
L.AICD		0.792***		0.366**		0.364**		0.312**
		(0.037)		(0.156)		(0.154)		(0.135)
Observations	950	900	950	900	950	900	950	900
R-squared	0.136	0.819	0.863	0.864	0.864	0.865	0.877	0.869
Between R-squared	0.00352	0.999	0.618	0.962	0.667	0.972	0.681	0.979
Overall R-squared	0.000590	0.987	0.552	0.927	0.557	0.932	0.379	0.899

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The relationship between AICD and the taxation score variable is positive and significant across the board, albeit at varying levels of significance. This would imply that greater levels of economic freedom with respect to taxation would result in greater levels of AICD. The R-squared values for all specifications were fairly strong as well, indicating that the various model specifications were a good fit.

Table 5.2 – AICD and TAX (IV)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	AICD	AICD	AICD	AICD	AICD	AICD	AICD	AICD
TAX	4.400***	0.597**	0.623***	0.492***	0.578***	0.473***	0.490***	0.442***
	(0.317)	(0.269)	(0.160)	(0.159)	(0.147)	(0.146)	(0.145)	(0.142)
NIRET			0.181**	0.111*	0.183**	0.112*	0.145**	0.100*
			(0.089)	(0.068)	(0.090)	(0.068)	(0.071)	(0.060)
CPOL			-0.016	-0.037	-0.015	-0.036	-0.066***	-0.060***
			(0.030)	(0.029)	(0.030)	(0.029)	(0.023)	(0.021)
PIPop			1.144***	0.626***	0.967***	0.552**	0.410**	0.293
			(0.105)	(0.173)	(0.195)	(0.223)	(0.194)	(0.207)
Gini			0.474***	0.381***	0.423***	0.359***	0.115	0.187**
			(0.093)	(0.077)	(0.092)	(0.076)	(0.090)	(0.093)
UE			-0.212***	-0.133***	-0.241***	-0.146***	-0.232***	-0.153***
			(0.014)	(0.020)	(0.025)	(0.027)	(0.015)	(0.022)
HHI			-0.728**	-0.410	-0.539*	-0.315	0.151	0.109
			(0.353)	(0.300)	(0.319)	(0.249)	(0.299)	(0.227)
EDUC			0.026	0.005	0.004	-0.004	-0.063	-0.039
			(0.063)	(0.061)	(0.057)	(0.053)	(0.054)	(0.049)
NGDP							1.092***	0.613***
							(0.189)	(0.227)
L.AICD		0.779***		0.360***		0.359***		0.307***
		(0.052)		(0.123)		(0.123)		(0.112)
Observations	950	900	950	900	950	900	950	900
R-squared	0.105	0.817	0.863	0.863	0.864	0.863	0.877	0.868
R-squared between	0.004	0.995	0.604	0.952	0.649	0.962	0.659	0.971
R-squared overall	0.001	0.982	0.543	0.917	0.548	0.922	0.374	0.890
Hansen J	0	0.769	0.443	0.223	0.476	0.237	0.146	0.0932
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	1.15e-10	0.00276	0.00484	0.00114	0.0182	0.00285	0.388	0.0161

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

This relationship is also robust to controls for endogeneity, as we find that the two-stage least squares model yielded results, displayed in table 5.2, that are even more favorable, with respect to statistical significance and even magnitude of the coefficients for TAX. We also find favorable Hansen J and Kleibergen-Paap results, indicating that our choice of instruments is valid. Finally, we find that, in most specifications, our Durbin-Wu-Hausman results indicate that we reject the null of endogeneity, and conclude that our OLS results are biased, and that we should instead rely on the results of the two-stage least squares model, despite the inefficiency.

The results of our lag model specification displayed in table 5.1.3 effectively confirm the conclusions that we've arrived at using the OLS and two-stage least squares models. We again find positive coefficients for the TAX variable, as well as statistical significance across the board at the 1% level.

The results of our lag model specification displayed in table 5.3 effectively confirm the conclusions that we've arrived at using the OLS and two-stage least squares models. We again find positive coefficients for the TAX variable, as well as statistical significance across the board at the 1% level.

Table 5.3 – AICD and TAX (Lag)

VARIABLES	(1) AICD	(2) AICD	(3) AICD	(4) AICD	(5) AICD	(6) AICD	(7) AICD	(8) AICD
L.TAX	3.387***	0.452***	0.494***	0.309***	0.457***	0.294***	0.517***	0.330***
	(0.512)	(0.118)	(0.168)	(0.090)	(0.169)	(0.086)	(0.184)	(0.089)
NIRET			0.210*	0.112	0.209*	0.113	0.178*	0.106
			(0.118)	(0.085)	(0.117)	(0.085)	(0.103)	(0.079)
L.CPOL			-0.063	-0.045*	-0.064	-0.046*	-0.099***	-0.060*
			(0.038)	(0.023)	(0.038)	(0.024)	(0.036)	(0.030)
L.PIPop			0.980***	0.381	0.574**	0.186	0.370	0.185
			(0.136)	(0.258)	(0.262)	(0.242)	(0.242)	(0.178)
L.Gini			0.277**	0.058	0.151	-0.003	-0.011	-0.039
			(0.113)	(0.068)	(0.119)	(0.078)	(0.124)	(0.095)
L.UE			-0.104***	0.000	-0.172***	-0.036	-0.120***	-0.013
			(0.027)	(0.025)	(0.046)	(0.033)	(0.028)	(0.026)
L.HHI			-0.100	0.298	0.249	0.468	0.614	0.547
			(0.704)	(0.270)	(0.690)	(0.323)	(0.703)	(0.413)
L.EDUC			0.071	0.051	0.033	0.032	0.007	0.028
			(0.062)	(0.036)	(0.061)	(0.037)	(0.058)	(0.038)
L.NGDP							0.888***	0.341
							(0.262)	(0.206)
L.AICD		0.780***		0.509***		0.500***		0.477**
		(0.040)		(0.188)		(0.184)		(0.186)
Observations	950	900	900	900	900	900	900	900
R-squared	0.174	0.822	0.797	0.842	0.800	0.843	0.808	0.844
Between R-squared	0.00269	0.997	0.719	0.984	0.745	0.979	0.522	0.972
Overall R-squared	0.000183	0.985	0.610	0.962	0.564	0.954	0.378	0.942

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.2. AICD and Labor Market Regulation

The other economic freedom area that yielded a significant relationship with AICD was area three, labor market regulation. This relationship is detailed in table 5.4. We find positive, significant coefficients for all specifications in the OLS model. Additionally, the R-squared values indicate the model is a good fit.

Table 5.4 – AICD and LAB (OLS)

VARIABLES	(1) AICD	(2) AICD	(3) AICD	(4) AICD	(5) AICD	(6) AICD	(7) AICD	(8) AICD
LAB	4.887***	0.972***	0.522**	0.398***	0.531**	0.402***	0.337**	0.313**
	(0.218)	(0.217)	(0.203)	(0.145)	(0.202)	(0.145)	(0.162)	(0.140)
NIRET			0.164*	0.099	0.166*	0.100	0.136*	0.092
			(0.086)	(0.068)	(0.088)	(0.069)	(0.071)	(0.062)
CPOL			-0.024	-0.047**	-0.023	-0.045**	-0.071*	-0.066***
			(0.044)	(0.021)	(0.044)	(0.021)	(0.037)	(0.022)
PIPop			1.118***	0.600**	0.896***	0.493*	0.429*	0.313
			(0.127)	(0.234)	(0.266)	(0.286)	(0.230)	(0.208)
Gini			0.321**	0.262***	0.263*	0.234***	0.020	0.109
			(0.137)	(0.075)	(0.141)	(0.077)	(0.142)	(0.073)
UE			-0.165***	-0.093***	-0.200***	-0.111***	-0.199***	-0.118***
			(0.025)	(0.027)	(0.036)	(0.024)	(0.020)	(0.025)
HHI			-0.704	-0.312	-0.476	-0.182	0.136	0.140
			(0.812)	(0.438)	(0.785)	(0.456)	(0.753)	(0.485)
EDUC			0.027	0.004	0.001	-0.008	-0.059	-0.035
			(0.062)	(0.030)	(0.062)	(0.030)	(0.061)	(0.038)
NGDP							1.050***	0.545***
							(0.229)	(0.132)
L.AICD		0.718***		0.368**		0.365**		0.320**
		(0.055)		(0.154)		(0.152)		(0.138)
Observations	950	900	950	900	950	900	950	900
R-squared	0.498	0.832	0.863	0.865	0.864	0.866	0.876	0.869
Between R-squared	0.0805	0.991	0.618	0.964	0.670	0.973	0.702	0.977
Overall R-squared	0.107	0.979	0.549	0.928	0.550	0.931	0.389	0.902

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The results of the two-stage least squares estimation, provided in table 5.5, confirm that the results of the OLS estimation are robust to controls for endogeneity. We again find support for our instrument selection, and again find that the LAB variable fails the Durbin-Wu-Hausman test in most specifications, indicating that our OLS estimation results are biased. As a result, we would prefer our two-stage least squares results.

Table 5.5 – AICD and LAB (IV)

VARIABLES	(1) AICD	(2) AICD	(3) AICD	(4) AICD	(5) AICD	(6) AICD	(7) AICD	(8) AICD
LAB	5.877***	0.546	0.975***	-0.180	1.039***	-0.139	0.704***	-0.195
	(0.195)	(0.392)	(0.274)	(0.266)	(0.280)	(0.279)	(0.245)	(0.233)
NIRET			0.150*	0.116*	0.150*	0.117*	0.125*	0.106*
			(0.081)	(0.067)	(0.082)	(0.068)	(0.066)	(0.060)
CPOL			-0.023	-0.046*	-0.022	-0.045	-0.068***	-0.068***
			(0.028)	(0.027)	(0.029)	(0.027)	(0.022)	(0.021)
PIPop			1.053***	0.675***	0.815***	0.572***	0.404**	0.346*
			(0.094)	(0.160)	(0.197)	(0.220)	(0.188)	(0.201)
Gini			0.248**	0.360***	0.179*	0.328***	-0.026	0.177
			(0.098)	(0.092)	(0.102)	(0.099)	(0.101)	(0.116)
UE			-0.131***	-0.135***	-0.164***	-0.149***	-0.171***	-0.156***
			(0.022)	(0.018)	(0.027)	(0.021)	(0.021)	(0.018)
HHI			-0.703*	-0.319	-0.467	-0.199	0.103	0.183
			(0.381)	(0.287)	(0.347)	(0.236)	(0.316)	(0.226)
EDUC			0.028	0.002	0.001	-0.009	-0.055	-0.041
			(0.062)	(0.060)	(0.055)	(0.052)	(0.052)	(0.050)
NGDP							1.008***	0.604***
							(0.181)	(0.206)
L.AICD		0.754***		0.372***		0.369***		0.318***
		(0.073)		(0.123)		(0.122)		(0.111)
Observations	950	900	950	900	950	900	950	900
R-squared	0.477	0.829	0.862	0.862	0.862	0.863	0.875	0.867
R-squared between	0.081	0.998	0.597	0.965	0.635	0.975	0.640	0.981
R-squared overall	0.107	0.985	0.533	0.931	0.526	0.935	0.381	0.904
Hansen J	2.96e-08	0.688	0.774	0.178	0.853	0.211	0.306	0.0705
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0	0.00346	0.0112	0.0338	0.00442	0.0594	0.0201	0.0850

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Finally, we examine the robustness of the relationship by examining the results of our lag model estimation in table 5.6, and find support for the previous findings, as the coefficients on LAB are positive and highly significant for all specifications.

Table 5.6 – AICD and LAB (Lag)

VARIABLES	(1) AICD	(2) AICD	(3) AICD	(4) AICD	(5) AICD	(6) AICD	(7) AICD	(8) AICD
L.LAB	4.541***	0.383	0.802***	0.479***	0.867***	0.522***	0.659***	0.444***
	(0.175)	(0.285)	(0.266)	(0.146)	(0.262)	(0.147)	(0.223)	(0.134)
NIRET			0.188*	0.100	0.184*	0.101	0.164*	0.096
			(0.109)	(0.078)	(0.107)	(0.077)	(0.096)	(0.073)
L.CPOL			-0.071**	-0.051**	-0.071**	-0.051**	-0.104***	-0.063**
			(0.035)	(0.022)	(0.035)	(0.023)	(0.034)	(0.029)
L.PIPop			0.902***	0.344	0.390	0.084	0.378*	0.188
			(0.119)	(0.238)	(0.253)	(0.216)	(0.212)	(0.159)
L.Gini			0.087	-0.055	-0.076	-0.138	-0.147	-0.129
			(0.110)	(0.072)	(0.122)	(0.084)	(0.125)	(0.097)
L.UE			-0.040	0.038	-0.118***	-0.007	-0.064***	0.025
			(0.025)	(0.023)	(0.040)	(0.032)	(0.024)	(0.027)
L.HHI			-0.118	0.282	0.309	0.500	0.524	0.487
			(0.739)	(0.299)	(0.720)	(0.347)	(0.726)	(0.402)
L.EDUC			0.078	0.055	0.031	0.031	0.020	0.036
			(0.056)	(0.039)	(0.055)	(0.037)	(0.053)	(0.036)
L.NGDP							0.793***	0.277
							(0.227)	(0.216)
L.AICD		0.762***		0.502***		0.488***		0.477**
		(0.065)		(0.184)		(0.179)		(0.187)
Observations	950	900	900	900	900	900	900	900
R-squared	0.540	0.820	0.799	0.843	0.804	0.844	0.808	0.844
Between R-squared	0.0803	0.999	0.712	0.983	0.682	0.973	0.575	0.974
Overall R-squared	0.110	0.986	0.605	0.960	0.519	0.946	0.416	0.945

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.3. ACCRET and Taxes

The results of the OLS estimation of the relationship between ACCRET and the taxation score variable are displayed in table 5.7. The TAX variable yielded positive results significant to at least the 5% level in all specifications. This relationship indicates that a greater score in area 2 would yield greater levels of ACCRET, which implies that greater levels of economic freedom in terms of taxation would yield greater levels of ACCRET. The R-squared values are also encouraging, as we find sufficiently large overall R-squared values, with much of that driven by the within R-squared.

Table 5.7 – ACCRET and TAX (OLS)

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
TAX	2.351***	0.297***	0.376**	0.204**	0.378**	0.210**	0.383**	0.228**
	(0.398)	(0.059)	(0.153)	(0.089)	(0.153)	(0.088)	(0.156)	(0.094)
CPOL			-0.018	-0.036*	-0.018	-0.037*	-0.061	-0.053**
			(0.044)	(0.021)	(0.045)	(0.021)	(0.038)	(0.022)
PIPop			1.126***	0.591**	1.150***	0.656**	0.471**	0.354*
			(0.091)	(0.245)	(0.248)	(0.310)	(0.218)	(0.195)
Gini			0.081	0.097	0.088	0.115**	-0.213*	-0.039
			(0.095)	(0.059)	(0.104)	(0.056)	(0.116)	(0.088)
UE			-0.178***	-0.087***	-0.174***	-0.077***	-0.196***	-0.103***
			(0.020)	(0.025)	(0.033)	(0.021)	(0.017)	(0.025)
HHI			0.369	0.417	0.343	0.335	1.103**	0.796*
			(0.501)	(0.303)	(0.499)	(0.299)	(0.518)	(0.415)
EDUC			0.003	-0.002	0.006	0.006	-0.075	-0.034
			(0.065)	(0.033)	(0.063)	(0.031)	(0.063)	(0.042)
NGDP							0.930***	0.420***
							(0.210)	(0.139)
L.ACCRET		0.738***		0.389**		0.389**		0.345**
		(0.053)		(0.173)		(0.173)		(0.165)
Observations	950	900	950	900	950	900	950	900
R-squared	0.132	0.741	0.793	0.788	0.793	0.788	0.810	0.792
Between R-squared	0.000151	0.977	0.0277	0.488	0.0324	0.536	0.0359	0.153
Overall R-squared	0.00731	0.873	0.280	0.596	0.286	0.625	0.0952	0.372

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Our results from the OLS estimation are once again robust to controls for endogeneity through the two-stage least squares estimation in table 5.8, and we again see very favorable results for our instrument selection, as the Hansen J and Kleibergen-Paap results indicate.

Table 5.8 – ACCRET and TAX (IV)

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
TAX	3.481***	0.674***	0.647***	0.540***	0.657***	0.563***	0.527***	0.506***
	(0.247)	(0.259)	(0.153)	(0.157)	(0.143)	(0.147)	(0.138)	(0.138)
CPOL			-0.014	-0.030	-0.014	-0.031	-0.059***	-0.049**
			(0.028)	(0.027)	(0.028)	(0.027)	(0.023)	(0.019)
PIPop			1.104***	0.572***	1.143***	0.657***	0.458**	0.329
			(0.082)	(0.186)	(0.175)	(0.247)	(0.187)	(0.206)
Gini			0.111	0.131	0.122	0.155*	-0.198**	-0.017
			(0.100)	(0.090)	(0.100)	(0.087)	(0.094)	(0.118)
UE			-0.182***	-0.096***	-0.175***	-0.082***	-0.198***	-0.111***
			(0.014)	(0.022)	(0.024)	(0.026)	(0.014)	(0.025)
HHI			0.359	0.360	0.317	0.251	1.099***	0.767***
			(0.306)	(0.280)	(0.274)	(0.225)	(0.260)	(0.274)
EDUC			0.003	-0.000	0.008	0.010	-0.075	-0.034
			(0.063)	(0.061)	(0.057)	(0.053)	(0.055)	(0.052)
NGDP							0.931***	0.439*
							(0.166)	(0.225)
L.ACCRET		0.722***		0.382***		0.382***		0.338***
		(0.065)		(0.132)		(0.132)		(0.129)
Observations	950	900	950	900	950	900	950	900
R-squared	0.102	0.738	0.792	0.785	0.792	0.785	0.809	0.790
R-squared between	0.000	0.881	0.026	0.456	0.033	0.505	0.035	0.141
R-squared overall	0.007	0.819	0.270	0.577	0.278	0.608	0.094	0.359
Hansen J	0	0.789	0.991	0.856	0.982	0.839	0.529	0.624
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0	0.0123	0.00114	0.00173	0.00103	0.00158	0.0658	0.00151

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Our TAX variable does, however, fail the Durbin-Wu-Hausman test, thus indicating that we prefer our two-stage least squares results, due to their unbiasedness. The results are, however, still favorable, as we see positive coefficients with statistical significance at the 1% level for all model specifications.

Table 5.9 – ACCRET and TAX (Lag)

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
L.TAX	2.684***	0.510***	0.558***	0.358***	0.545***	0.352***	0.571***	0.369***
	(0.380)	(0.129)	(0.153)	(0.090)	(0.154)	(0.089)	(0.160)	(0.089)
L.CPOL			-0.027	-0.010	-0.027	-0.011	-0.058	-0.020
			(0.038)	(0.021)	(0.038)	(0.022)	(0.036)	(0.028)
L.PIPop			0.975***	0.389	0.828***	0.319	0.468**	0.259
			(0.096)	(0.261)	(0.243)	(0.276)	(0.212)	(0.170)
L.Gini			-0.197*	-0.207**	-0.243**	-0.229**	-0.422***	-0.274*
			(0.107)	(0.093)	(0.120)	(0.103)	(0.119)	(0.144)
L.UE			-0.083***	0.010	-0.107**	-0.002	-0.094***	0.004
			(0.021)	(0.023)	(0.041)	(0.028)	(0.022)	(0.026)
L.HHI			1.006*	0.828**	1.132*	0.890**	1.571**	1.003*
			(0.562)	(0.399)	(0.577)	(0.428)	(0.602)	(0.557)
L.EDUC			0.068	0.058*	0.054	0.051	0.015	0.042
			(0.058)	(0.035)	(0.059)	(0.037)	(0.056)	(0.038)
L.NGDP							0.712***	0.212
							(0.195)	(0.194)
L.ACCRET		0.722***		0.508***		0.507***		0.489**
		(0.056)		(0.188)		(0.187)		(0.194)
Observations	950	900	900	900	900	900	900	900
R-squared	0.172	0.746	0.698	0.769	0.699	0.769	0.710	0.770
Between R-squared	0.000318	0.930	0.000740	0.333	0.00738	0.284	0.0432	0.198
Overall R-squared	0.00999	0.849	0.0811	0.490	0.0573	0.454	0.0134	0.385

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Finally, we once again find validation in the lag estimation model in table 5.9 as well. Coefficients for TAX are once again positive and significant at the 1% level for all model specifications in the lag estimation model.

5.4. ACCRET and Labor Market Regulation

Our OLS estimation findings indicate the relationship between ACCRET and the overall score for labor market regulation are also positive and highly significant. The implication here, as is the case with taxation, is that higher levels of the area 3 score, achieved through lower levels of labor market regulation, are positively correlated with increased charitable activity as defined by ACCRET.

As table 5.10 below indicates, this relationship is highly positive and significant at the 1% level in all OLS specifications included. We also find relatively strong overall R-squared values in a number of specifications, and again find that the within R-squared is sufficiently strong.

Table 5.10 – ACCRET and LAB (OLS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET
LAB	3.922***	0.873***	0.913***	0.599***	0.913***	0.596***	0.739***	0.552***
	(0.176)	(0.288)	(0.178)	(0.114)	(0.179)	(0.114)	(0.154)	(0.106)
CPOL			-0.024	-0.041**	-0.024	-0.042**	-0.063*	-0.055**
			(0.040)	(0.020)	(0.041)	(0.020)	(0.035)	(0.021)
PIPop			1.004***	0.538**	0.989***	0.579**	0.452**	0.347*
			(0.087)	(0.218)	(0.234)	(0.280)	(0.194)	(0.175)
Gini			-0.109	-0.031	-0.113	-0.020	-0.343***	-0.138*
			(0.104)	(0.058)	(0.115)	(0.058)	(0.122)	(0.081)
UE			-0.105***	-0.042*	-0.107***	-0.036*	-0.134***	-0.058**
			(0.024)	(0.023)	(0.034)	(0.020)	(0.019)	(0.024)
HHI			0.374	0.457	0.390	0.407	1.028*	0.777*
			(0.537)	(0.332)	(0.538)	(0.337)	(0.529)	(0.409)
EDUC			0.003	-0.002	0.001	0.003	-0.066	-0.029
			(0.052)	(0.028)	(0.053)	(0.027)	(0.053)	(0.036)
NGDP							0.826***	0.351**
							(0.199)	(0.141)
L.ACCRET		0.654***		0.366**		0.366**		0.332**
		(0.082)		(0.165)		(0.165)		(0.160)
Observations	950	900	950	900	950	900	950	900
R-squared	0.505	0.756	0.801	0.793	0.801	0.793	0.813	0.795
Between R-squared	0.107	0.890	0.0622	0.455	0.0584	0.488	0.00900	0.192
Overall R-squared	0.188	0.833	0.321	0.580	0.317	0.600	0.137	0.401

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The two-stage least squares estimation of the relationship between ACCRET and the area 3 score provide support that the OLS results obtained are robust. In examining the results in table 5.11, we find support for our instrument selection in the Hansen J and Kleibergen-Paap results, but we do, however, only find support for the treatment of LAB as exogenous in columns 3, 5, and 7, indicating that we would likely prefer to utilize the two-stage least squares results to ensure unbiased results.

Table 5.11 – ACCRET and LAB (IV)

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
LAB	4.602***	0.497	1.138***	-0.020	1.144***	-0.045	0.886***	-0.040
	(0.165)	(0.451)	(0.229)	(0.293)	(0.236)	(0.301)	(0.222)	(0.262)
CPOL			-0.024	-0.040	-0.024	-0.041	-0.062***	-0.056***
			(0.026)	(0.025)	(0.027)	(0.025)	(0.022)	(0.019)
PIPop			0.967***	0.604***	0.946***	0.662***	0.441**	0.378*
			(0.085)	(0.169)	(0.187)	(0.235)	(0.179)	(0.197)
Gini			-0.146	0.081	-0.152	0.099	-0.361***	-0.051
			(0.100)	(0.121)	(0.105)	(0.123)	(0.100)	(0.149)
UE			-0.088***	-0.084***	-0.091***	-0.076***	-0.122***	-0.100***
			(0.021)	(0.016)	(0.025)	(0.019)	(0.021)	(0.018)
HHI			0.372	0.451*	0.393	0.383*	1.011***	0.824***
			(0.325)	(0.271)	(0.296)	(0.219)	(0.269)	(0.265)
EDUC			0.003	-0.003	0.000	0.004	-0.064	-0.034
			(0.060)	(0.059)	(0.053)	(0.052)	(0.051)	(0.051)
NGDP							0.806***	0.409**
							(0.164)	(0.205)
L.ACCRET		0.695***		0.394***		0.395***		0.353***
		(0.100)		(0.140)		(0.141)		(0.136)
Observations	950	900	950	900	950	900	950	900
R-squared	0.490	0.753	0.800	0.787	0.800	0.786	0.813	0.790
R-squared between	0.107	0.961	0.069	0.482	0.064	0.526	0.006	0.153
R-squared overall	0.188	0.870	0.324	0.592	0.319	0.617	0.145	0.371
Hansen J	3.15e-06	0.869	0.645	0.780	0.648	0.764	0.868	0.560
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0	0.00343	0.204	0.00174	0.212	0.00110	0.364	0.00378

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Continuing our trend, we again find support for the robustness of the relationship in the lag model estimation, shown in table 5.12, as we again find positive results that are significant to the 1% level for all included specifications. We also again find relatively robust R-squared values, with the R-squared within providing much of the information.

Table 5.12 – ACCRET and LAB (Lag)

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
L.LAB	3.549***	0.350	0.986***	0.481***	1.017***	0.501***	0.860***	0.461***
	(0.143)	(0.343)	(0.191)	(0.173)	(0.192)	(0.175)	(0.183)	(0.153)
L.CPOL			-0.038	-0.018	-0.039	-0.019	-0.063*	-0.025
			(0.034)	(0.021)	(0.034)	(0.021)	(0.034)	(0.027)
L.PIPop			0.855***	0.356	0.593**	0.222	0.469**	0.270*
			(0.087)	(0.226)	(0.225)	(0.224)	(0.176)	(0.144)
L.Gini			-0.419***	-0.324***	-0.502***	-0.368***	-0.579***	-0.367**
			(0.094)	(0.107)	(0.116)	(0.123)	(0.108)	(0.153)
L.UE			-0.002	0.048***	-0.043	0.026	-0.021	0.042**
			(0.024)	(0.016)	(0.037)	(0.024)	(0.023)	(0.020)
L.HHI			0.975*	0.820**	1.193**	0.935**	1.434**	0.939*
			(0.552)	(0.366)	(0.575)	(0.415)	(0.567)	(0.499)
L.EDUC			0.073	0.061	0.049	0.049	0.030	0.051
			(0.049)	(0.037)	(0.050)	(0.037)	(0.049)	(0.036)
L.NGDP							0.572***	0.144
							(0.175)	(0.195)
L.ACCRET		0.706***		0.492**		0.488**		0.481**
		(0.095)		(0.188)		(0.187)		(0.196)
Observations	950	900	900	900	900	900	900	900
R-squared	0.520	0.742	0.706	0.770	0.708	0.770	0.713	0.770
Between R-squared	0.106	0.979	0.00367	0.355	0.00168	0.262	0.0143	0.261
Overall R-squared	0.200	0.874	0.118	0.504	0.0692	0.435	0.0373	0.435

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.5. ACCRETAAGI and Taxes

The final dependent variable that we are interested in examining further is ACCRETAAGI. Again, we find no significance in the relationship between ACCRETAAGI and the area 1 score, or size of government.

We do, however, find a positive relationship for area 2 that is significant in all specifications at the 1% level, as shown in table 5.13. As was the case with this particular variable in the overall score estimations, we find that the R-squared values are relatively unfavorable. The R-squared within values, however, are somewhat favorable.

Table 5.13 – ACCRETAAGI and TAX (OLS)

VARIABLES	(1) ACCRETAAGI	(2) ACCRETAAGI	(3) ACCRETAAGI	(4) ACCRETAAGI	(5) ACCRETAAGI	(6) ACCRETAAGI	(7) ACCRETAAGI	(8) ACCRETAAGI
TAX	0.697***	0.211**	0.417***	0.238***	0.421***	0.244***	0.423***	0.266***
	(0.141)	(0.081)	(0.146)	(0.087)	(0.145)	(0.086)	(0.151)	(0.095)
CPOL			0.033	0.019	0.033	0.018	-0.006	0.003
			(0.046)	(0.025)	(0.047)	(0.025)	(0.039)	(0.024)
PIPop			0.318***	0.113	0.369	0.176	-0.270	-0.151
			(0.093)	(0.093)	(0.253)	(0.171)	(0.215)	(0.110)
Gini			0.190*	0.052	0.204*	0.068	-0.074	-0.064
			(0.107)	(0.062)	(0.111)	(0.069)	(0.116)	(0.067)
UE			-0.093***	-0.025*	-0.085***	-0.015	-0.109***	-0.038***
			(0.017)	(0.013)	(0.029)	(0.013)	(0.015)	(0.011)
HHI			1.148**	0.853**	1.094**	0.775**	1.806***	1.261**
			(0.520)	(0.400)	(0.521)	(0.380)	(0.534)	(0.476)
EDUC			0.030	0.025	0.036	0.032	-0.039	-0.006
			(0.067)	(0.035)	(0.065)	(0.033)	(0.063)	(0.039)
NGDP							0.834***	0.409***
							(0.207)	(0.112)
L.ACCRETAAGI		0.460***		0.410***		0.410***		0.368***
		(0.094)		(0.121)		(0.121)		(0.110)
Observations	950	900	950	900	950	900	950	900
R-squared	0.048	0.266	0.218	0.284	0.219	0.285	0.273	0.297
Between R-squared	0.000264	0.956	0.105	0.0782	0.108	0.104	0.0620	0.00902
Overall R-squared	0.00209	0.779	0.0516	0.101	0.0523	0.127	0.0307	0.0205

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

The result of our two-stage least squares estimation of this relationship are also favorable. Table 5.14 shows that we again find the coefficient on TAX to be positive and significant at the 1% level in all specifications included. Additionally, we find support for our selection of instruments through the Hansen J and Kleibergen-Paap tests.

Table 5.14 – ACCRETAAGI and TAX (IV)

VARIABLES	(1) ACCRE TAAGI	(2) ACCRET AAGI	(3) ACCRET AAGI	(4) ACCRET AAGI	(5) ACCRET AAGI	(6) ACCRET AAGI	(7) ACCRET AAGI	(8) ACCRET AAGI
TAX	1.039***	0.408***	0.659***	0.487***	0.676***	0.507***	0.551***	0.458***
	(0.110)	(0.131)	(0.135)	(0.145)	(0.127)	(0.138)	(0.123)	(0.131)
CPOL			0.037	0.023	0.036	0.023	-0.004	0.006
			(0.028)	(0.026)	(0.028)	(0.026)	(0.023)	(0.021)
PIPop			0.299***	0.097	0.362**	0.173	-0.281*	-0.174
			(0.072)	(0.080)	(0.158)	(0.151)	(0.161)	(0.171)
Gini			0.217**	0.079	0.235***	0.101	-0.060	-0.047
			(0.090)	(0.076)	(0.089)	(0.073)	(0.085)	(0.078)
UE			-0.097***	-0.031**	-0.086***	-0.019	-0.111***	-0.044**
			(0.013)	(0.015)	(0.022)	(0.021)	(0.013)	(0.018)
HHI			1.139***	0.818***	1.071***	0.720**	1.802***	1.250***
			(0.302)	(0.317)	(0.287)	(0.299)	(0.276)	(0.337)
EDUC			0.030	0.026	0.038	0.035	-0.040	-0.006
			(0.057)	(0.053)	(0.053)	(0.048)	(0.052)	(0.045)
NGDP							0.835***	0.424**
							(0.145)	(0.189)
L.ACCRETAAGI		0.450***		0.402***		0.402***		0.360***
		(0.089)		(0.100)		(0.100)		(0.098)
Observations	950	900	950	900	950	900	950	900
R-squared	0.036	0.214	0.279	0.214	0.279	0.271	0.293	0.215
R-squared between	0.000	0.097	0.077	0.100	0.107	0.060	0.008	0.040
R-squared overall	0.002	0.046	0.100	0.046	0.130	0.030	0.020	0.066
Hansen J	0.00962	0.472	0.355	0.177	0.352	0.175	0.114	0.0757
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	5.26e-07	0.0120	0.00120	0.00479	0.00119	0.00559	0.0990	0.0217

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Conversely, we find that the results of the Durbin-Wu-Hausman test again indicate that the TAX variable cannot be treated as exogenous, and we would prefer to consult the results of the two-stage least squares estimation over the biased OLS results.

Lastly, our lag model estimation results in table 5.15 provide justification of our previous findings, as we again find that the TAX variable is positive and statistically significant at the 1% level in all included specifications.

Table 5.15 – ACCRETAAGI and TAX (Lag)

VARIABLES	(1) ACCRETAAGI	(2) ACCRETAAGI	(3) ACCRETAAGI	(4) ACCRETAAGI	(5) ACCRETAAGI	(6) ACCRETAAGI	(7) ACCRETAAGI	(8) ACCRETAAGI
L.TAX	0.808***	0.312***	0.512***	0.324***	0.506***	0.322***	0.524***	0.342***
	(0.145)	(0.109)	(0.148)	(0.092)	(0.152)	(0.095)	(0.156)	(0.092)
L.CPOL			0.001	-0.008	0.001	-0.008	-0.029	-0.022
			(0.042)	(0.023)	(0.041)	(0.023)	(0.037)	(0.024)
L.PIPop			0.255**	0.106	0.191	0.081	-0.236	-0.112
			(0.098)	(0.092)	(0.259)	(0.159)	(0.207)	(0.099)
L.Gini			-0.118	-0.171**	-0.138	-0.178*	-0.335***	-0.268**
			(0.111)	(0.079)	(0.122)	(0.089)	(0.122)	(0.109)
L.UE			-0.042**	0.000	-0.052	-0.004	-0.053**	-0.008
			(0.019)	(0.009)	(0.039)	(0.020)	(0.020)	(0.009)
L.HHI			1.526**	1.023**	1.581**	1.045**	2.073***	1.309**
			(0.610)	(0.490)	(0.624)	(0.503)	(0.645)	(0.584)
L.EDUC			0.076	0.056*	0.070	0.053*	0.024	0.033
			(0.054)	(0.029)	(0.055)	(0.031)	(0.052)	(0.031)
L.NGDP							0.689***	0.320**
							(0.202)	(0.136)
L.ACCRETAAGI		0.449***		0.430***		0.429***		0.402***
		(0.094)		(0.116)		(0.116)		(0.111)
Observations	950	900	900	900	900	900	900	900
R-squared	0.064	0.272	0.122	0.289	0.122	0.289	0.162	0.297
Between R-squared	0.000307	0.904	0.0922	0.0512	0.0888	0.0476	0.0641	0.0139
Overall R-squared	0.00268	0.743	0.0628	0.0705	0.0606	0.0664	0.0427	0.0260

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.6. ACCRETAAGI and Labor Market Regulation

Examining the relationship between ACCRETAAGI and the area 3 overall score for labor market regulation, the results in table 5.16 indicate a positive relationship, and statistical significance at the 1% level for all specifications included in the model. Again, it is worth noting that this relationship implies that greater levels of the dependent variable ACCRETAAGI are associated with higher *scores* in area 3, not higher levels of labor market regulation.

Table 5.16 – ACCRETAAGI and LAB (OLS)

VARIABLES	(1) ACCRET AAGI	(2) ACCRET AAGI	(3) ACCRET AAGI	(4) ACCRET AAGI	(5) ACCRET AAGI	(6) ACCRET AAGI	(7) ACCRET AAGI	(8) ACCRET AAGI
LAB	1.270***	0.457***	0.901***	0.546***	0.900***	0.544***	0.748***	0.503***
	(0.131)	(0.165)	(0.158)	(0.110)	(0.159)	(0.110)	(0.138)	(0.103)
CPOL			0.026	0.013	0.026	0.013	-0.008	-0.001
			(0.044)	(0.024)	(0.044)	(0.024)	(0.037)	(0.024)
PIPop			0.201**	0.054	0.211	0.091	-0.286	-0.160
			(0.088)	(0.080)	(0.241)	(0.157)	(0.194)	(0.104)
Gini			-0.003	-0.062	-0.000	-0.053	-0.209	-0.155**
			(0.119)	(0.074)	(0.125)	(0.080)	(0.126)	(0.075)
UE			-0.020	0.018	-0.019	0.024	-0.046**	0.004
			(0.022)	(0.016)	(0.030)	(0.016)	(0.017)	(0.014)
HHI			1.155**	0.920**	1.145*	0.875**	1.732***	1.263**
			(0.571)	(0.427)	(0.574)	(0.419)	(0.561)	(0.482)
EDUC			0.030	0.025	0.031	0.029	-0.031	-0.001
			(0.054)	(0.031)	(0.055)	(0.030)	(0.052)	(0.033)
NGDP							0.729***	0.343***
							(0.199)	(0.114)
L.ACCRETAAGI		0.394***		0.387***		0.388***		0.355***
		(0.107)		(0.115)		(0.115)		(0.107)
Observations	950	900	950	900	950	900	950	900
R-squared	0.218	0.283	0.245	0.295	0.245	0.295	0.286	0.304
Between R-squared	0.0400	0.867	0.0578	0.0689	0.0580	0.0803	0.0456	0.0136
Overall R-squared	0.0655	0.712	0.0224	0.0906	0.0224	0.103	0.0196	0.0265

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The results of the OLS estimation are again supported by the results of the two-stage least squares estimation model in table 5.17. We find positive coefficients with significance at the 1% level in columns 1, 3, 5, and7, and the Hansen J and Kleibergen-Paap results indicate an appropriate selection of instruments.

Additionally, we find that the results of the Durbin-Wu-Hausman test indicate that the labor market regulation score variable can be treated as exogenous, since the p-value of the

DWH test is above .10 in all specifications that contain controls. They are, however, only barely above the .10 threshold, which would indicate that the strength of this conclusion is tenuous.

Table 5.17 – ACCRETAAGI and LAB (IV)

VARIABLES	(1) ACCRETAAGI	(2) ACCRETAAGI	(3) ACCRETAAGI	(4) ACCRETAAGI	(5) ACCRETAAGI	(6) ACCRETAAGI	(7) ACCRETAAGI	(8) ACCRETAAGI
LAB	1.416***	0.333*	1.146***	0.281	1.144***	0.262	0.928***	0.247
	(0.107)	(0.194)	(0.214)	(0.226)	(0.220)	(0.235)	(0.211)	(0.209)
CPOL			0.026	0.014	0.026	0.013	-0.007	-0.001
			(0.025)	(0.024)	(0.026)	(0.024)	(0.021)	(0.020)
PIPop			0.161**	0.091	0.166	0.136	-0.299*	-0.140
			(0.076)	(0.081)	(0.170)	(0.160)	(0.155)	(0.165)
Gini			-0.043	-0.019	-0.042	-0.006	-0.231**	-0.120
			(0.095)	(0.084)	(0.098)	(0.086)	(0.092)	(0.095)
UE			-0.002	-0.000	-0.001	0.006	-0.032	-0.014
			(0.020)	(0.016)	(0.024)	(0.018)	(0.020)	(0.017)
HHI			1.153***	0.903***	1.148***	0.849***	1.711***	1.270***
			(0.325)	(0.320)	(0.311)	(0.306)	(0.292)	(0.339)
EDUC			0.030	0.024	0.030	0.029	-0.029	-0.003
			(0.054)	(0.052)	(0.049)	(0.046)	(0.048)	(0.044)
NGDP							0.704***	0.366**
							(0.146)	(0.173)
L.ACCRETAAGI		0.415***		0.402***		0.403***		0.367***
		(0.104)		(0.103)		(0.103)		(0.101)
Observations	950	900	950	900	950	900	950	900
R-squared	0.215	0.281	0.242	0.291	0.242	0.291	0.284	0.300
R-squared between	0.040	0.928	0.045	0.073	0.045	0.088	0.041	0.012
R-squared overall	0.066	0.757	0.015	0.095	0.015	0.111	0.016	0.024
Hansen J	0.893	0.283	0.665	0.210	0.670	0.214	0.277	0.0978
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0.000760	0.0993	0.124	0.152	0.123	0.170	0.257	0.184

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Finally, we again find justification for our results in the lag estimation model, shown in table 5.18. The coefficient on TAX is positive and significant at the 1% level in all specifications except column 2.

Table 5.18 – ACCRETAAGI and LAB (Lag)

VARIABLES	(1) ACCRETAAGI	(2) ACCRETAAGI	(3) ACCRETAAGI	(4) ACCRETAAGI	(5) ACCRETAAGI	(6) ACCRETAAGI	(7) ACCRETAAGI	(8) ACCRETAAGI
L.LAB	1.078***	0.230	0.839***	0.417***	0.859***	0.428***	0.714***	0.379***
	(0.105)	(0.144)	(0.177)	(0.127)	(0.180)	(0.128)	(0.170)	(0.123)
L.CPOL			-0.009	-0.015	-0.009	-0.015	-0.034	-0.026
			(0.039)	(0.022)	(0.038)	(0.022)	(0.035)	(0.023)
L.PIPop			0.156	0.067	-0.008	-0.014	-0.230	-0.104
			(0.093)	(0.076)	(0.244)	(0.139)	(0.180)	(0.092)
L.Gini			-0.310***	-0.272***	-0.361***	-0.298***	-0.470***	-0.347***
			(0.111)	(0.087)	(0.127)	(0.099)	(0.122)	(0.111)
L.UE			0.027	0.034**	0.002	0.022	0.009	0.025*
			(0.022)	(0.014)	(0.035)	(0.021)	(0.021)	(0.014)
L.HHI			1.500**	1.026**	1.635**	1.096**	1.959***	1.257**
			(0.632)	(0.484)	(0.647)	(0.508)	(0.647)	(0.561)
L.EDUC			0.081*	0.059**	0.066	0.051*	0.037	0.040
			(0.045)	(0.029)	(0.047)	(0.030)	(0.044)	(0.029)
L.NGDP							0.572***	0.261*
							(0.189)	(0.140)
L.ACCRETAAGI		0.430***		0.417***		0.415***		0.398***
		(0.109)		(0.115)		(0.114)		(0.112)
Observations	950	900	900	900	900	900	900	900
R-squared	0.197	0.268	0.139	0.289	0.142	0.289	0.166	0.294
Between R-squared	0.0383	0.964	0.0599	0.0610	0.0545	0.0489	0.0503	0.0238
Overall R-squared	0.0634	0.779	0.0379	0.0798	0.0347	0.0662	0.0320	0.0378

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

CHAPTER 6: CONCLUSIONS

Using data from the Economic Freedom of North America index, as well as charitable contribution data from the IRS, furnished by the National Center on Charitable Statistics at the Urban Institute, this study tested the relationship between economic freedom and charitable giving in the United States.

The purpose of this study was to examine a relationship that had yet to be examined in the body literature on the impacts of economic freedom on measurements of well-being in the United States. The relationship between economic freedom and various macroeconomic indicator variables such as economic growth have been extensively studied, but the extent to which this greater level of freedom has affected other aspects of human life, such as charity, remain unknown.

To examine this empirically, this study utilizes panel data from 1995-2013, and primarily utilizes the panel fixed effects estimation procedure. Further, this relationship is subjected to controls for endogeneity by testing the same relationship in a two-stage least squares estimation model using instrumental variables, as well as an OLS estimation model containing lagged explanatory variable and controls. Additional diagnostics are included in the two-stage least squares model to ensure validity of instruments.

This study finds that the results of this relationship are dependent first on the chosen measurement of charitable giving, but that for three of the five tested measurements, Average Charitable Contribution per Return, Amount of Itemized Charitable Deductions, and Average Charitable Contribution per Return per Average Adjusted Gross Income, a positive and statistically significant relationship is discovered.

Additionally, the effect of components of economic freedom, defined as ‘areas’ within the Economic Freedom of North America Report, are also analyzed to determine which of these components may play a large role in driving the relationship between economic freedom and charitable giving.

The results of this further analysis largely indicate that the primary areas driving these relationships in all variables demonstrating statistical significance are areas two and three, or taxes and labor market regulation, respectively. Area one, government spending, was not found to be a significant factor for any of the dependent variables tested.

The implications of this research on potential policy decisions could prove to be important. Given that this is a positive analysis of the specified relationship, no value judgments are imposed on the relative importance of any of the variables in question.

It is, however, pertinent to note that this research clearly delineates a robust relationship between economic freedom and charitable giving, and that when considering any policies that could potentially impact economic freedom, it would be wise to understand the full impact of such policies, given the role that charities tend to play in alleviation of various social ills, and the never-ending quest of well-intentioned politicians to promise the removal of the same.

As noted, there is a positive relationship between charitable giving and the scores assigned for taxes and labor market regulation. Thus, policies that could potentially adversely affect these scores would, in turn, adversely affect charitable giving.

This study is not without its drawbacks, however. As previously mentioned, it is the belief of this author that IRS-provided data on itemized charitable contributions serves as a reasonable proxy for philanthropic activity at-large in the United States. It is, however, not a perfect measurement, given the limitations imposed by only having access to itemized data. If data were perhaps made available on NPI receipts that could properly account for all charitable donations, and this data was possible at the state level, it could perhaps provide a more robust conclusion. I would not, however, expect the conclusion of such analysis to differ significantly from that which was obtained in this study.

Another limitation surrounds the use of the Hirfindahl-Hirschman index of racial homogeneity, and how this index translates, with respect to perception of local relative to national homogeneity. Members of a highly concentrated community may behave differently than other such communities, depending on the perception of relative concentration to the national level. This type of measurement may prove more useful in a comparison of national data, rather than more localized data.

Moving forward, I believe there is additional research to be done around this topic. I believe it would be relevant to examine, at a deeper level, which subcomponents in each area of economic freedom are primarily driving the relationship between that area and charitable giving.

As mentioned, no relationship was discovered for economic freedom and size of government. This particular conclusion was especially interesting, as it was the belief of the researcher that this relationship would be significant. Perhaps greater analysis at a greater depth in this area could provide insight into this conclusion.

Additionally, I believe it would be of interest to examine the specific subcomponents driving the relationships between charitable giving and areas two and three. The results of such analysis could provide potential policy insight at a more micro level with respect to various legislative approaches in these areas.

I believe this topic should be examined at the national level as well. As mentioned, this index is available at both the country and state level, and many developed countries likely maintain some records of charitable activity within their nation. If a similar database of charitable giving could be constructed at an international level, then this study could be replicated at that level using additional macroeconomic control variables. This would also allow for the use of previously mentioned indices that do not contain state level data. I believe such a study would provide additional insight into the relationship between economic freedom and charitable giving. It could also provide empirical evidence of the differences in using various indices of economic freedom.

Ultimately, this study contributes to the growing body of literature surrounding the potential impact of greater levels of economic freedom on various less-readily apparent measurements of well-being within a society. This study finds that societies and communities who place value in having a strong charitable services network would benefit from greater levels of economic freedom, especially in areas of taxation and labor market freedom.

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APPENDIX

Table A-1 – AICD and GOVT (OLS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	AICD	AICD	AICD	AICD	AICD	AICD	AICD	AICD
GOVT	-0.794***	-0.054	0.019	-0.061	0.046	-0.049	0.081	-0.020
	(0.284)	(0.070)	(0.108)	(0.054)	(0.116)	(0.055)	(0.109)	(0.059)
NIRET			0.182**	0.110	0.184**	0.112	0.147**	0.100
			(0.089)	(0.069)	(0.091)	(0.070)	(0.073)	(0.062)
CPOL			-0.025	-0.044**	-0.025	-0.043**	-0.076*	-0.066***
			(0.045)	(0.021)	(0.045)	(0.021)	(0.038)	(0.023)
PIPop			1.193***	0.652***	0.972***	0.561**	0.442*	0.335
			(0.127)	(0.225)	(0.269)	(0.276)	(0.229)	(0.202)
Gini			0.411***	0.314***	0.361***	0.293***	0.081	0.147*
			(0.130)	(0.070)	(0.133)	(0.070)	(0.142)	(0.073)
UE			-0.200***	-0.133***	-0.231***	-0.146***	-0.209***	-0.145***
			(0.032)	(0.022)	(0.038)	(0.021)	(0.030)	(0.022)
HHI			-0.699	-0.330	-0.462	-0.217	0.201	0.159
			(0.792)	(0.411)	(0.771)	(0.429)	(0.752)	(0.475)
EDUC			0.027	0.002	0.001	-0.008	-0.061	-0.039
			(0.065)	(0.032)	(0.066)	(0.033)	(0.064)	(0.039)
NGDP							1.099***	0.578***
							(0.234)	(0.130)
L.AICD		0.796***		0.371**		0.368**		0.319**
		(0.043)		(0.156)		(0.154)		(0.137)
Observations	950	900	950	900	950	900	950	900
R-squared	0.038	0.819	0.861	0.864	0.862	0.864	0.875	0.868
Between R-squared	0.0307	1	0.631	0.964	0.694	0.974	0.719	0.982
Overall R-squared	0.0174	0.988	0.562	0.928	0.570	0.933	0.396	0.905

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-2 – AICD and GOVT IV

VARIABLES	(1) AICD	(2) AICD	(3) AICD	(4) AICD	(5) AICD	(6) AICD	(7) AICD	(8) AICD
GOVT	-1.147***	-0.290***	-0.031	-0.305**	0.040	-0.287*	0.104	-0.206
	(0.164)	(0.078)	(0.115)	(0.119)	(0.142)	(0.151)	(0.131)	(0.148)
NIRET			0.180**	0.106*	0.184**	0.107*	0.148**	0.098*
			(0.085)	(0.062)	(0.087)	(0.063)	(0.070)	(0.056)
CPOL			-0.024	-0.035	-0.025	-0.035	-0.077***	-0.058***
			(0.028)	(0.024)	(0.027)	(0.024)	(0.022)	(0.017)
PIPop			1.194***	0.654***	0.973***	0.606***	0.439**	0.357*
			(0.097)	(0.173)	(0.209)	(0.233)	(0.196)	(0.209)
Gini			0.398***	0.251***	0.360***	0.244***	0.086	0.110
			(0.098)	(0.084)	(0.095)	(0.079)	(0.089)	(0.087)
UE			-0.210***	-0.179***	-0.232***	-0.183***	-0.205***	-0.179***
			(0.024)	(0.024)	(0.023)	(0.020)	(0.023)	(0.023)
HHI			-0.716**	-0.383	-0.465	-0.321	0.211	0.089
			(0.361)	(0.281)	(0.327)	(0.228)	(0.313)	(0.237)
EDUC			0.026	-0.001	0.001	-0.007	-0.061	-0.039
			(0.064)	(0.061)	(0.056)	(0.051)	(0.054)	(0.049)
NGDP							1.102***	0.542**
							(0.198)	(0.248)
L.AICD		0.780***		0.371***		0.369***		0.323***
		(0.045)		(0.123)		(0.123)		(0.116)
Observations	950	900	950	900	950	900	950	900
R-squared	0.936	0.990	0.991	0.993	0.991	0.993	0.992	0.993
Hansen J	0	0.622	0.390	0.209	0.412	0.219	0.0986	0.0799
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	2.70e-05	4.96e-07	0.960	0.0379	0.584	0.141	0.167	0.577

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-3 – AICD and GOV Lag

VARIABLES	(1) AICD	(2) AICD	(3) AICD	(4) AICD	(5) AICD	(6) AICD	(7) AICD	(8) AICD
L.GOVT	-0.721**	-0.220**	-0.050	-0.054	0.008	-0.026	0.005	-0.035
	(0.276)	(0.085)	(0.090)	(0.059)	(0.104)	(0.057)	(0.099)	(0.055)
NIRET			0.214*	0.112	0.213*	0.114	0.183*	0.107
			(0.116)	(0.083)	(0.115)	(0.083)	(0.102)	(0.077)
L.CPOL			-0.070*	-0.049**	-0.072*	-0.050**	-0.108***	-0.063**
			(0.036)	(0.022)	(0.036)	(0.023)	(0.035)	(0.029)
L.PIPop			1.017***	0.393	0.570**	0.185	0.416*	0.213
			(0.128)	(0.254)	(0.253)	(0.237)	(0.216)	(0.166)
L.Gini			0.217**	0.010	0.098	-0.045	-0.055	-0.075
			(0.108)	(0.074)	(0.114)	(0.081)	(0.126)	(0.102)
L.UE			-0.107***	-0.004	-0.170***	-0.037	-0.112***	-0.012
			(0.031)	(0.034)	(0.044)	(0.042)	(0.029)	(0.036)
L.HHI			-0.111	0.291	0.288	0.479	0.611	0.526
			(0.717)	(0.272)	(0.702)	(0.312)	(0.718)	(0.391)
L.EDUC			0.071	0.050	0.031	0.031	0.010	0.029
			(0.061)	(0.039)	(0.060)	(0.039)	(0.056)	(0.038)
L.NGDP							0.874***	0.311
							(0.247)	(0.219)
L.AICD		0.790***		0.519***		0.509***		0.490**
		(0.042)		(0.190)		(0.187)		(0.193)
Observations	950	900	900	900	900	900	900	900
R-squared	0.031	0.822	0.793	0.841	0.797	0.841	0.804	0.842
Between R-squared	0.0315	0.998	0.737	0.986	0.771	0.981	0.590	0.977
Overall R-squared	0.0187	0.986	0.625	0.965	0.579	0.957	0.416	0.949

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-4 – ACCRET and GOVT OLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET
GOVT	-0.489**	-0.074	0.046	-0.025	0.046	-0.033	0.107	0.006
	(0.222)	(0.064)	(0.098)	(0.049)	(0.101)	(0.050)	(0.103)	(0.057)
CPOL			-0.024	-0.039*	-0.024	-0.040*	-0.070*	-0.057**
			(0.043)	(0.021)	(0.044)	(0.021)	(0.038)	(0.023)
PIPop			1.155***	0.602**	1.151***	0.662**	0.491**	0.375**
			(0.084)	(0.236)	(0.235)	(0.296)	(0.199)	(0.180)
Gini			0.052	0.070	0.051	0.084	-0.231*	-0.055
			(0.097)	(0.055)	(0.103)	(0.053)	(0.121)	(0.082)
UE			-0.164***	-0.087***	-0.164***	-0.079***	-0.170***	-0.096***
			(0.029)	(0.025)	(0.036)	(0.022)	(0.027)	(0.026)
HHI			0.398	0.446	0.402	0.370	1.163**	0.823*
			(0.526)	(0.306)	(0.531)	(0.305)	(0.547)	(0.416)
EDUC			0.005	-0.003	0.004	0.004	-0.073	-0.034
			(0.061)	(0.031)	(0.061)	(0.030)	(0.059)	(0.040)
NGDP							0.943***	0.406***
							(0.201)	(0.145)
L.ACCRET		0.745***		0.393**		0.393**		0.351**
		(0.059)		(0.172)		(0.172)		(0.166)
Observations	950	900	950	900	950	900	950	900
R-squared	0.023	0.740	0.791	0.787	0.791	0.787	0.807	0.791
Between R-squared	0.0475	0.995	0.0303	0.482	0.0296	0.529	0.0322	0.156
Overall R-squared	0.0110	0.881	0.285	0.592	0.284	0.619	0.0943	0.373

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-5 – ACCRET and GOVT IV

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET	ACCRET
GOVT	-0.771***	-0.273***	-0.015	-0.267**	-0.018	-0.307**	0.100	-0.203
	(0.133)	(0.075)	(0.115)	(0.115)	(0.140)	(0.143)	(0.129)	(0.144)
CPOL			-0.023	-0.031	-0.023	-0.031	-0.070***	-0.048***
			(0.026)	(0.023)	(0.026)	(0.023)	(0.022)	(0.016)
PIPop			1.156***	0.602***	1.163***	0.712***	0.492***	0.399*
			(0.074)	(0.186)	(0.187)	(0.256)	(0.188)	(0.207)
Gini			0.036	0.008	0.037	0.026	-0.233**	-0.095
			(0.107)	(0.098)	(0.104)	(0.095)	(0.096)	(0.116)
UE			-0.176***	-0.133***	-0.175***	-0.122***	-0.171***	-0.134***
			(0.025)	(0.026)	(0.023)	(0.022)	(0.024)	(0.025)
HHI			0.378	0.392	0.369	0.248	1.160***	0.738**
			(0.307)	(0.266)	(0.279)	(0.214)	(0.268)	(0.293)
EDUC			0.003	-0.007	0.004	0.005	-0.073	-0.034
			(0.063)	(0.061)	(0.055)	(0.052)	(0.055)	(0.051)
NGDP							0.942***	0.364
							(0.176)	(0.246)
L.ACCRET		0.732***		0.392***		0.393***		0.355***
		(0.057)		(0.131)		(0.131)		(0.133)
Observations	950	900	950	900	950	900	950	900
R-squared	0.565	0.901	0.907	0.919	0.907	0.919	0.915	0.921
Hansen J	0	0.975	0.931	0.844	0.930	0.828	0.439	0.624
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	2.35e-05	2.56e-06	0.512	0.00337	0.553	0.00347	0.774	0.0608

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-6 – ACCRET and GOVT Lag

VARIABLES	(1) ACCRET	(2) ACCRET	(3) ACCRET	(4) ACCRET	(5) ACCRET	(6) ACCRET	(7) ACCRET	(8) ACCRET
L.GOVT	-0.472**	-0.204**	-0.036	-0.065	-0.013	-0.054	0.011	-0.052
	(0.216)	(0.078)	(0.091)	(0.054)	(0.100)	(0.054)	(0.100)	(0.050)
L.CPOL			-0.035	-0.014	-0.036	-0.015	-0.068*	-0.023
			(0.036)	(0.020)	(0.036)	(0.021)	(0.036)	(0.027)
L.PIPop			1.019***	0.402	0.832***	0.321	0.519***	0.292*
			(0.081)	(0.255)	(0.226)	(0.262)	(0.184)	(0.154)
L.Gini			-0.261**	-0.258**	-0.311***	-0.281**	-0.472***	-0.313**
			(0.103)	(0.100)	(0.116)	(0.110)	(0.119)	(0.152)
L.UE			-0.082***	0.005	-0.109***	-0.007	-0.084***	0.002
			(0.027)	(0.030)	(0.040)	(0.035)	(0.026)	(0.032)
L.HHI			1.002*	0.807**	1.168**	0.881**	1.575***	0.959*
			(0.551)	(0.360)	(0.570)	(0.391)	(0.584)	(0.518)
L.EDUC			0.069	0.057	0.052	0.050	0.018	0.045
			(0.056)	(0.037)	(0.057)	(0.038)	(0.055)	(0.037)
L.NGDP							0.702***	0.180
							(0.179)	(0.209)
L.ACCRET		0.742***		0.521***		0.520***		0.506**
		(0.057)		(0.191)		(0.190)		(0.200)
Observations	950	900	900	900	900	900	900	900
R-squared	0.021	0.744	0.690	0.766	0.691	0.766	0.702	0.767
Between R-squared	0.0496	0.972	0.00102	0.366	0.0109	0.305	0.0440	0.242
Overall R-squared	0.0122	0.867	0.0821	0.513	0.0523	0.470	0.0138	0.422

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A-7 – ACCRETAAGI and GOVT

VARIABLES	(1) ACCRET AAGI	(2) ACCRET AAGI	(3) ACCRET AAGI	(4) ACCRET AAGI	(5) ACCRET AAGI	(6) ACCRET AAGI	(7) ACCRET AAGI	(8) ACCRET AAGI
GOVT	0.025	-0.001	-0.054	-0.103*	-0.059	-0.112**	-0.000	-0.076
	(0.077)	(0.040)	(0.092)	(0.054)	(0.095)	(0.054)	(0.099)	(0.059)
CPOL			0.029	0.018	0.029	0.018	-0.012	0.002
			(0.045)	(0.024)	(0.046)	(0.025)	(0.038)	(0.024)
PIPop			0.351***	0.129	0.390	0.199	-0.234	-0.111
			(0.085)	(0.085)	(0.243)	(0.160)	(0.195)	(0.097)
Gini			0.130	-0.001	0.139	0.014	-0.119	-0.102
			(0.099)	(0.065)	(0.102)	(0.070)	(0.113)	(0.066)
UE			-0.098***	-0.039**	-0.093***	-0.029*	-0.104***	-0.045**
			(0.028)	(0.018)	(0.033)	(0.017)	(0.026)	(0.018)
HHI			1.145**	0.864**	1.103*	0.776**	1.819***	1.246**
			(0.550)	(0.401)	(0.555)	(0.386)	(0.559)	(0.474)
EDUC			0.030	0.022	0.034	0.030	-0.039	-0.005
			(0.062)	(0.033)	(0.062)	(0.032)	(0.059)	(0.037)
NGDP							0.831***	0.374***
							(0.195)	(0.110)
L.ACCRETAAGI		0.470***		0.417***		0.417***		0.379***
		(0.094)		(0.120)		(0.119)		(0.112)
Observations	950	900	950	900	950	900	950	900
R-squared	0.000	0.262	0.205	0.281	0.205	0.282	0.258	0.292
Between R-squared	0.0418	0.999	0.122	0.0685	0.126	0.0945	0.0660	0.00882
Overall R-squared	0.0280	0.809	0.0626	0.0918	0.0640	0.119	0.0339	0.0205

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-8 – ACCRETAAGI and GOVT IV

VARIABLES	(1) ACCRET AAGI	(2) ACCRET AAGI	(3) ACCRET AAGI	(4) ACCRET AAGI	(5) ACCRET AAGI	(6) ACCRET AAGI	(7) ACCRET AAGI	(8) ACCRET AAGI
GOVT	-0.050	-0.034	-0.097	-0.193*	-0.113	-0.225*	0.004	-0.145
	(0.067)	(0.059)	(0.112)	(0.110)	(0.131)	(0.132)	(0.121)	(0.125)
CPOL			0.030	0.021	0.030	0.021	-0.012	0.005
			(0.026)	(0.024)	(0.026)	(0.024)	(0.022)	(0.019)
PIPop			0.352***	0.129*	0.400**	0.220	-0.235	-0.102
			(0.065)	(0.076)	(0.168)	(0.166)	(0.161)	(0.171)
Gini			0.119	-0.023	0.127	-0.009	-0.118	-0.116
			(0.091)	(0.078)	(0.088)	(0.075)	(0.083)	(0.077)
UE			-0.107***	-0.056**	-0.102***	-0.047**	-0.103***	-0.058**
			(0.024)	(0.024)	(0.023)	(0.021)	(0.023)	(0.023)
HHI			1.130***	0.844***	1.075***	0.727**	1.821***	1.218***
			(0.306)	(0.309)	(0.293)	(0.291)	(0.281)	(0.340)
EDUC			0.029	0.021	0.034	0.031	-0.039	-0.005
			(0.057)	(0.053)	(0.052)	(0.046)	(0.051)	(0.044)
NGDP							0.832***	0.360*
							(0.152)	(0.198)
L.ACCRETAAGI		0.470***		0.416***		0.416***		0.380***
		(0.086)		(0.099)		(0.099)		(0.099)
Observations	950	900	950	900	950	900	950	900
R-squared	0.787	0.860	0.831	0.863	0.831	0.863	0.843	0.866
Hansen J	0.00190	0.469	0.320	0.154	0.320	0.153	0.0900	0.0648
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0.0148	0.483	0.854	0.703	0.882	0.725	0.539	0.875

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-9 – ACCRETAAGI and GOVT Lag

VARIABLES	(1) ACCRET AAGI	(2) ACCRET AAGI	(3) ACCRET AAGI	(4) ACCRET AAGI	(5) ACCRET AAGI	(6) ACCRET AAGI	(7) ACCRET AAGI	(8) ACCRET AAGI
L.GOVT	-0.014	-0.033	-0.108	-0.087	-0.098	-0.083	-0.063	-0.069
	(0.080)	(0.048)	(0.092)	(0.064)	(0.097)	(0.065)	(0.100)	(0.065)
L.CPOL			-0.004	-0.012	-0.005	-0.012	-0.035	-0.025
			(0.041)	(0.023)	(0.040)	(0.023)	(0.037)	(0.024)
L.PIPop			0.296***	0.128	0.218	0.100	-0.180	-0.068
			(0.086)	(0.085)	(0.246)	(0.148)	(0.182)	(0.089)
L.Gini			-0.195*	-0.225**	-0.216*	-0.233**	-0.396***	-0.310***
			(0.105)	(0.084)	(0.113)	(0.091)	(0.120)	(0.113)
L.UE			-0.056**	-0.011	-0.067*	-0.015	-0.058**	-0.015
			(0.026)	(0.015)	(0.038)	(0.022)	(0.026)	(0.016)
L.HHI			1.497**	0.983**	1.566**	1.008**	2.042***	1.245**
			(0.620)	(0.466)	(0.630)	(0.477)	(0.643)	(0.554)
L.EDUC			0.075	0.054*	0.068	0.052	0.026	0.034
			(0.052)	(0.030)	(0.053)	(0.031)	(0.049)	(0.030)
L.NGDP							0.668***	0.287**
							(0.186)	(0.137)
L.ACCRETAAGI		0.471***		0.442***		0.442***		0.419***
		(0.094)		(0.118)		(0.118)		(0.116)
Observations	950	900	900	900	900	900	900	900
R-squared	0.000	0.262	0.101	0.281	0.101	0.281	0.138	0.287
Between R-squared	0.0468	0.996	0.111	0.0600	0.105	0.0554	0.0728	0.0192
Overall R-squared	0.0298	0.805	0.0785	0.0801	0.0740	0.0748	0.0502	0.0329

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-10 – ACCIRET and GOVT OLS

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
GOVT	-0.114	-0.159**	0.235*	0.108	0.281**	0.154	0.262**	0.120
	(0.124)	(0.068)	(0.131)	(0.098)	(0.139)	(0.103)	(0.126)	(0.094)
CPOL			-0.096**	-0.089**	-0.094**	-0.087**	-0.116**	-0.096**
			(0.045)	(0.042)	(0.045)	(0.042)	(0.045)	(0.041)
PIPop			0.647***	0.526***	0.260	0.180	0.353**	0.425***
			(0.056)	(0.076)	(0.157)	(0.154)	(0.137)	(0.128)
Gini			0.416*	0.338*	0.329	0.261	0.291	0.294
			(0.210)	(0.181)	(0.205)	(0.176)	(0.219)	(0.190)
UE			-0.153***	-0.137***	-0.207***	-0.187***	-0.156***	-0.138***
			(0.041)	(0.045)	(0.046)	(0.049)	(0.041)	(0.045)
HHI			-0.905**	-0.923**	-0.486	-0.493	-0.566	-0.787*
			(0.391)	(0.425)	(0.417)	(0.463)	(0.360)	(0.400)
EDUC			-0.017	-0.042	-0.063	-0.082*	-0.052	-0.054
			(0.045)	(0.040)	(0.052)	(0.045)	(0.050)	(0.046)
NGDP							0.417**	0.150
							(0.164)	(0.188)
L.ACCIRET		0.282**		0.015		0.009		0.012
		(0.106)		(0.060)		(0.056)		(0.060)
Observations	950	900	950	900	950	900	950	900
R-squared	0.001	0.101	0.393	0.276	0.398	0.281	0.396	0.277
Between R-squared	0.0309	0.861	0.0694	0.0844	0.200	0.242	0.174	0.113
Overall R-squared	0.0108	0.420	0.170	0.133	0.294	0.256	0.278	0.165

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A-11 – ACCIRET and GOVT IV

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
GOVT	-0.422***	-0.435***	-0.060	-0.234	0.053	-0.126	-0.016	-0.225
	(0.105)	(0.084)	(0.143)	(0.144)	(0.158)	(0.157)	(0.153)	(0.158)
CPOL			-0.087**	-0.077**	-0.088**	-0.078**	-0.106***	-0.081***
			(0.036)	(0.035)	(0.036)	(0.035)	(0.033)	(0.031)
PIPop			0.649***	0.522***	0.302	0.229	0.384*	0.465**
			(0.081)	(0.106)	(0.204)	(0.215)	(0.198)	(0.203)
Gini			0.339***	0.252**	0.280**	0.204*	0.231**	0.228**
			(0.125)	(0.116)	(0.121)	(0.110)	(0.114)	(0.103)
UE			-0.211***	-0.200***	-0.245***	-0.230***	-0.209***	-0.201***
			(0.041)	(0.043)	(0.041)	(0.044)	(0.040)	(0.043)
HHI			-1.004***	-0.994***	-0.604*	-0.614*	-0.692**	-0.917***
			(0.387)	(0.381)	(0.362)	(0.355)	(0.337)	(0.311)
EDUC			-0.023	-0.047	-0.062	-0.080	-0.054	-0.053
			(0.066)	(0.064)	(0.057)	(0.055)	(0.057)	(0.057)
NGDP							0.376**	0.084
							(0.192)	(0.200)
L.ACCIRET		0.275**		0.019		0.013		0.018
		(0.107)		(0.064)		(0.061)		(0.064)
Observations	950	900	950	900	950	900	950	900
R-squared	0.518	0.613	0.708	0.689	0.711	0.692	0.710	0.689
Hansen J	5.54e-05	0.663	0.000740	0.000451	0.00107	0.000653	0.000132	0.000145
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	1.20e-09	2.00e-08	0.249	0.220	0.900	0.810	0.530	0.328

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-12 – ACCIRET and GOVT Lag

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
L.GOVT	-0.274**	-0.328***	0.042	0.030	0.097	0.085	0.047	0.034
	(0.135)	(0.091)	(0.091)	(0.077)	(0.094)	(0.081)	(0.089)	(0.077)
L.CPOL			-0.138***	-0.133***	-0.140***	-0.136***	-0.141***	-0.136***
			(0.039)	(0.038)	(0.040)	(0.039)	(0.040)	(0.042)
L.PIPop			0.456***	0.425***	0.025	0.011	0.404**	0.386***
			(0.051)	(0.079)	(0.162)	(0.157)	(0.154)	(0.138)
L.Gini			0.459***	0.439***	0.344**	0.329**	0.437***	0.423***
			(0.153)	(0.161)	(0.145)	(0.149)	(0.143)	(0.142)
L.UE			-0.046	-0.039	-0.106*	-0.098	-0.046	-0.039
			(0.051)	(0.061)	(0.059)	(0.071)	(0.052)	(0.062)
L.HHI			-0.309	-0.274	0.076	0.095	-0.248	-0.230
			(0.404)	(0.421)	(0.423)	(0.424)	(0.345)	(0.345)
L.EDUC			0.000	0.001	-0.039	-0.036	-0.005	-0.003
			(0.043)	(0.041)	(0.043)	(0.042)	(0.042)	(0.041)
L.NGDP							0.074	0.055
							(0.179)	(0.193)
L.ACCIRET		0.284**		0.048		0.043		0.048
		(0.106)		(0.081)		(0.079)		(0.083)
Observations	950	900	900	900	900	900	900	900
R-squared	0.008	0.112	0.235	0.237	0.241	0.242	0.235	0.237
Between R-squared	0.0329	0.554	0.144	0.245	0.319	0.419	0.190	0.296
Overall R-squared	0.00866	0.321	0.183	0.237	0.247	0.290	0.205	0.255

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-13 – ACCIRET and TAX OLS

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
TAX	1.588***	0.589***	0.401*	0.217	0.375*	0.191	0.403*	0.223
	(0.269)	(0.151)	(0.212)	(0.208)	(0.209)	(0.205)	(0.208)	(0.203)
CPOL			-0.083**	-0.082**	-0.081**	-0.079**	-0.101**	-0.088**
			(0.040)	(0.038)	(0.040)	(0.037)	(0.038)	(0.036)
PIPop			0.617***	0.510***	0.302*	0.204	0.348**	0.417***
			(0.054)	(0.079)	(0.169)	(0.157)	(0.146)	(0.131)
Gini			0.399**	0.333*	0.315	0.251	0.278	0.290
			(0.194)	(0.176)	(0.189)	(0.170)	(0.203)	(0.185)
UE			-0.204***	-0.162***	-0.256***	-0.213***	-0.212***	-0.166***
			(0.030)	(0.038)	(0.039)	(0.044)	(0.030)	(0.040)
HHI			-0.998**	-0.986**	-0.667*	-0.608	-0.697*	-0.865**
			(0.375)	(0.410)	(0.390)	(0.440)	(0.348)	(0.394)
EDUC			-0.023	-0.043	-0.061	-0.079*	-0.055	-0.054
			(0.045)	(0.040)	(0.050)	(0.043)	(0.049)	(0.045)
NGDP							0.381**	0.138
							(0.176)	(0.189)
L.ACCIRET		0.265***		0.013		0.009		0.010
		(0.099)		(0.057)		(0.054)		(0.057)
Observations	950	900	950	900	950	900	950	900
R-squared	0.068	0.108	0.394	0.277	0.397	0.281	0.397	0.277
Between R-squared	0.112	0.649	0.0860	0.0921	0.178	0.204	0.175	0.117
Overall R-squared	0.0820	0.395	0.176	0.135	0.277	0.237	0.272	0.163

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-14 – ACCIRET and TAX IV

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
TAX	2.226***	1.178***	0.447	0.378	0.368	0.302	0.394	0.356
	(0.237)	(0.340)	(0.291)	(0.299)	(0.275)	(0.284)	(0.286)	(0.297)
CPOL			-0.082**	-0.079**	-0.081**	-0.077**	-0.101***	-0.086***
			(0.035)	(0.034)	(0.035)	(0.035)	(0.032)	(0.030)
PIPop			0.613***	0.499***	0.302	0.202	0.349*	0.404**
			(0.093)	(0.117)	(0.195)	(0.205)	(0.198)	(0.205)
Gini			0.404***	0.348***	0.314***	0.263**	0.277**	0.301***
			(0.119)	(0.113)	(0.111)	(0.103)	(0.111)	(0.104)
UE			-0.205***	-0.166***	-0.256***	-0.215***	-0.212***	-0.169***
			(0.024)	(0.029)	(0.035)	(0.038)	(0.026)	(0.031)
HHI			-1.000***	-1.017***	-0.666*	-0.636*	-0.697**	-0.885***
			(0.378)	(0.370)	(0.348)	(0.328)	(0.320)	(0.291)
EDUC			-0.023	-0.043	-0.061	-0.078	-0.055	-0.054
			(0.064)	(0.064)	(0.057)	(0.057)	(0.057)	(0.058)
NGDP							0.381**	0.144
							(0.182)	(0.184)
L.ACCIRET		0.244**		0.010		0.007		0.008
		(0.104)		(0.058)		(0.056)		(0.058)
Observations	950	900	950	900	950	900	950	900
R-squared	0.550	0.616	0.710	0.692	0.712	0.694	0.712	0.692
Hansen J	0.000178	0.362	0.00111	0.000541	0.00175	0.000871	0.000253	0.000180
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	3.84e-09	0.000496	0.762	0.185	0.759	0.401	0.658	0.380

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A-15 – ACCIRET and TAX Lag

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
L.TAX	1.730***	0.883***	0.326	0.307	0.292	0.275	0.327	0.308
	(0.246)	(0.133)	(0.223)	(0.190)	(0.226)	(0.195)	(0.221)	(0.188)
L.CPOL			-0.131***	-0.128***	-0.132***	-0.129***	-0.134***	-0.130***
			(0.037)	(0.038)	(0.038)	(0.038)	(0.039)	(0.041)
L.PIPop			0.432***	0.404***	0.051	0.034	0.380**	0.364**
			(0.055)	(0.085)	(0.159)	(0.151)	(0.151)	(0.138)
L.Gini			0.481***	0.463***	0.362**	0.348**	0.458***	0.445***
			(0.150)	(0.157)	(0.140)	(0.144)	(0.140)	(0.139)
L.UE			-0.059	-0.050	-0.122**	-0.112	-0.060	-0.051
			(0.039)	(0.052)	(0.053)	(0.067)	(0.041)	(0.054)
L.HHI			-0.327	-0.291	-0.001	0.025	-0.270	-0.247
			(0.400)	(0.418)	(0.404)	(0.410)	(0.337)	(0.341)
L.EDUC			-0.002	-0.000	-0.038	-0.036	-0.007	-0.005
			(0.040)	(0.039)	(0.042)	(0.041)	(0.040)	(0.039)
L.NGDP							0.073	0.057
							(0.181)	(0.192)
L.ACCIRET		0.250***		0.044		0.041		0.044
		(0.092)		(0.077)		(0.076)		(0.078)
Observations	950	900	900	900	900	900	900	900
R-squared	0.081	0.121	0.238	0.239	0.242	0.244	0.238	0.240
Between R-squared	0.115	0.498	0.196	0.283	0.401	0.488	0.238	0.325
Overall R-squared	0.0870	0.334	0.214	0.261	0.289	0.328	0.235	0.279

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-16 – ACCIRET and LAB OLS

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
LAB	2.241***	1.178***	-0.529*	-0.649*	-0.512*	-0.637*	-0.626*	-0.701*
	(0.162)	(0.223)	(0.305)	(0.371)	(0.305)	(0.370)	(0.314)	(0.392)
CPOL			-0.088**	-0.082**	-0.086**	-0.079*	-0.110***	-0.093**
			(0.042)	(0.041)	(0.041)	(0.040)	(0.040)	(0.038)
PIPop			0.736***	0.636***	0.407**	0.326	0.426***	0.489***
			(0.079)	(0.128)	(0.187)	(0.202)	(0.142)	(0.138)
Gini			0.441**	0.418**	0.355*	0.337*	0.310	0.354*
			(0.203)	(0.186)	(0.201)	(0.184)	(0.203)	(0.184)
UE			-0.238***	-0.207***	-0.291***	-0.258***	-0.255***	-0.216***
			(0.044)	(0.060)	(0.047)	(0.061)	(0.047)	(0.065)
HHI			-0.979**	-0.962**	-0.639	-0.589	-0.612*	-0.758*
			(0.383)	(0.426)	(0.392)	(0.458)	(0.343)	(0.384)
EDUC			-0.022	-0.046	-0.061	-0.081*	-0.060	-0.064
			(0.045)	(0.042)	(0.050)	(0.045)	(0.051)	(0.050)
NGDP							0.464**	0.231
							(0.179)	(0.215)
L.ACCIRET		0.211**		0.007		0.003		0.002
		(0.093)		(0.064)		(0.061)		(0.065)
Observations	950	900	950	900	950	900	950	900
R-squared	0.186	0.146	0.394	0.282	0.397	0.286	0.398	0.284
Between R-squared	0.00612	0.256	0.0399	0.0497	0.0951	0.107	0.101	0.0700
Overall R-squared	0.0346	0.209	0.136	0.101	0.226	0.178	0.232	0.135

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A-17 – ACCIRET and LAB IV

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
LAB	2.741***	1.277***	-0.437	-1.262***	-0.346	-1.154***	-0.570**	-1.319***
	(0.201)	(0.346)	(0.280)	(0.257)	(0.288)	(0.273)	(0.281)	(0.255)
CPOL			-0.088**	-0.080**	-0.086**	-0.077**	-0.109***	-0.094***
			(0.036)	(0.035)	(0.036)	(0.035)	(0.032)	(0.032)
PIPop			0.721***	0.740***	0.376*	0.422*	0.422**	0.533***
			(0.092)	(0.121)	(0.209)	(0.228)	(0.189)	(0.196)
Gini			0.426***	0.520***	0.327**	0.425***	0.303**	0.427***
			(0.131)	(0.123)	(0.132)	(0.124)	(0.124)	(0.117)
UE			-0.232***	-0.254***	-0.279***	-0.296***	-0.250***	-0.266***
			(0.032)	(0.038)	(0.036)	(0.039)	(0.035)	(0.041)
HHI			-0.980**	-0.978***	-0.636*	-0.612*	-0.618*	-0.692**
			(0.384)	(0.375)	(0.359)	(0.355)	(0.319)	(0.299)
EDUC			-0.022	-0.048	-0.061	-0.082	-0.060	-0.072
			(0.064)	(0.063)	(0.057)	(0.056)	(0.057)	(0.059)
NGDP							0.456**	0.323*
							(0.183)	(0.183)
L.ACCIRET		0.205**		-0.002		-0.005		-0.008
		(0.101)		(0.063)		(0.060)		(0.061)
Observations	950	900	950	900	950	900	950	900
R-squared	0.607	0.636	0.710	0.692	0.712	0.694	0.713	0.693
Hansen J	0.301	0.837	0.000499	5.68e-05	0.00109	0.000146	5.79e-05	8.36e-06
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0.000154	0.506	0.564	0.0897	0.365	0.207	0.805	0.0536

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-18 – ACCIRET and LAB Lag

VARIABLES	(1) ACCIRET	(2) ACCIRET	(3) ACCIRET	(4) ACCIRET	(5) ACCIRET	(6) ACCIRET	(7) ACCIRET	(8) ACCIRET
L.LAB	2.094***	0.991***	-0.279	-0.253	-0.233	-0.209	-0.304	-0.274
	(0.177)	(0.365)	(0.272)	(0.280)	(0.274)	(0.280)	(0.267)	(0.283)
L.CPOL			-0.136***	-0.132***	-0.137***	-0.133***	-0.141***	-0.136***
			(0.038)	(0.038)	(0.038)	(0.038)	(0.040)	(0.041)
L.PIPop			0.503***	0.469***	0.105	0.082	0.428**	0.408***
			(0.084)	(0.114)	(0.194)	(0.189)	(0.162)	(0.146)
L.Gini			0.496***	0.475***	0.371***	0.354**	0.464***	0.450***
			(0.145)	(0.160)	(0.137)	(0.148)	(0.137)	(0.141)
L.UE			-0.075*	-0.064	-0.136**	-0.124*	-0.079	-0.067
			(0.044)	(0.061)	(0.053)	(0.071)	(0.047)	(0.066)
L.HHI			-0.312	-0.277	0.018	0.044	-0.222	-0.204
			(0.398)	(0.416)	(0.400)	(0.407)	(0.344)	(0.342)
L.EDUC			-0.002	-0.000	-0.038	-0.036	-0.010	-0.007
			(0.043)	(0.041)	(0.043)	(0.042)	(0.042)	(0.041)
L.NGDP							0.112	0.092
							(0.174)	(0.196)
L.ACCIRET		0.209*		0.046		0.043		0.044
		(0.109)		(0.083)		(0.082)		(0.085)
Observations	950	900	900	900	900	900	900	900
R-squared	0.204	0.134	0.236	0.238	0.241	0.242	0.237	0.238
Between R-squared	0.00434	0.303	0.112	0.203	0.371	0.487	0.163	0.270
Overall R-squared	0.0380	0.228	0.164	0.216	0.243	0.290	0.192	0.242

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-19 – ACCIRET and GOVT OLS

VARIABLES	(1) ACCIRET AAGI	(2) ACCIRET AAGI	(3) ACCIRET AAGI	(4) ACCIRET AAGI	(5) ACCIRET AAGI	(6) ACCIRET AAGI	(7) ACCIRET AAGI	(8) ACCIRET AAGI
GOVT	0.400***	0.366**	0.135	0.017	0.176	0.060	0.155	0.025
	(0.122)	(0.137)	(0.122)	(0.092)	(0.130)	(0.098)	(0.119)	(0.089)
CPOL			-0.042	-0.032	-0.041	-0.030	-0.057	-0.037
			(0.041)	(0.037)	(0.040)	(0.036)	(0.038)	(0.034)
PIPop			-0.158***	-0.244***	-0.501***	-0.578***	-0.373**	-0.314**
			(0.058)	(0.057)	(0.163)	(0.149)	(0.146)	(0.149)
Gini			0.494**	0.414**	0.417**	0.342**	0.403**	0.384**
			(0.188)	(0.165)	(0.187)	(0.163)	(0.197)	(0.172)
UE			-0.087**	-0.074*	-0.136***	-0.121**	-0.089**	-0.075*
			(0.041)	(0.043)	(0.044)	(0.047)	(0.041)	(0.044)
HHI			-0.158	-0.127	0.214	0.287	0.090	-0.033
			(0.396)	(0.428)	(0.409)	(0.456)	(0.364)	(0.415)
EDUC			0.008	-0.014	-0.033	-0.051	-0.018	-0.021
			(0.040)	(0.036)	(0.046)	(0.039)	(0.044)	(0.040)
NGDP							0.305*	0.102
							(0.170)	(0.190)
L.ACCIRETAAGI		0.049		0.012		0.006		0.010
		(0.079)		(0.055)		(0.051)		(0.056)
Observations	950	900	950	900	950	900	950	900
R-squared	0.027	0.027	0.061	0.087	0.067	0.092	0.065	0.087
Between R-squared	0.0109	0.104	0.473	0.724	0.338	0.320	0.468	0.706
Overall R-squared	0.0137	0.0790	0.272	0.360	0.254	0.248	0.320	0.384

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-20 – ACCIRETAAGI and GOVT IV

VARIABLES	(1) ACCIRET AAGI	(2) ACCIRET AAGI	(3) ACCIRET AAGI	(4) ACCIRET AAGI	(5) ACCIRET AAGI	(6) ACCIRET AAGI	(7) ACCIRET AAGI	(8) ACCIRET AAGI
GOVT	0.299***	0.269***	-0.142	-0.310**	-0.042	-0.210	-0.111	-0.309**
	(0.070)	(0.086)	(0.137)	(0.143)	(0.147)	(0.152)	(0.144)	(0.152)
CPOL			-0.034	-0.021	-0.035	-0.022	-0.047	-0.023
			(0.032)	(0.032)	(0.032)	(0.032)	(0.029)	(0.029)
PIPop			-0.155**	-0.245***	-0.461**	-0.528***	-0.342**	-0.271
			(0.071)	(0.070)	(0.186)	(0.184)	(0.173)	(0.175)
Gini			0.422***	0.330***	0.370***	0.285***	0.346***	0.318***
			(0.113)	(0.110)	(0.110)	(0.107)	(0.102)	(0.096)
UE			-0.142***	-0.135***	-0.172***	-0.163***	-0.141***	-0.135***
			(0.041)	(0.044)	(0.042)	(0.045)	(0.040)	(0.044)
HHI			-0.251	-0.199	0.101	0.166	-0.031	-0.164
			(0.385)	(0.393)	(0.373)	(0.381)	(0.347)	(0.345)
EDUC			0.002	-0.018	-0.032	-0.049	-0.020	-0.021
			(0.059)	(0.058)	(0.051)	(0.050)	(0.053)	(0.053)
NGDP							0.266	0.039
							(0.171)	(0.183)
L.ACCIRETAAGI		0.057		0.015		0.010		0.014
		(0.077)		(0.059)		(0.056)		(0.059)
Observations	950	900	950	900	950	900	950	900
R-squared	0.713	0.708	0.722	0.724	0.724	0.726	0.723	0.724
Hansen J	1.44e-06	1.62e-08	1.00e-05	3.72e-06	1.48e-05	5.66e-06	1.53e-06	1.00e-06
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0.469	0.920	0.405	0.454	0.947	0.884	0.642	0.541

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-21 – ACCIRETAAGI and GOVT Lag

VARIABLES	(1) ACCIRET AAGI	(2) ACCIRET AAGI	(3) ACCIRET AAGI	(4) ACCIRET AAGI	(5) ACCIRET AAGI	(6) ACCIRET AAGI	(7) ACCIRET AAGI	(8) ACCIRET AAGI
L.GOVT	0.185*	0.142	-0.030	-0.032	0.012	0.009	-0.027	-0.029
	(0.097)	(0.113)	(0.092)	(0.087)	(0.092)	(0.087)	(0.089)	(0.084)
L.CPOL			-0.107***	-0.106***	-0.108***	-0.108***	-0.109***	-0.108***
			(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
L.PIPop			-0.267***	-0.264***	-0.589***	-0.584***	-0.295*	-0.290*
			(0.058)	(0.057)	(0.151)	(0.154)	(0.161)	(0.170)
L.Gini			0.525***	0.518***	0.439***	0.433**	0.513***	0.507***
			(0.159)	(0.169)	(0.158)	(0.165)	(0.155)	(0.158)
L.UE			-0.020	-0.018	-0.065	-0.063	-0.020	-0.019
			(0.053)	(0.057)	(0.059)	(0.065)	(0.054)	(0.058)
L.HHI			0.186	0.185	0.474	0.471	0.219	0.215
			(0.445)	(0.438)	(0.444)	(0.433)	(0.407)	(0.397)
L.EDUC			0.006	0.006	-0.023	-0.023	0.003	0.004
			(0.037)	(0.037)	(0.037)	(0.036)	(0.036)	(0.036)
L.NGDP							0.040	0.036
							(0.189)	(0.197)
L.ACCIRETAAGI		0.068		0.015		0.012		0.015
		(0.087)		(0.057)		(0.055)		(0.058)
Observations	950	900	900	900	900	900	900	900
R-squared	0.006	0.009	0.094	0.094	0.098	0.098	0.094	0.094
Between R-squared	0.0131	0.482	0.457	0.498	0.273	0.291	0.423	0.464
Overall R-squared	0.0109	0.281	0.302	0.328	0.220	0.233	0.292	0.317

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-22 – ACCIRETAAGI and TAX OLS

VARIABLES	(1) ACCIRETAAGI	(2) ACCIRETAAGI	(3) ACCIRETAAGI	(4) ACCIRETAAGI	(5) ACCIRETAAGI	(6) ACCIRETAAGI	(7) ACCIRETAAGI	(8) ACCIRETAAGI
TAX	-0.066	-0.275	0.442**	0.301	0.418*	0.275	0.444**	0.305
	(0.215)	(0.237)	(0.216)	(0.211)	(0.215)	(0.211)	(0.214)	(0.207)
CPOL			-0.032	-0.027	-0.030	-0.024	-0.045	-0.032
			(0.038)	(0.035)	(0.037)	(0.034)	(0.034)	(0.032)
PIPop			-0.191***	-0.269***	-0.480***	-0.575***	-0.393**	-0.345**
			(0.057)	(0.056)	(0.173)	(0.153)	(0.152)	(0.145)
Gini			0.508***	0.441**	0.431**	0.362**	0.417**	0.407**
			(0.178)	(0.165)	(0.178)	(0.163)	(0.188)	(0.172)
UE			-0.120***	-0.084**	-0.167***	-0.134***	-0.125***	-0.087**
			(0.028)	(0.034)	(0.036)	(0.040)	(0.029)	(0.035)
HHI			-0.219	-0.183	0.084	0.194	0.006	-0.083
			(0.363)	(0.391)	(0.372)	(0.418)	(0.335)	(0.386)
EDUC			0.004	-0.013	-0.030	-0.048	-0.020	-0.021
			(0.041)	(0.037)	(0.046)	(0.039)	(0.045)	(0.041)
NGDP							0.286	0.111
							(0.182)	(0.192)
L.ACCIRETAAGI		0.078		0.006		0.002		0.004
		(0.087)		(0.049)		(0.046)		(0.049)
Observations	950	900	950	900	950	900	950	900
R-squared	0.000	0.009	0.067	0.089	0.071	0.094	0.070	0.090
Between R-squared	0.0803	0.175	0.427	0.611	0.509	0.435	0.566	0.673
Overall R-squared	0.0498	0.111	0.292	0.370	0.362	0.322	0.390	0.413

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-23 – ACCIRETAAGI and TAX IV

VARIABLES	(1) ACCIRET AAGI	(2) ACCIRET AAGI	(3) ACCIRET AAGI	(4) ACCIRET AAGI	(5) ACCIRET AAGI	(6) ACCIRET AAGI	(7) ACCIRET AAGI	(8) ACCIRET AAGI
TAX	-0.216	-0.442**	0.459	0.404	0.387	0.328	0.418	0.383
	(0.193)	(0.226)	(0.285)	(0.294)	(0.271)	(0.280)	(0.282)	(0.293)
CPOL			-0.032	-0.025	-0.031	-0.023	-0.046	-0.030
			(0.031)	(0.031)	(0.031)	(0.031)	(0.028)	(0.027)
PIPop			-0.193**	-0.277***	-0.479***	-0.576***	-0.390**	-0.354**
			(0.083)	(0.082)	(0.179)	(0.176)	(0.173)	(0.174)
Gini			0.509***	0.452***	0.427***	0.368***	0.414***	0.414***
			(0.112)	(0.111)	(0.104)	(0.102)	(0.103)	(0.100)
UE			-0.120***	-0.086***	-0.167***	-0.135***	-0.125***	-0.088***
			(0.024)	(0.028)	(0.034)	(0.037)	(0.026)	(0.030)
HHI			-0.220	-0.201	0.087	0.182	0.007	-0.094
			(0.371)	(0.380)	(0.353)	(0.354)	(0.329)	(0.326)
EDUC			0.004	-0.012	-0.031	-0.047	-0.020	-0.021
			(0.057)	(0.058)	(0.052)	(0.052)	(0.052)	(0.053)
NGDP							0.285*	0.114
							(0.164)	(0.171)
L.ACCIRETAA GI		0.079		0.004		0.001		0.003
		(0.084)		(0.051)		(0.050)		(0.051)
Observations	950	900	950	900	950	900	950	900
R-squared	0.705	0.702	0.725	0.727	0.726	0.728	0.726	0.727
Hansen J	1.01e-06	7.96e-09	1.29e-05	3.62e-06	2.25e-05	6.62e-06	2.29e-06	8.89e-07
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0.00418	0.00391	0.868	0.499	0.462	0.841	0.415	0.782

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-24 – ACCIRETAAGI and TAX Lag

VARIABLES	(1) ACCIRET AAGI	(2) ACCIRET AAGI	(3) ACCIRET AAGI	(4) ACCIRET AAGI	(5) ACCIRET AAGI	(6) ACCIRET AAGI	(7) ACCIRET AAGI	(8) ACCIRET AAGI
L.TAX	-0.145	-0.321	0.280	0.275	0.253	0.249	0.281	0.276
	(0.218)	(0.232)	(0.225)	(0.205)	(0.230)	(0.211)	(0.223)	(0.203)
L.CPOL			-0.103***	-0.103***	-0.104***	-0.104***	-0.105***	-0.105***
			(0.031)	(0.031)	(0.030)	(0.030)	(0.031)	(0.031)
L.PIPop			-0.289***	-0.287***	-0.586***	-0.583***	-0.324**	-0.320*
			(0.060)	(0.057)	(0.153)	(0.157)	(0.157)	(0.164)
L.Gini			0.560***	0.555***	0.468***	0.464***	0.545***	0.540***
			(0.156)	(0.166)	(0.154)	(0.161)	(0.153)	(0.156)
L.UE			-0.018	-0.016	-0.067	-0.066	-0.018	-0.017
			(0.038)	(0.044)	(0.051)	(0.057)	(0.040)	(0.046)
L.HHI			0.193	0.192	0.448	0.446	0.232	0.230
			(0.415)	(0.412)	(0.407)	(0.401)	(0.372)	(0.366)
L.EDUC			0.006	0.006	-0.022	-0.022	0.002	0.003
			(0.036)	(0.035)	(0.036)	(0.036)	(0.035)	(0.035)
L.NGDP							0.050	0.047
							(0.192)	(0.199)
L.ACCIRETAAGI		0.076		0.010		0.009		0.010
		(0.087)		(0.051)		(0.051)		(0.052)
Observations	950	900	900	900	900	900	900	900
R-squared	0.001	0.010	0.096	0.097	0.100	0.100	0.097	0.097
Between R-squared	0.0804	0.102	0.470	0.493	0.322	0.334	0.442	0.464
Overall R-squared	0.0487	0.0689	0.328	0.343	0.255	0.264	0.318	0.332

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-25 – ACCIRETAAGI and LAB OLS

VARIABLES	(1) ACCIRETAAGI	(2) ACCIRETAAGI	(3) ACCIRETAAGI	(4) ACCIRETAAGI	(5) ACCIRETAAGI	(6) ACCIRETAAGI	(7) ACCIRETAAGI	(8) ACCIRETAAGI
LAB	-0.411***	-0.734***	-0.540*	-0.649*	-0.525*	-0.637*	-0.617*	-0.692*
	(0.116)	(0.125)	(0.302)	(0.360)	(0.303)	(0.360)	(0.316)	(0.382)
CPOL			-0.038	-0.029	-0.036	-0.026	-0.055	-0.038
			(0.039)	(0.037)	(0.039)	(0.036)	(0.035)	(0.033)
PIPop			-0.067	-0.141	-0.371*	-0.454**	-0.312**	-0.269*
			(0.081)	(0.086)	(0.190)	(0.180)	(0.146)	(0.147)
Gini			0.548***	0.520***	0.468**	0.441**	0.444**	0.467**
			(0.191)	(0.187)	(0.193)	(0.188)	(0.188)	(0.178)
UE			-0.154***	-0.126**	-0.202***	-0.177***	-0.167***	-0.134**
			(0.045)	(0.057)	(0.046)	(0.057)	(0.047)	(0.061)
HHI			-0.198	-0.138	0.116	0.239	0.092	0.040
			(0.381)	(0.411)	(0.388)	(0.441)	(0.339)	(0.385)
EDUC			0.005	-0.016	-0.031	-0.051	-0.025	-0.031
			(0.042)	(0.039)	(0.046)	(0.041)	(0.046)	(0.045)
NGDP							0.367*	0.197
							(0.187)	(0.216)
L.ACCIRETAAGI		0.062		0.004		-0.001		0.000
		(0.081)		(0.059)		(0.055)		(0.060)
Observations	950	900	950	900	950	900	950	900
R-squared	0.010	0.032	0.066	0.095	0.071	0.100	0.071	0.096
Between R-squared	0.00759	0.112	0.271	0.308	0.370	0.265	0.372	0.333
Overall R-squared	0.00802	0.0868	0.182	0.213	0.267	0.214	0.267	0.242

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-26 – ACCIRETAAGI and LAB IV

VARIABLES	(1) ACCIRET AAGI	(2) ACCIRET AAGI	(3) ACCIRET AAGI	(4) ACCIRET AAGI	(5) ACCIRET AAGI	(6) ACCIRET AAGI	(7) ACCIRET AAGI	(8) ACCIRET AAGI
LAB	-0.445***	-1.006***	-0.429*	-1.133***	-0.346	-1.027***	-0.529**	-1.176***
	(0.171)	(0.169)	(0.260)	(0.250)	(0.267)	(0.266)	(0.264)	(0.252)
CPOL			-0.038	-0.027	-0.036	-0.024	-0.054*	-0.039
			(0.032)	(0.033)	(0.032)	(0.032)	(0.029)	(0.029)
PIPop			-0.085	-0.064	-0.404**	-0.386**	-0.318*	-0.240
			(0.083)	(0.086)	(0.193)	(0.197)	(0.165)	(0.166)
Gini			0.529***	0.603***	0.438***	0.509***	0.433***	0.528***
			(0.124)	(0.125)	(0.125)	(0.127)	(0.115)	(0.114)
UE			-0.146***	-0.163***	-0.190***	-0.205***	-0.160***	-0.172***
			(0.032)	(0.037)	(0.035)	(0.039)	(0.035)	(0.041)
HHI			-0.199	-0.144	0.119	0.227	0.081	0.099
			(0.377)	(0.382)	(0.365)	(0.375)	(0.329)	(0.328)
EDUC			0.005	-0.017	-0.031	-0.051	-0.024	-0.037
			(0.058)	(0.058)	(0.052)	(0.052)	(0.053)	(0.055)
NGDP							0.355**	0.268
							(0.166)	(0.173)
L.ACCIRETAAGI		0.056		-0.002		-0.006		-0.007
		(0.076)		(0.058)		(0.056)		(0.057)
Observations	950	900	950	900	950	900	950	900
R-squared	0.708	0.709	0.725	0.727	0.726	0.729	0.726	0.727
Hansen J	1.32e-06	3.57e-07	4.06e-06	2.31e-07	1.07e-05	7.41e-07	3.25e-07	2.34e-08
Kleibergen-Paap	0	0	0	0	0	0	0	0
Endogeneity	0.151	0.906	0.677	0.122	0.476	0.270	0.963	0.0599

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-27 – ACCIRETAAGI and LAB

VARIABLES	(1) ACCIRETAAGI	(2) ACCIRETAAGI	(3) ACCIRETAAGI	(4) ACCIRETAAGI	(5) ACCIRETAAGI	(6) ACCIRETAAGI	(7) ACCIRETAAGI	(8) ACCIRETAAGI
L.LAB	-0.377**	-0.844***	-0.426	-0.420	-0.391	-0.386	-0.450	-0.445
	(0.148)	(0.156)	(0.285)	(0.291)	(0.286)	(0.290)	(0.287)	(0.298)
L.CPOL			-0.107***	-0.107***	-0.107***	-0.107***	-0.112***	-0.111***
			(0.031)	(0.031)	(0.031)	(0.031)	(0.032)	(0.032)
L.PIPop			-0.196**	-0.196**	-0.495***	-0.494***	-0.272	-0.269
			(0.089)	(0.089)	(0.179)	(0.181)	(0.165)	(0.173)
L.Gini			0.605***	0.599***	0.511***	0.507***	0.573***	0.570***
			(0.152)	(0.168)	(0.149)	(0.161)	(0.146)	(0.153)
L.UE			-0.045	-0.044	-0.091*	-0.090	-0.049	-0.048
			(0.047)	(0.054)	(0.054)	(0.063)	(0.050)	(0.058)
L.HHI			0.213	0.212	0.461	0.459	0.302	0.300
			(0.424)	(0.420)	(0.416)	(0.410)	(0.382)	(0.375)
L.EDUC			0.006	0.006	-0.022	-0.021	-0.003	-0.003
			(0.037)	(0.037)	(0.037)	(0.036)	(0.035)	(0.035)
L.NGDP							0.112	0.109
							(0.191)	(0.204)
L.ACCIRETAAGI		0.058		0.009		0.008		0.008
		(0.074)		(0.058)		(0.057)		(0.059)
Observations	950	900	900	900	900	900	900	900
R-squared	0.010	0.044	0.098	0.098	0.101	0.101	0.098	0.098
Between R-squared	0.00968	0.0879	0.338	0.363	0.254	0.265	0.292	0.311
Overall R-squared	0.00981	0.0748	0.245	0.261	0.208	0.216	0.227	0.240

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1