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# The role of social capital in resilience against poverty

## An empirical examination of social and institutional trust in Sub-Saharan Africa

by

Yoeri Dijkhof

y.dijkhof@outlook.com

This thesis captures the effect of social capital measured as social and institutional trust on a reduction of absolute poverty. The indicators of social capital are captured through the construction of a database of subjective well-being measures. Poverty is indicated using the Watt's index which measures the mean proportionate poverty gap for those living under the extreme poverty line of \$1.90 a day. This thesis analyses the relationship in 26 Sub-Saharan countries, broadly including the period of 1999 to 2014. The findings show that social trust has a positive and significant effect on a reduction of poverty. The effect of institutions appears to be mixed, whereas the quality of governmental policies, corruption among politicians, and unequal opportunities might offer an explanation for low trust in governmental institutions on a local and national level. The findings imply that social capital increases the resilience against poverty for society's most vulnerable groups, which provides policymakers with an additional strategy to strive for pro-poor growth and increase society's well-being.

**Key words:** social capital, social trust, institutional trust, absolute poverty, pro-poor growth

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# 1 Introduction

Several regions in Sub-Saharan Africa (SSA) have seen incredible economic growth in recent decades which resulted in rising income per capita and absolute poverty levels falling substantially. Some scholars argue that this ‘African growth miracle’ might result in sustained economic development and increases in well-being for the continent (Young, 2012). However, others argue that future economic growth for SSA can be challenging because of stalling growth of the global economy and increasing barriers to catch up due to technological advances (Rodrik, 2018). Not only will this increase the global inequality in economic prospects, but it would also challenge the improvement of well-being of the world’s poorest. Today, approximately 80 percent of the 736 million living in absolute poverty are in South Asia and SSA (UNDP, 2017). New threats as climate change, regional conflicts and food insecurity pose further challenges to the first of the United Nation’s Sustainable Development Goals, aimed at the disappearance of global absolute poverty.

Decreasing absolute poverty and enhancing the well-being and future prospects of those living under the absolute poverty line calls for pro-poor economic growth. Following Ravallion (2004) this study uses the absolute definition of pro-poor growth, indicating that economic growth is considered pro-poor if absolute poverty is being reduced. Even though poverty alleviation in SSA has made incredible progress in the last decades, extreme poverty remains prevalent in most, if not all societies in SSA. In order to understand why absolute poverty remains vigorously existent in SSA, it is important to understand the (lacking) economic development of the region. The literature thus far has focussed on multiple mechanisms that potentially explain the lack of sustained development, concerning failed structural change (Andersson & Axelsson, 2016), institutional legacies and misalignment of resources (Jones, 2016), and regional conflicts and environmental shocks.

One stream in the literature that has recently regained attention in empirical research considers the frequency and impact of economic shrinking over the focus on economic growth. The problem, which is notoriously prevalent in SSA, is not that developing countries lack economic growth, but are unable to reach sustained economic growth due to repetitive periods of economic shrinking (Easterly et al., 1993). Due to this episodic pattern of growth and decline, economic prospects are unclear and vulnerable due to volatile economic performance. Andersson (2018) for instance argues that SSA’s GDP per capita could have been three times higher than what it is today, if the region would have retained its average growth

rate, with the real shrinking pattern of Asia. Moreover, today's developed countries reached long-term sustained economic performance after a declining frequency and rate of economic shrinking, rather than higher growth rates (Broadberry & Wallis, 2017).

The perspective of resilience sheds new light on the debate why sustained economic growth occurs in some countries, while it fails to take off in others. Research on economic resilience has been dominated by studies looking at how economies resisted and recovered from macro-economic downturns (Evenhuis, 2017), but recent focus shifted to a continuous role of resilience against economic volatility. Central to this approach are the mechanisms through which some countries develop a resilience against shrinking, while others retain a highly volatile economic performance. Such an episodic growth pattern is particularly harmful for those living in absolute poverty, as those living close to subsistence levels are unable to benefit adequately from high economic growth, while being notoriously harmed by decline as they do not have the resources and safety mechanisms to protect themselves against economic despair.

Social resilience theory focuses on such poor communities and their capacity to cope with external disturbances and shocks resulting from social, economic and environmental change (Adger, 2000). This framework aims at capturing the mechanisms that allow these communities to adapt or transform their social and economic structure due to such external disturbances. These communities are reliant on the social structure of their environment, due to a lack of resources and governmental support that would provide a safety mechanism against absolute poverty. Social capital acts as a mechanism of resilience and functions as a central method of survival in these poor communities, which enables researchers and policy-makers to study resilience against poverty (Cretney, 2014). Social capital plays a central role in the building and bridging of social networks and lays out a base for the social norms and values in these communities and society as a whole. One of the main indicators that expose the mechanisms of social capital is measured through social trust (Bjørnskov, 2006). The main research question of this thesis is therefore: *How is social capital related to resilience against absolute poverty?*

Further, social capital is associated with economic growth and the development of social and political structures that evolve in more democratic and qualitative institutions. Social capital directly affects a country's business environment and international competitiveness through social connectivity reducing transaction costs, social infrastructure smoothing sharing of knowledge, and social trust affecting transparent decision making and fighting unethical behaviour (Schwab, 2018). Additionally, social capital strengthens the governance of

democratic processes, increases the efficiency and effectiveness of the public administration and improves the quality and equality of economic policies (Kaldaru & Parts, 2005). Thus, social capital functions as a central determinant for resilience against extreme poverty and further enhances inclusive economic development. This implies that social capital can have a substantial impact on the development of economies and societies, and the formation of resilience against external shocks and volatility on both a local as a societal level.

Previous studies on social capital and its relation to economic growth and enhancing well-being have mainly focused on developed countries, for instance by improving the economic inclusion of ethnically divergent and socially backward groups (Letki, 2008). Other research related to emerging economies has focussed on the role of social capital on inclusive growth (Dinda, 2008; Dinda, 2014), the moderating effect of social capital on institutional quality (Baliamoune-Lutz, 2011), the relationship with development aid (Baliamoune-Lutz & Mavrotas, 2009), and the influence on health (Carter & Maluccio, 2003). These findings assist in understanding the mechanisms of social capital influencing the formation of resilience against absolute poverty and further development of sustained economic growth.

However, studies focusing on the effect of social resilience through social capital in SSA have barely been performed, or are limited to local rural communities that are close to subsistence living (Nel et al., 2017; Mbiba et al., 2018; Baiyegunhi, 2014). This thesis therefore captures the mechanism of resilience against absolute poverty in SSA on a broader level. The scope of this thesis involves the influence of social capital on a reduction of poverty in 26 societies in SSA from broadly 1999 to 2014. This thesis contributes to existing empirical findings by constructing a cross-country dataset of social capital in SSA, analysing its effect on poverty alleviation. Further, this thesis contributes to the theoretical discussion of resilience against poverty and resilience against economic volatility through studying the effect of social capital on institutional quality and inclusive economic growth. The results complement researchers and policymakers striving for pro-poor growth and enhancing the well-being of societies in SSA.

The next chapter discusses previous empirical and theoretical contributions on the economic development of SSA, defines social capital and explains its mechanisms, and clarifies the contribution of subjective well-being measures of which social capital is a component. Further, it reviews the framework of social resilience and the influence on poverty alleviation. The third chapter discusses the methods used for the analysis, while the fourth chapter involves the data used for the analysis. Chapter five presents the results of the analysis, and dis-

cusses the findings based on previous contributions to the literature. The final chapter concludes and presents an answer to the main research question of this thesis.



## 2 Literature review

This chapter outlines previous theoretical and empirical findings regarding the mechanisms that determine resilience against absolute poverty. It starts with a review on natural resource extraction, that has been a central contributor to SSA's economic growth and more important, its economic decline. The next section discusses the influence of social capital on economic growth and a reduction of poverty. The last section discusses the contribution of subjective well-being measures like social capital on determining the influence of economic growth in individual well-being. Finally, the theoretical approach discusses the framework of social resilience and its effect on pro-poor growth.

### 2.1 Previous Research

Economic resilience involves the ability of an economy to adapt to disturbances or shocks it faces. Resilience captures the underlying capacity by studying actual adaptation processes and from analysing the underlying factors that appear important for successful adaptation (Yamamoto, 2011). However, the distinction between adaptation to shocks and resilience involves studying long-term economic processes that capture these underlying mechanisms that determine resilience within an economy. Resilience is a property that is presumed to be present on a more continuous basis and is about engaging and coping with change more generally (Evenhuis, 2017). Thus, capturing resilience requires a long-term perspective that deals with vulnerabilities to economies that demand adaptive capacity to absorb and overcome these burdens to sustained economic growth.

Therefore, it is important to capture the mechanisms of SSA's economic growth and decline that have been influencing economic volatility in the previous decades, and will most likely affect its performance in the future. One mechanism that has extensively been argued in the literature regarding lacking development is the reliance of economic growth on primary goods. Particularly the extraction of natural resources, such as minerals or crude oil has been a central component of the scholarly debate regarding growth potential and failure for economies in SSA. In theory, resource based growth indicates three mechanisms that generate competency and competitiveness in manufactures through upstream and downstream linkages, development of capital goods and services supporting the activities, and adoption of top-notch technologies and capital goods (Walker & Jourdan, 2003). The development of such manufac-

turing activities generates diversity in the economic structure, which results in a decreasing reliance on commodity rents and exogenous shocks in demand of natural resources. Diversity of the economic structure is a basic mechanism through which adaptation and resilience take place in an economy (Evenhuis, 2017). Regions with lower diversity in economic activities show relatively higher growth in periods of economic gains compared to more diversified regions, but are less resilient in their ability to absorb shocks and economic downturns (Brown & Greenbaum, 2017).

The mechanisms of resource based growth imply that revenues and knowledge flow into other related activities, that enable them to develop themselves which creates diversified economic activities. Most notably, Sweden, Finland and the United States saw development into high skilled, knowledge-intensive and export oriented activities due to natural resource extraction (Walker & Jourdan, 2003). Revenues of the extraction were invested back in the economy, creating vertical, horizontal and backward linkages in other industries that used this commodity base to develop their activities and invest in technological improvements. This indicates that the creation of diversified economic activities, among many other influences, leads to sustained economic growth, while simultaneously decreasing the absolute reliance on natural resource extraction. In combination with continuous investments in local infrastructure, and human and physical capital this enables a structural transformation of the economy, increasing its resilience against exogenous disturbances and the generation of wealth for all social groups.

However, major research attention has drawn upon the lack of inclusive growth and sustainable resource based development in SSA. Revenues of the resource extraction flew to selective elitist groups in society, rather than being invested further in the economic structure. The expectations of economic diversification were often not met, which related to shortcoming opportunities for gaining income on the local individual level (Wright, 2001). Resource rents were at best invested back in increasing productivity and efficiency, thereby solely benefiting a limited group in society. Further, resource-rich countries tend to focus on the export of natural resources, which leads to de-industrialisation and structural stagnation (Sachs & Warner, 1999). Approximately 60% of the FDI inflows in SSA flow directly to natural resource industries, rather than labour-intensive manufacturing activities (UNCTAD, 2012). This indicates that investments focus on increasing efficiency and profitability of these industries, rather than economic diversification.

This results in a resource curse if states are not able to deal with price volatility due to poor management and economic activity is heavily affected due to a heavy reliance on nat-

ural resource extraction industries. The lack of local industrial and service-oriented activities that are indirectly related to resource extraction suggests that the economies are not diversified, which increases vulnerability to economic volatility and economic shocks. Furthermore, inadequate allocation of resource revenues and strict state intervention resulted in failed inclusive growth in for instance Nigeria, as 70% of its population still lives in absolute poverty (Cole & Tse, 2015). Specialisation for export production is one main determinant for the episodic economic growth in SSA (Jerven, 2010). Generally countries with large stocks of natural resources show high dependency on international commodity prices, making their economies vulnerable to external influences. Therefore, it is important that governments in resource rich countries in SSA transfer resource revenues to address infrastructure gaps and promote diversity in economic activities. Nonetheless, it is important to keep in mind that developing governments face heavy political resistance from Western companies and countries in relocating downstream activities in order to protect profitability and national interest (Ayelazuno, 2014).

Governments in developing countries should face this resistance in order to build a diversified economic structure which shields fragile government expenses more from uncertainties. This enables policymakers to implement effective strategies to prevent economic decline and build resilience which results in more stable and stagnant economic development. Countries that face severe or frequent economic disruptions are less able to build resilience and cope with patterns of convergence and divergence in national income (Martin, 2012). Moreover, Andersson (2018) argues that volatile economic growth, which relates to the frequency of shrinking, is more harmful to sustainable economic development than economic shocks, which relates to the magnitude of shrinking. This implies that in order to reach sustained economic growth, policies should aim at reducing the frequency of periods of economic decline rather than attempting to reduce the magnitude of economic decline. Thus, securing a revenue stream from resource extraction and investing in a diversified economic structure allows for building resilience and sustained economic growth.

Moreover, related literature captures the effect of natural resource extraction on poor, mostly rural communities. These communities perform small-scale mining to raise their standard of living, often because governmental policies are insufficient in alleviating poverty. One of the problems that the population in SSA faces is the high level of poverty that is still prevalent due to unequal distribution of economic activities. The poor are forced to the informal market to escape absolute poverty and survive. Estimates indicate that informal activities account for over 70 percent of non-agricultural employment, while those involved barely

meet their subsistence needs and do not see significant improvements in well-being (Hilson, 2012). Individuals are not able to benefit from opportunities related to economic growth, and are caught in a poverty trap. They are vulnerable due to failed inclusive growth and economic diversification, so that new shocks induced by policy change or economic volatility pushes them back below the threshold from which they struggle to recover (Barrientos, 2007).

Due to a lack of governmental support and policies favouring large-scale extraction of natural resources, communities bond together and share the risk and profits of additional activities to raise their quality of life (Hilson, 2012). Rural communities in Northern Ghana successfully raised local wealth and stabilized economic activities in the region by investing back in infrastructure and social capabilities such as social networks using informal small-scale mining activities (Hilson et al., 2013). This implies that local communities develop and utilize social capital in order to deal with vulnerabilities and create resilience against vulnerability on a local level. The emergence of small-scale mining activities, allowed them to raise incomes, improve food security, and create economic activities that support development for the region (Hilson et al., 2013). This implies that local networking ties can establish resilience that enhances fruitful poverty alleviating activities that enable individuals to raise their quality of life.

The case of Zambia's copper mining industry sheds similar light on the limited inclusive growth of natural resource extraction and the mechanism local communities use to develop resilience. The return of the copper mining industry in Zambia after the global commodity price boom solely benefited the foreign owners at the cost of the local community and employees (Nel et al., 2017). Due to increased mechanisation of tasks and limited additional employment, the local population is increasingly driven into informal activities to secure income and food provision. The regained access to resources and their political power resulted in different responses by social classes (Wilson, 2012). The unequal distribution of revenues forced the poorest into self-provision of food and reliance on the community-wide social capital for survival and to absorb uncertainty. This indicates that social capital functions as a mechanism of resilience against absolute poverty.

### 2.1.1 The mechanism of social capital

Social capital is related to social infrastructure, communication mechanisms and transaction costs, which influence the social and economic structure of a country. Firstly, it is important to define the concept of social capital and indicate the relationship between social capital and

economic growth. Social capital consists of three broad components that comprise civil engagement, through (voluntary) public activities that intensify community relations, social norms, and social trust, which indicates the openness to others (Putnam, 2000; Putnam, 1993). Social trust functions as an indicator of honesty and trustworthiness, which can be used as a measure for informal societal institutions and influences well-being positively (Bjørnskov, 2010). Individuals highly value the social context of their lives, as trustworthy environments support and are supported by engagement with others and cohesion within communities (Helliwell, 2006). Furthermore, social trust is significantly positively related to economic growth (Beugelsdijk et al., 2004), a relation that is at least as strong as that of human capital (Whiteley, 2000). Thus, social trust is an important component of social capital that influences individual well-being and has an important effect on economic development.

On the other hand, empirical findings contested some of these components and argue that voluntary activities are only weakly associated with social trust (Bjørnskov, 2006). People that join community activities do report higher trust, but it is argued that this does not spread to outside the community and is unrelated to trust on the macroeconomic level once controlled for education and economic development. Bjørnskov (2006) argues that social trust is fully driving the effects of social capital on the quality of governance and subjective life satisfaction. This indicates that trust in others can be seen as a determinant factor of social capital. Nevertheless, measures of social capital need to be sensitive to the cultural and historical environment of the case (Aldrich, 2011). Using evaluative reflections of one's social environment and opportunities offers a mechanism that describes social capital on an individual level.

Moreover, social capital is of major importance for households that do not benefit from economic growth, and live in absolute poverty. In developing countries, the poor rural population is more vulnerable to economic shocks and volatility, because of lower availability of resources and a lack of sufficient safety nets. During years of economic despair, poor households are forced to increase the use of natural resources to maintain income and food security. However, this generally does not coincide with increasing welfare for these poorest households, as the benefits of natural resource use accrue to the wealthier groups in society (Mbiba et al., 2018).

Micro-oriented studies in rural communities have shown that social capital mitigates the welfare-diminishing effects of economic shrinking (Tibesigwa et al., 2016), creating resilience against absolute poverty. Social capital ensures households of an informal safety net on the community level through social connections with family and friends and group engage-

ment with members of the community. Currently, development programs that aim at reducing poverty for the rural poor work through social networks and communities. Therefore, it is crucial that community involvement and development of social ties is supported and social capital is strengthened to fight poverty (Baiyegunhi, 2014). Thus, social capital plays a crucial part in developing poverty alleviating growth, to reach the poorest in society and assure that economic policy benefits the most vulnerable in societies.

Moreover, social capital does not only function as a buffer for economic bad times, it also provides a basis for future prospects. It is related to increased physical capital (Mbiba et al., 2018), further improving the resilience against economic volatility for poor households and allowing them to increase their welfare. Small-scale investments in physical capital enable poor communities to further develop stable revenues and distribute risks and benefits among community members. This indicates that social capital functions as a welfare-enhancing mechanism in rural and poor communities, with the effect reaching a similar magnitude compared with human capital through education (Baiyegunhi, 2014). Social capital and engagement in community cohesion thus function as a base for a reduction of absolute poverty and creates resilience against economic volatility. As social capital is associated with increased physical and human capital, this allows emerging societies in SSA to further develop sustainable economic growth. Therefore, in order to answer the main research question of this thesis the first hypothesis analyses the relationship between social capital and poverty alleviation:

*Hypothesis 1: social capital is positively related to poverty reduction.*

Moreover, a study by Ahlerup et al. (2009) suggests that social capital and formal institutions are substitutes in underdeveloped countries, implying that in the poorest countries where these institutions are of poor quality social capital plays a crucial role in the process of economic development. Societies with lower quality formal institutions show higher dependency on social connectedness and informal norms and values. Social trust can be seen as the attitude of individuals to others and functions as a central mechanism for cooperation and ethical behaviour in societies (Buta, 2016). Social trust thus captures the informal institutions that are reliant on social connectedness and its norms and values.

Furthermore, in more developed countries where institutional quality is considered high, where the rule of law is more institutionalised and perceived reliable, individuals trust each other and further develop formal and social capital (Levels et al., 2015). If members of

society are convinced that unethical and harmful behaviour is punished, they tend to trust others more, resulting in increasing social capital. Social capital on a macro level is often measured through social trust in institutions, also known as political or institutional trust. Institutional trust is highly interconnected with institutional quality and is captured by state capability and credibility, measured by the rule of law, the absence of corruption, transparency in decision making and an efficient administrative system (Meier, 2002). Transparent and effective fiscal policies and administration are essential in creating inclusive public investments that maintain social cohesion and thereby increase social trust (Delechat et al., 2017). Additionally, empirical evidence shows that micro-level social capital strengthens governance of democratic processes, increases the efficiency and effectiveness of the public administration and improves the quality and equality of economic policies (Kaldaru & Parts, 2005).

Therefore, in order to shed more light on the influence of social capital on different stages in the process of economic development the second hypothesis analyses the effect of social capital on poverty reduction in low and higher income countries:

*Hypothesis 2: social trust is more important for poverty alleviation in low-income countries than in higher income countries.*

Finally, indicators of economic structures influence social capital both on a societal as on a micro-level. Economic inequality and deprivation damage social cohesion (Letki, 2008) due to its conflict arising and limiting effect of participating in social life. Unemployment negatively influences social capital through lower participation in social activities and decreases social trust, as individuals put themselves first in times of economic despair (Levels et al., 2015) and members of society believe they are being used. Previous empirical findings using macroeconomic indicators and social capital in Africa show that the lack of corruption and social cohesion can be seen as indicators for the level of trust and the interaction between qualitative institutions and high social capital has a positive influence on well-being (Baliamoune-Lutz & Mavrotas, 2009). Thus, macro-economic structures and changes influence social capital on a societal and individual level. When institutional quality is lacking, social trust diminishes as members of society are bound to themselves.

Governments in developing countries often face difficulty providing reliable policies and securities for its citizens, resulting in inequality between urban and rural areas, and between social groups. When individuals are more dependent on their own, their individual role becomes critical in their survival and development of resilience against economic uncertainty

(Satterthwaite, 2013). Measures of subjective well-being are increasingly used to capture the effects of economic development on individuals and measure social and informal influences that guide these mechanisms.

### 2.1.2 Subjective well-being indicators

Today, measures like GDP indicate the economic performance of a country and allow policymakers and scholars to compare the results to other countries and over time. It is noteworthy that existing indicators that define poverty alleviating policies in developing countries fail to capture the dynamics of rural communities and their change with different economic prospects (Hilson et al., 2013). Subjective well-being (SWB) measures allow a broader perspective on the consequences on well-being from factors such as inequality, macroeconomic volatility, and political systems (Nikolova, 2016). Many scholars argue that SWB measures should be used to display a more complete view on the quality of life for individuals. These measures aid in capturing the inclusiveness of economic development on an individual level, and assist in determining informal structures and social capital.

SWB measures are usually based on self-reported evaluations collected via nationally representative surveys on a country level, but are also conducted cross-country and over time. The collection of information on socio-demographic characteristics and similarity in questioning allows researchers to compare results between respondents and over time (Graham, 2011). One of the central SWB indicators for economic development in economics relates to the life satisfaction of individuals. This measure involves an evaluative reflection of one's life, where individuals reflect on their capabilities, means and long-term opportunities (Graham & Nikolova, 2015). Such a thorough evaluation of one's current assets and future prospects indicates a method that describes the mechanisms of inclusive growth and social conditions in one's environment. This connects SWB measures to conventional economic indicators, allowing policymakers and scholars to determine the effects of economic changes on individual behaviour.

One of the first and potentially most well-known debates regarding the connection of SWB and macroeconomic indicators started with the relationship between income and happiness. The debate around Easterlin's (1974) Paradox, indicating stagnating levels of life satisfaction with income growth over time in developed economies has not yet been settled. Some authors try to find the underlying factors for this trend, for example arguing that social comparison and adaptation to changing circumstances are main influences (Clark et al., 2008).



Moreover, studies on the Great Recession of 2008 and 2009 also feed into the debate on the reliability of SWB indicators, as individuals show only a short-run decline in their overall life satisfaction (Deaton, 2012), while others show a clear decline in life satisfaction attributed to a drop in GDP and increasing unemployment levels during the time (Welsch & Kuhling, 2016). Thus, the true effect of macroeconomic indicators on individual well-being cannot be clearly pointed into a certain direction.

The scholarly focus of this economic shock has thus far mainly been aimed at developed countries, whereas the global South responded differently to these developments. Due to improved macroeconomic and fiscal policies, additional to limited connectedness with global financial markets, developing countries were more resilient to this crisis than previous global economic fluctuations (Didier et al., 2012). This implies that developing countries created mechanisms that support resilience against economic volatility. It is therefore interesting to study these mechanisms using SWB measures, to determine the effect of social influences and informal institutions on the recent economic developments.

Furthermore, the influence of economic growth and shrinking is argued to have different impacts on reported individual well-being. It has been asserted that losses matter more to self-reported life evaluation than gains in income (Di Tella et al., 2010), having such a strength that well-being gains due to economic growth accumulated over eight years may be rendered irrelevant by just two years of economic shrinking (De Neve et al., 2018). Life satisfaction declines marginally with losses in relative income due to a decline in GDP (Vendrik & Woltjer, 2007). These findings imply that resilience against economic volatility may be more important than maintaining high levels of economic growth in order to arrive at a high level of SWB. Additionally, inclusive growth would greatly benefit the well-being of the poor, raising national life satisfaction while lowering differences between social groups, tightening social connections and increasing social capital.

## 2.2 Theoretical Approach

Central to the theoretical approach is resilience theory and the influence of social capital on local communities. The framework lays out the relationship between social capital and economic volatility. This study specifically aims at analysing the relationship between social capital and poverty alleviation.

Resilience theory is a recent perspective that has been applied in multiple streams in the literature of economic geography, sustainability and environmental studies. Resilience in

the literature of social sciences deals with the capacity of social systems to deal with crises, using indicators such as community capacities or social capital (Cretney, 2014). Central to social resilience is the ability of groups and communities to deal with external stresses and vulnerabilities created by political, social and environmental change. Social resilience frameworks are considered linked and interdependent on each other through connections between well-being, economic activities, and environmental conditions (Adger, 2000). One element that can be observed in communities and is considered an indicator for social resilience involves social capital. Social capital is considered the interconnectedness between individuals in a society and community, the level of trust and methods of communication to spread information within the community (Aldrich, 2011).

There are two crucial elements that determine the interpretation of resilience theory. On the one hand, adaption and adaptive capacity refer to the capacity to maintain a system within the boundaries of critical thresholds, while external forces are pressuring the current system (Walker & Salt, 2012). On the other hand, transformation resembles the shift of a system from its path, and the capacity to change due to resolute external forces (Nelson et al., 2007). Resilience theory thus both deals with gradual changes in communities and societies due to environmental changes, as well as shocks and transformations of societal systems due to societal, political, and environmental disturbances. Moreover, additional to social capital, community capacities can be seen as measures of preparedness and recovery from disruptions to existing systems (Cretney, 2014).

The Zambian Coppermine case described earlier sheds additional light on these mechanisms of resilience theory. Whereas the disappearance of the copper mining industry forced local communities into transformation of their social and economic structure, the reappearance resulted in adaptation of the existing structures. This indicates that resilience theory offers insight for communities that go through transformative as well as adaptive changes, providing a promising base for poverty alleviating economic growth. Social capital plays a crucial role in the resilience against economic volatility, and enables poor households to jump out of poverty.

Additionally, governments play a crucial role in the resilience against economic and environmental shocks, through providing security against volatility and environmental changes. However, the poor in developing countries are more bound to strengthen and protect the social capital of individuals, households and communities, because their (local) government is not able to provide social security (Satterthwaite, 2013). This indicates that individuals who

cannot rely confidently on the societal system are bound to social capital on a local or community level.

The vulnerability of globalisation and fragmentation of global value chains pressures local communities in the global South and forces them into situations where social resilience has become critical to survival (Hudson, 2010). This in turn requires local communities to come up with solutions, indicating that the lack of social security results in an increasing importance of the informal sector (Hilson, 2012). This indicates that due to a lack of governmental support, individuals are forced into informal activities to survive, which drives them further away from governmental influences as institutions lose sight over the formal economy. It is therefore crucial to capture the mechanisms of these informal influences that go beyond the formal economy.

Further, it is important to define the concept of pro-poor growth and its central role for sustained economic development. This study follows the definition of Ravallion (2004) of pro-poor growth, indicating that the growth process is pro-poor if and only if poor people benefit in absolute terms, alleviating absolute poverty. Pro-poor growth indicates that the poorest in society benefit from economic growth, and pro-poor growth is more likely to result in sustained growth as it allows households to jump out of poverty (Pritchett & Werker, 2012). Whenever economic participation is spread among society, this implies a more diversified and distinct structure, which is more resistant against shocks and external vulnerability. This indicates that pro-poor growth enables societies and economies to act more resilient against external forces and economic, societal or environmental shocks. During this process, it is crucial for households to step out of the poverty trap and earn a living above subsistence level. This benefits the internal strength of the economic structure through increased domestic demand and investments in and supply of labour. Combined with the transformation of this structure, higher value and more complex activities relate to sustained economic growth due to lower reliance on external sources and trade. Central to the concept of pro-poor growth is thus that households leave the poverty trap, indicating that the absolute poverty headcount decreases.

Following social resilience theory, social capital functions as a central component of resilience against economic volatility and captures the informal connectedness of a society, influencing the everyday life of individuals and determining the social ties within communities. It can be measured using SWB indicators that capture social cohesiveness of communities and social attitudes of individuals. Social capital consists of three broad components that comprise civil engagement, through (voluntary) public activities that intensify community

relations, social norms, and social trust, which indicates the openness to others (Putnam, 2000). However, empirical evidence suggests that the effect is solely driven by social trust (Bjørnskov, 2006). Imandoust (2011) emphasises the effect of building social networks as welfare enhancing aspects of social capital. It provides resources and support to individuals and households and allows to study the effect of public policies on community based level.

Moreover, the development of human capital creates a base for social capital formation such as social trust and social cohesiveness. Education has a direct and indirect contribution to the development of social networks and trust of members of society, and affects the attitude towards others and the political structure (Dinda, 2014). Vice versa, social capital enhances the influence of institutions and the development effect of human capital (Baliamoune-Lutz, 2011). Weak institutions strengthen the development of social capital so that they behave as substitutes, however as soon as institutional quality improves social capital could be complementary in economic development.

Thus, when institutional quality is low and poor households are dependent on their social network and direct resources, social capital plays an important role in survival and resilience against absolute poverty. The development of human capital and institutional quality enables these households to jump out of poverty and benefit from economic growth, which can result in sustained economic growth that is resilient against shocks and volatility if the economic structure diversifies and inequality between social groups decreases. Therefore, the theoretical framework of this thesis aims at capturing the different components of social capital and its effect on poverty alleviation. The first hypothesis is split in two issues which deals with the two main components of social capital that are related with economic growth and a reduction of absolute poverty, social (generalised) and institutional trust. The second hypothesis focuses on the influence of social capital on poverty alleviation within countries with different levels of economic development. Thus, the theoretical framework in this thesis is analysed by studying the following axioms:

Hypothesis 1: social capital is positively related with a reduction of poverty

Hypothesis 1a: social capital is positively related to a reduction of poverty on an individual level through social trust.

Hypothesis 1b social capital is positively related to a reduction of poverty on a societal level through institutional trust.

Hypothesis 2: social trust is more important for poverty alleviation in low-income countries than in higher-income countries.

Hypothesis 2a: institutional trust is more important for poverty reduction in higher-income countries

The implementation of social resilience theory on a cross country societal level has barely been performed in previous studies and might indicate interesting results. However, it should be taken into consideration that social structures and cultural influences determine social capital within communities and on a societal level. Conducting a cross-country analysis arguably does not capture the detailed effects of such influences. This thesis therefore does not aim at analysing the influences of social capital on specific communities and groups in society, but rather aims at providing an explorative overview of the mechanisms between social capital and poverty alleviation. Furthermore, by using individual measures of social capital, this thesis captures indicators of social capital at the most detailed level, limiting the potential noise of other influences.

Further, in the social science literature, social resilience theory is criticised of stimulating and serving as a justification for introducing neoliberal policies (Cretney, 2014). Social capital would lessen the need for a protective government as individuals become more self-reliant and less dependent on social protection mechanisms. This is of minor importance for the analysis of this thesis, as social safety in Sub Saharan Africa is rather underdeveloped due to insufficient resources and a focus on retaining economic growth. Studying the effect of social capital on poverty reduction, this thesis aims at grasping the mechanisms of poverty alleviation, which enables policymakers to surge for pro-poor growth and reach sustainable economic development.

Finally, social resilience theory focuses on external shocks and disturbances which requires communities and households to respond to these social, economic or environmental changes using adaptive or transformative mechanisms. Though, it would be interesting to analyse the influence of social capital creating resilience based on self-initiated transformations. In light with for instance today's concerns about climate change and responses to migration, local communities and social groups alter their social and economic behaviour without direct disturbances. However, this topic goes beyond the scope of this paper and provides a base for future research on social resilience.

### 3 Methods

There are at least three approaches through which social capital is being measured: the first approach involves a census of civic groups and group memberships. In the second approach, social capital is measured with survey data on levels of trust and civic engagement. The third takes changes in market valuations before and after takeover offers to measure social capital within private firms (Keele, 2005). This thesis will use the second approach in measuring social capital in order to analyse the effect of poverty on individual well-being. For this analysis, two indicators of social capital will be used: social trust, which can be seen as social capital on an individual level, and institutional trust, which relates to institutional quality and represents social capital on a macroeconomic level.

Next, following Dinda (2008) the analysis includes the logarithm of GDP per capita and human capital. Previous findings indicate that these are of importance for measuring economic growth, and arguably for a reduction of poverty. Furthermore, human capital is an important determinant for social capital (Dinda, 2008; Dinda, 2014) and helps building social capital in a society. Another aspect that can have significant influence on the poverty reduction are institutional policies and social safety mechanisms. Due to data unavailability, the direct effect cannot be captured, but the different aspects of institutional trust measure policies that affect individuals indirectly. Institutional trust is related to institutional quality (Meier, 2002) which implies that the effect of economic and poverty alleviating policies is measured partly through the indicator of institutional trust. Finally, in previous findings personal characteristics such as age, gender and religiosity have been found to influence social capital (Kuenzi, 2009) and function as control variables.

Although the risk of a potential omitted variable bias cannot be excluded, this thesis argues that the influences measured in this analysis are the most important determinants for those living in extreme poverty. Poor individuals own few or no assets and rely on their social network to share risks and make investments in physical capital (Baiyegunhi, 2014). Governmental support is lacking, as social welfare mechanisms often do not reach the poorest in society (Satterthwaite, 2013) hampering institutional trust of poor individuals. The main model of this paper is therefore displayed in equation (1):

$$(1) \text{POV}_{ct} = \alpha + \beta_1 \text{GDPPC}_{ct} + \beta_2 \text{TRUST}_{ict} + \beta_3 \text{POL}_{ict} + \beta_4 \text{HC}_{ct}$$

Where  $POV$  is the level of absolute poverty indicated by the Watt's index in country  $c$  polled in year  $t$ .  $GDP$  is the logarithm of GDP per capita.  $TRUST$  is the indicator of generalized social trust of individual  $i$  in country  $c$  polled in year  $t$ .  $POL$  is the indicator of institutional or political trust, and finally  $HC$  is the indicator of human capital. Note that the indicators of social capital, generalized and institutional trust are measured on an individual level, whereas the indicators of poverty and human capital are measured on a country level.

Measures of SWB are criticized by empirical social scientists, and economists in particular. Critics argue that SWB cannot be trusted as the interpretation can differ from person to person or across countries and cultures (Nikolova, 2016). However, the survey questions are barely open-ended and are given a bounded scale. Decades of research among psychologists and economists have shown that SWB measures capture the underlying concepts, are valid and reliable, as well as comparable across people, countries and over time (Helliwell & Barrington-Leigh, 2010). This indicates that the SWB measures prove to capture a similar effect as conventional 'objective' measures, but allow for a more detailed understanding of changes in the economic and societal structure. Individual attitudes shed additional light in the true effect of policies combating poverty and the influence of institutions on this process.

Further, it is important to understand the effect that is being captured by the Watt's index. Characterizing for the Watt's index is that the measure penalizes inequality among the poor, which implies that the index rises if a poor person experiences a drop in his or her income. The Watts index can be defined as the mean of the proportionate poverty gap of person  $i$  as  $\ln(Z/Y_i)$  if the person is poor ( $Y_i < Z$ ) (Ravallion, 2016), where the poverty gap  $Z$  in this thesis is defined as the absolute poverty line of \$1.90 a day. Assuming that incomes are ordered such that ( $Y_i \leq Z$ ) the Watts index equals:

$$W = \frac{1}{n} \sum_{i=1}^q \ln \left( \frac{Z}{Y_i} \right)$$

This implies that this thesis captures the effect of social capital on a reduction of poverty, where the poorest in society effectively move closer to the poverty line, or escape absolute poverty by growing incomes. Further details about the Watt's index and explanatory variables can be found in the descriptive statistics in Appendix A. Finally, using multiple indicators for institutional trust suggests that these are highly correlated with each other. Table 2 shows a pairwise correlation between the indicators of institutional trust and indicates a medium to

moderately strong correlation between different institutions. The correlation between the police force and courts of law is 0.58 and that between the parliament and local government equals 0.55. The remaining results only show a medium correlation between the institutions, suggesting that respondents associate the institutions with two mechanisms affecting social capital: those related to the rule of law, and those related to policy and decision making. This thesis assumes that respondents are able to differentiate between the institutions, since the correlations are moderately strong at best.

*Table 1 Pairwise correlation indicators of institutional trust*

	<b>trustpar</b>	<b>trustgov</b>	<b>trustlaw</b>
<b>trustgov</b>	0.5561***		
<b>trustlaw</b>	0.4733***	0.4344***	
<b>trustpol</b>	0.4592***	0.4471***	0.5875***



## 4 Data

This thesis constructs a database for social capital in SSA, combining multiple survey rounds of renowned institutions in a single dataset. The main data source for social capital consists of responses from nationally representative household surveys conducted by the Afrobarometer (AB). It conducts public attitudes surveys on democracy, governance, economic conditions and society. It offers the largest publicly available dataset on social attitudes, using face-to-face interviews in the language of the respondent's choice. Additionally, using a standardized survey instrument, the responses allow comparisons between countries and over time. Note that the first round emerged from three different surveys in SSA, meaning that survey instruments were not standardized across all countries. Though questions and responses are nearly identical as only those questions and responses posed in at least 9 countries are included in the data. This database offers good-quality data for many Sub-Saharan countries that represent over 75 percent of the population of SSA (Hollard & Sene, 2016).

Additionally, the AB data is extended by six waves of responses to social attitudes and human beliefs of the World Values Survey (WVS). The WVS consists of nationally representative surveys conducted in almost 100 countries representing almost 90 percent of the world's population (Inglehart et al., 2014). Merging the two datasets results in a sample of 26 nationally representative countries in Sub-Saharan Africa, where most countries have observations between 1999 and 2014. Note however, that due to the intent of different rounds by these two data sources, not every country has observations for every consecutive year. The table in Appendix B offers an overview of all the country – year observations. South Africa has the longest time trend with observations starting in 1982 and ending in 2015. Combining the two dataset results in 126 distinct country – year observations and 5 country – year observations that overlap, and allow to test the validity and comparability of the two surveys. Table 1 shows that the two datasets are overall broadly comparable with only small differences in descriptive statistics, i.e. a mean of 0.22 versus 0.16 in generalised trust, and 36.73 versus 35.03 in age of respondents. This indicates that both surveys have comparable results and do not report significantly different characteristics of respondents.

*Table 2 Descriptive statistics on trust and age of respondents, AB and WVS data*

	<b>Observations</b>	<b>Mean</b>	<b>St. dev.</b>
<b>Trust AB</b>	100,762	0.22	0.41
<b>Trust WVS</b>	37,218	0.16	0.37
<b>Age AB</b>	188,935	36.73	14.63
<b>Age WVS</b>	41,324	35.03	14.04

Further, a human capital index is derived from the Penn World Tables 9.1 based on the average years of schooling and an assumed rate of return to education (Feenstra et al., 2015). Since data is only available for every 5 or 10 years (dependent on the data source), interpolation and extrapolation is used by the authors to estimate the additional years. Finally, a poverty measure is estimated using a computational tool that allows for replications of calculations made by the World Bank and published in the World Development Indicators. This poverty measure is equivalent to the Watt's index of poverty, indicating the mean proportionate poverty gap, as the log of the poverty line less the log of income, counting the non-poor as having zero gap (Ravallion & Chen, 2003). An important feature of this index is that it penalizes inequality among the poor and is perceived as the absolute amount of social welfare loss due to poverty (Zheng, 1993). It is especially attractive to discuss the incidence of the benefits of economic growth (Ravallion, 2016). This poverty measure only considers those in a country that live under the absolute poverty line of \$1.90 per day, and allows for studying influences on pro-poor growth.

Though, it should be taken into account that data provided for Sub-Saharan Africa are deemed somewhat unreliable due to uneven application of methods and availability of data (Jerven, 2014). It is increasingly acknowledged that problems associated with national accounts may have caused economic growth to be mis-estimated. Although this thesis acknowledges this problem, studies on SSA require these methods for analysing the effects of economic growth. This thesis aims at limiting potential bias by using data of international renowned institutions such as the World Bank, or organisations that are funded and assisted by certain organisations, like the Afrobarometer and being transparent about the estimations made or assumptions used in the analysis. Nonetheless, interpretation of the results should be done with care and no permanent conclusions should be drawn from the analysis.

The central explanatory variables in this analysis are measures of social and human capital. Social capital is measured using indicators of social trust, namely generalised trust and institutional trust. The measure of generalised trust involves individual responses to the question: 'Generally speaking, would you say that most people can be trusted or that you need

to be very careful in dealing with people?’ Respondents reply either ‘Most people can be trusted’ or ‘you must be very careful’ which depicts the trust they have in others on a societal level. Without any additional information on ‘most people’, respondents base their answer on the attitude towards others, beyond a possible relationship as friends or family. This trust measure is the most common in empirical work as a proxy for social capital (Hollard & Sene, 2016; Kuenzi, 2009; Balamoune-Lutz, 2011).

Note that the question and scale of answers is distinct in the fourth round of the Afrobarometer. In order to retain comparable answers, this thesis recoded the options of ‘somewhat’ and ‘a lot’ into ‘most people can be trusted’ and the options ‘not at all’ and ‘just a little’ into ‘you need to be careful’. The answers remain comparable as the question indicates the ‘trust in others’, which is related to generalised trust.

The measure of institutional trust involves individual responses to the question: ‘How much do you trust each of the following?’ The response options vary on a four-scale measure from ‘not at all’ to ‘a lot’. Note that the WVS uses ‘confidence’ in exchange for ‘trust’, but this is not considered to affect the interpretation of the results. The institutions that are considered in this analysis involve the parliament (or national assembly), the local government council, the police force, and the courts of law. Institutional trust is seen as social trust on a macroeconomic level, and is influenced by macroeconomic fluctuations and policy changes (Meier, 2002).

Furthermore, the human capital index from the Penn World Tables 9.1 is used as an indicator for human capital. The individual databases offer an individual measure of highest completed education, but due to limited data availability this thesis uses a national indicator for human capital.

## 5 Empirical Analysis

This section shows the results of the analysis. Interpretation of the results and comparison with previous findings will be presented in section 5.2. First, Table 3 shows the main results of this paper, as indicated by equation (1). Note that for interpretation of the results an inverted value of the Watt's index is taken, indicating that a higher value represents a reduction in poverty. The results that are presented in this chapter do not include the personal characteristics as this would result in a large reduction of the observations. The results including the controlling personal characteristics are presented in Appendix C. Controlling for personal characteristics does not significantly alter the main results of this thesis, but indicates that the main results are slightly biased downwards.

The first column shows the effect of social trust and GDP per capita on the reduction of poverty, indicating a positive and significant relationship. This is in accordance with previous findings, and supports the first hypothesis. The second column shows the effect of social capital measured as institutional trust on poverty reduction, where four different institutions are considered. The indicators of institutional trust show a mixed relationship with pro-poor growth, which is against expectation. The coefficient estimate of trust in the courts of law is negative and significant, while that of trust in the parliament is positive and significant. The coefficient estimates of trust in the police force and trust in the local government are positive and insignificant. Column 3 shows the effect of social capital together and GDP per capita on poverty reduction. There are no substantial changes in the coefficient estimates, other than trust in the local government turning negative.

Column 4 shows the effect of human capital and social capital measured as generalized trust on poverty. The relationship is positive and highly significant, with is in accordance with previous findings in the literature and supports the first hypothesis. Noteworthy is that the effect of generalized trust increases in magnitude, which implies that human capital reinforces the effect of social trust on poverty. The fifth column shows the effect of human capital and social capital measured as institutional trust on poverty. The coefficient estimates of trust in the courts of law and trust in the police force increase in magnitude, and the latter turns significant. The final column shows the combined effect of human and social capital on poverty. The effects of human capital, generalized trust, trust in the police force and trust in the parliament show a positive and significant relationship, while trust in the courts of law and trust in the local government show a negative and significant relationship. The indicator of

trust in the parliament is positive but insignificant. This is against expectations, and will be discussed further in the next section.

*Table 3 The effect of social capital on poverty alleviation*

	(1)	(2)	(3)	(4)	(5)	(6)
loggdp	10.95*** (0.0621)	10.99*** (0.0630)	11.00*** (0.0630)	9.273*** (0.0860)	9.324*** (0.0865)	9.320*** (0.0865)
trust	0.674*** (0.119)		0.639*** (0.120)	0.864*** (0.118)		0.824*** (0.119)
hc				4.455*** (0.159)	4.456*** (0.160)	4.517*** (0.160)
trustlaw		-0.498*** (0.0623)	-0.497*** (0.0623)		-0.598*** (0.0621)	-0.599*** (0.0621)
trustpol		0.0697 (0.0582)	0.0577 (0.0582)		0.197*** (0.0580)	0.183*** (0.0580)
trustpar		0.458*** (0.0601)	0.445*** (0.0602)		0.406*** (0.0598)	0.389*** (0.0598)
trustgov		0.00893 (0.0589)	-0.00277 (0.0589)		0.0449 (0.0586)	0.0303 (0.0586)
Observations	63,572	63,572	63,572	63,572	63,572	63,572
R-squared	0.328	0.329	0.329	0.336	0.337	0.338

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Furthermore, in order to answer the second hypothesis and differentiate between levels of economic development, the sample is separated in three distinct groups, based on their national income levels. Following the classification of the World Bank, the countries are categorized in low-income countries, lower-middle income countries and upper-middle income countries, see Appendix C.

Table 4 shows the results of the effect of social capital on poverty for the three different income groups in the sample. The effect of GDP per capita is positive in all groups, whereas the effect of human capital is positive and significant in the first group only. Social trust shows a positive and significant effect in the low and upper middle income group, while being negative and insignificant in the lower-middle income group. Noteworthy is that the lower-middle income group seems to have some mirroring results compared to the other two country groups. Additionally, there are differences in institutional trust within the country groups. Trust in the courts of law are insignificant in the low-income country group, negative and significant in the lower-middle and positive and significant in the upper-middle income country groups. Trust in the police force is negative and significant in the low-income country

group, positive and significant in the lower-middle income group and insignificant in the upper-middle income country group. Trust in the parliament is positive and significant in the low and lower-middle income country groups, while being negative and significant in the upper-middle income group. The coefficient estimate of trust in the local government is negative and significant in all country groups.

*Table 4 The effect of social capital on poverty by income group*

	(1) Low-income	(2) Lower-middle income	(3) Upper-middle income
loggdp	24.20*** (0.176)	16.86*** (0.316)	19.13*** (0.164)
hc	12.78*** (0.156)	-0.708* (0.414)	-11.86*** (0.174)
trust	1.519*** (0.119)	-1.807*** (0.274)	0.764*** (0.0494)
trustlaw	-0.0506 (0.0668)	-1.028*** (0.127)	0.0673*** (0.0254)
trustpol	-0.588*** (0.0634)	0.615*** (0.121)	0.000700 (0.0237)
trustpar	0.182*** (0.0624)	0.852*** (0.127)	-0.111*** (0.0251)
trustgov	-0.194*** (0.0609)	-0.325*** (0.126)	-0.132*** (0.0243)
Observations	31,313	20,906	11,353
R-squared	0.550	0.131	0.589

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Further, the analysis continues to gain more insight in the differences between the income groups, that might explain the contradicting effects of social capital on a reduction of absolute poverty. Since the lower-middle income group shows some results that contradict the expectations and the findings in the low and upper-middle income group, further analysis will focus on this income group. Figure 1 shows the trend of the Watt's index in for the lower-middle income group for the period under study. Several countries show a trend against poverty reduction, which might relate to the different results. First, the index for Lesotho decreases slightly, but remains quite high under the period of study. Second, the index for Zambia increases substantially until 2008 and remains rather stagnant for the following period. Nigeria shows a declining index until 2005, followed by a period of stagnation and minor decline. The

remaining countries show a declining Watt's index, indicating pro-poor growth and show a rather low value of absolute poverty.

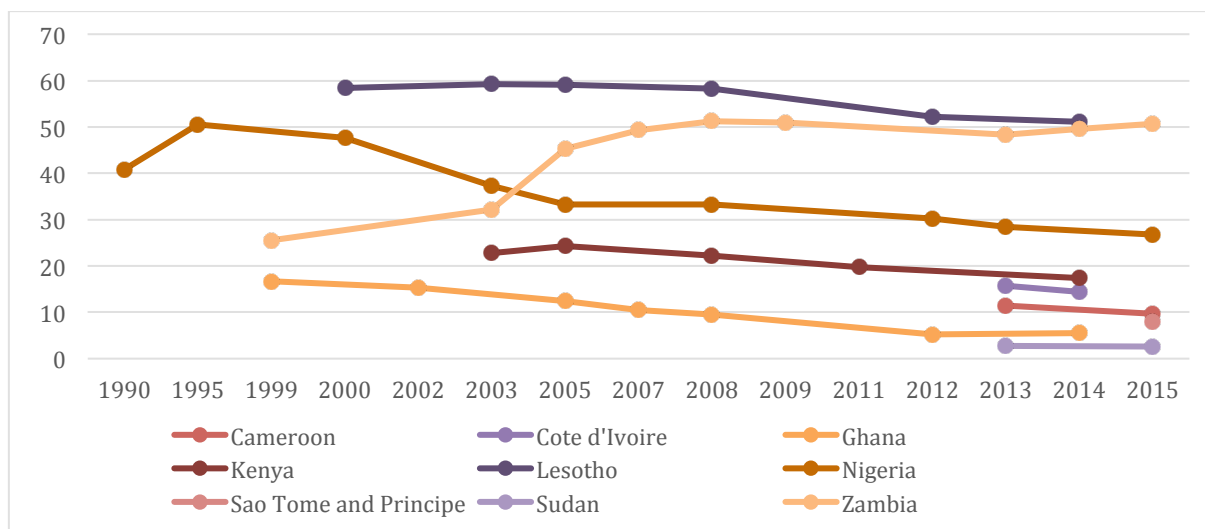


Figure 1 Watt's index for lower-middle income countries

Moreover, it is interesting to gain insight on the effect of social capital on pro-poor growth on the one hand and poverty increasing growth on the other. In order to capture the effect of social capital on pro-poor and non pro-poor growth, the sample is separated into three groups based on the trend in the Watt's index. The first group of countries is categorised by a decreasing Watt's index over the period under study, indicating pro-poor growth. The second group of countries is categorised by a stagnant Watt's index, indicating that economic growth was neither poverty reducing nor poverty increasing. For this group, this paper assumes a stagnant trend if the index did not change more than 10 percent in the last observation under study in comparison with the observation in 1999. The base year of 1999 is chosen to ascertain grasping a trend in people living in absolute poverty, and to rule out a potential lagged effect of poverty reducing or increasing growth.

The final group of countries is categorised by an increasing Watt's index over the period under study, indicating economic growth that is poverty enhancing. The table in Appendix C lists all the countries in the sample according to this categorisation. Table 5 shows the results of social capital on pro-poor and non-pro poor growth. GDP per capita is positive and significant in all country groups. Human capital is positive and significant in the groups where poverty increases as well as decreases, but negative and significant in the country group where poverty remains stagnant. The indicator of social trust shows a positive and significant effect for pro-poor growth and stagnant absolute poverty, but turns negative and insignificant for poverty increasing growth. The coefficient estimate of trust in the courts of law

is negative and significant in all groups. The effect of trust in the police force is positive and significant in the country groups where poverty decreases or remains stagnant, but turns negative and significant in the country groups where poverty increases. The coefficient estimate for trust in the parliament shows a positive and significant sign in the poverty decreasing and poverty increasing groups, while negative and significant in the poverty stagnant group. Trust in the local government only shows a positive and significant effect in the poverty increasing group.

*Table 5 Pro-poor and non poor growth on human and social capital*

	(1) Decreasing poverty	(2) Stagnant poverty	(3) Increasing poverty
loggdp	10.14*** (0.124)	10.04*** (0.0508)	2.860*** (0.425)
hc	2.064*** (0.225)	-10.91*** (0.190)	11.52*** (0.399)
trust	1.213*** (0.145)	0.181*** (0.0546)	-0.194 (0.337)
trustlaw	-0.544*** (0.0768)	-0.207*** (0.0259)	-1.544*** (0.186)
trustpol	0.653*** (0.0709)	0.109*** (0.0246)	-0.576*** (0.180)
trustpar	0.405*** (0.0742)	-0.140*** (0.0258)	0.619*** (0.171)
trustgov	-0.0810 (0.0725)	0.0312 (0.0253)	0.650*** (0.167)
Observations	40,903	9,759	12,910
R-squared	0.335	0.892	0.092

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 5.1 Robustness

Putnam's (2000) definition of social capital captures three components that influence the relationship with economic growth. It is therefore interesting to study the effect of the other components together with generalized trust. Table 7 shows the relationship between social capital measured as social trust and civic engagement on pro-poor growth. Civic engagement is measured as the frequency of attending community meetings and shows a negative significant



relationship with poverty reduction. When comparing the results with those in Table 3, the indicator of civic engagement only affects trust in the parliament, which turns significant.

*Table 6 Social capital as civic engagement and social trust on pro-poor growth*

	(1)	(2)	(3)
loggdp	10.91*** (0.0745)	9.078*** (0.101)	9.148*** (0.102)
hc		4.910*** (0.186)	5.020*** (0.187)
attendmeet	-0.660*** (0.0608)	-0.640*** (0.0604)	-0.653*** (0.0608)
trust			0.884*** (0.138)
trustlaw			-0.623*** (0.0728)
trustpol			0.00593 (0.0681)
trustpar			0.467*** (0.0699)
trustgov			0.119* (0.0681)
Observations	47,320	47,320	47,320
R-squared	0.331	0.340	0.342

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 5.2 Discussion

First, it is important to discuss up to what extent the results provide an explanation for the first hypotheses arguing that social capital has a positive effect on poverty reduction. The main results presented in Table 3 shed light on the relationship between social capital and a reduction of poverty. Following Dinda (2014) the effect of human capital on pro-poor growth is studied similarly, as this is argued to be an important determinant for economic growth on the one hand, and the development of social capital on the other. The main results presented in Table 3 show a positive and significant relationship of social trust with poverty reduction, which is in accordance with expectations based on previous findings (Dinda, 2008; Dinda, 2014). These findings therefore confirm hypothesis 1a, stating: *social capital is positively related to a reduction of poverty on an individual level through social trust*. Moreover, the third column shows that the magnitude of social trust is magnified when human capital is

considered. This finding implies that human and social capital have an enhancing effect on each other, and confirms previous findings (Dinda, 2008; Dinda, 2014; Balamoune-Lutz & Mavrotas, 2009).

On the other hand, the relationship between institutional trust and pro-poor growth is less clear, as the effect changes sign when including indicators for human capital and generalized trust. The results in the last column of Table 3 show a negative and significant effect for trust in the courts of law and an insignificant effect of trust in the local government, which is against expectation based on the theoretical contribution in the literature. Furthermore, this finding argues against hypothesis 1b, stating: *social capital is positively related to a reduction of poverty on a societal level through institutional trust.*

Meier (2002) argues that social capital is highly interconnected with the quality of institutions indicated by state capacity and autonomy. In particular, the quality of legal institutions indicated by the rule of law, transparency of decision making and the level of corruption play a substantial role in the development of social capital. The results presented in Table 3 imply that the quality of these institutions is too low to increase social capital on a macroeconomic level. This indicates that the level of corruption and transparency of the decision-making process on a regional level are underdeveloped, and result in members of society distrusting those institutions as the local government.

Furthermore, social trust in the police force seems to have a positive effect, whereas that of courts of law is negative. Exposure to crime or traumatic experiences influences social capital on an individual level, so the results suggest that the police force effectively fights crime in the perception of respondents, resulting in members of society trusting the police, but the judicial system fails to punish unethical and criminal behaviour. This would for instance relate to politicians taking up bribes, while such immoral acts remain unpunished due to a failing or corrupted judicial system. This is supported by objective indicators of institutional quality, indicating that the level of corruption and independence of the judicial system in Sub-Saharan Africa has room for improvement (Schwab, 2018).

Moreover, Ahlerup et al. (2009) argue that social capital substitutes the role of formal institutions when the latter are rather underdeveloped and political trust is low. The results in Table 3 comply to this mechanism as the effect of poverty reduction is positively related to generalised trust, while the institutional trust shows mixed effects. Therefore, the analysis further aims at explaining the importance of social capital on different levels of economic development. In order to study the effects of generalised and institutional trust on different levels of economic development, Table 4 shows the results of this relationship.

The results in Table 4 show an interesting development of social capital for different levels of income in countries in SSA. The effect of human capital turns negative in middle income country groups, which is against expectations. This could imply that increases in human capital do not necessarily benefit the poor, because for instance high levels of unemployment or an unequal distribution of economic activities fails to reach those living in absolute poverty. Increases in education in low-income countries might give some the opportunity to step out of poverty, which reduces the size of the informal sector of the economy. The results adhere to hypothesis 2, which argues that social trust is more important for poverty alleviation in low-income countries. The effect of social trust decreases in upper-middle income countries, which implies that individuals become increasingly more self-reliant and the dependency on their social network decreases. This is followed by an increasing effect of institutional trust because of growing human capital and improved institutional quality. The results in Table 4 provide mixed evidence for hypothesis 2b, stating that institutional trust is more important for poverty reduction in higher income countries. The results imply that the quality of the judicial system is higher in more developed countries. However, the results further suggest that the quality of local and national governmental bodies negatively influence the reduction of absolute poverty.

One potential explanation which is in accordance with social resilience theory implies that as countries become richer and poverty decreases, the relatively small amount of people that remain living under the absolute poverty line live in severely remote rural areas. Economic policies stimulating pro-poor growth have difficulty reaching those isolated groups, forcing them into informal activities and being dependent on the local community. Failure of the government improving their living standards results in distrust against these institutions, which is indicated by the findings of this analysis. Moreover, the results from the lower-middle income countries are contradicting to the other two groups and against previous findings as for instance social trust appears to have a negative relationship with absolute poverty. Therefore, to gain more insight in the development process of social capital on poverty reduction the relationship within the lower-middle income group is studied more into detail

Concluding from Figure 1, Cameroon and Kenya show a stagnant level of poverty, Cote d'Ivoire and Zambia show an increase in poverty, and Nigeria shows a decline in poverty, followed by stagnation after 2005. This indicates that the majority of observations in the lower-middle income group report non pro-poor growth, which offers an explanation for the change in signs. Table 5 shows the results of a classification of countries based on pro-poor and non pro-poor growth. The results confirm the previous findings that a reduction of abso-

lute poverty is associated with positive and significant generalised trust. Stagnation in the poverty level is also associated with positive and significant generalised trust, which implies that households living in poverty are dependent on social capital for survival and confirm social resilience theory. Finally, increasing poverty is associated with negative but insignificant social trust.

One explanation poses that a low quality of institutions hampers the creation of social infrastructure, which impedes the development of social cohesion resulting in lower social capital (Baliamoune-Lutz & Mavrotas, 2009). This implies that the quality of institutions effectively decreases social capital indicated as social trust. However, studying the effect of institutional quality on social capital, influencing pro-poor growth goes beyond the scope of this thesis. Another explanation implies that economic deprivation damages social capital through reduced civic engagement and social cohesion (Letki, 2008; Levels et al., 2015). Due to limited data availability, studying the effects of economic decline on individual and societal social capital is not deemed reliable for this thesis.

Furthermore, Putnam's (2000) definition of social capital allows for checking the robustness of the results. Civic engagement can be seen as a second component of social capital, as this enables individuals to join public activities and create social cohesion. Table 6 shows the effect of the indicator of civic engagement on poverty reduction, indicating a negative and significant relationship. Including civic engagement as a complementary indicator of social capital has virtually no impact on the effect of social and institutional trust. This suggests that the effect of social capital on poverty reduction is driven through social trust, which argues against Putnam's mechanism, but follows Bjørnkv's (2006) findings. Although civic participation is a vital element in most definitions of social capital in the sociology literature, recent empirical findings question this effect on the quality of governance (Bjørnkv, 2006), inclusive growth (Dinda, 2014) and economic development (Baliamoune-Lutz, 2011).

This has important implications for policymakers, demonstrating that stimulating civic participation and membership of voluntary groups is ineffective and that policy directed at increasing social capital should be directed to affect the level of social trust. The results of this thesis imply that improvements in social trust are associated with reductions in poverty and continue to stimulate pro-poor growth. Previous findings in the literature shed light on the mechanisms through which social capital enhances poverty reduction and stimulate pro-poor growth. First, research shows that social capital enhances the effectiveness of development aid independent of good policies (Baliamoune-Lutz & Mavrotas, 2009). Countries with high social capital at the macro level have a fairer allocation of aid, and are thereby more able to

make good use of development aid. This implies that social capital enhances poverty reduction through more effective use of development aid.

Second, social capital improves the effectiveness of community based social funds, stimulating development of the local economy and reducing poverty among community members (Bowen, 2009). Social capital enhances planning and implementation of community-level projects stimulated by social funds, resulting in increased capital accumulation for local community members. This enables them to invest in local assets, with the expected returns, stimulating the development of a local economy (Bowen, 2009). Social capital enhances the employability of vulnerable individuals by developing confidence, social trust and behaviour norms (Miles & Tully, 2007) This allows the poorest in society to acquire a stable income, which enables them to jump out of absolute poverty. Access to social capital is crucial for improving rural household welfare and poverty reduction (Baiyegunhi, 2014). Social capital enables households to build safety mechanisms for bad times, sharing risks and revenues of assets, creating resilience against economic volatility. Therefore, pro-poor growth should be a main focus of emerging economies in Sub-Saharan Africa.

When thinking about poverty reduction strategies it is useful to show how long it would take for the average poor person to exit poverty. Morduch (1998) developed a poverty statistic which is decomposable by population sub-groups and is also sensitive to the distribution of income among the poor. Following this theorem, the time to exit poverty can be seen as the Watts index divided by the expected growth rate of income for the poor. Figure 2 shows the average years it would take to raise the income level of a poor person in SSA to the poverty line, for various hypothetical growth rates. It is assumed that this growth rate is continuous, in real terms, and distributed neutrally among the poor. The figure is based on 11 countries from the sample, taking the median Watt's index and estimating a lower and upper bound of 40% in determining the average poverty index. The other values are considered outliers for this figure.

If the economic growth rate enjoyed by the poor were only one percent, it would take close to 16 years for the average poor person to exit poverty. But with a growth rate of four percent it would take less than four years for the average poor person to exit poverty. Therefore, this thesis argues that policy should focus on reducing poverty through pro-poor growth. Pro-poor growth enables more households to earn a living above subsistence levels, which is related to increased investments in human and physical capital, resulting in economic growth and increased resilience against exogenous volatility (Mbiba et al., 2018). Furthermore, pro-poor growth releases additional labour than enables structural transformation of the economy

(Andersson & Axelsson, 2016). Increasing diversity of economic activities reduce the reliance on commodity products and external shocks, improving the resilience against economic volatility. However, this does not rule out the need for further inclusive growth, as decreasing income inequality among social groups relates to sustained economic development, and decreasing inequality in social capital increases the overall well-being of societies in SSA.

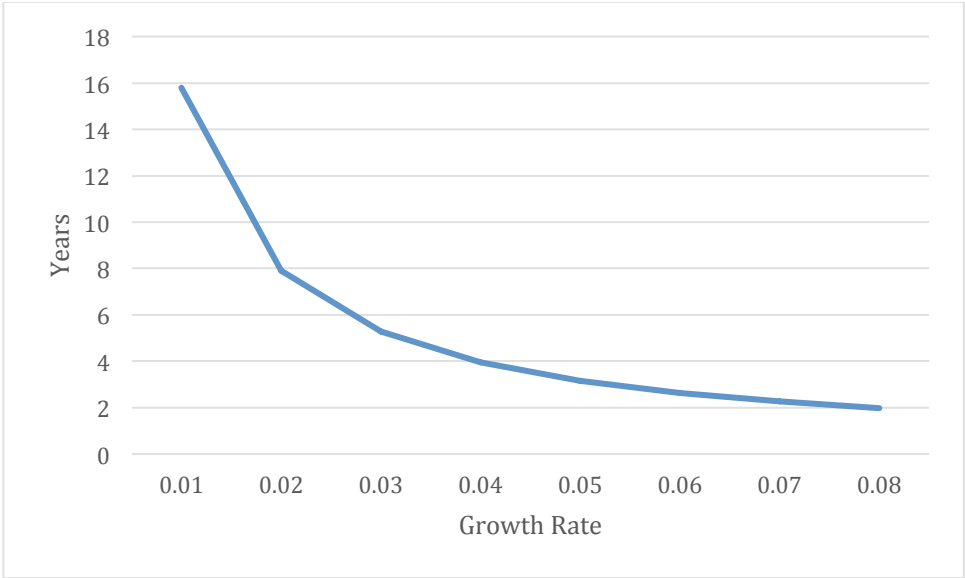


Figure 2 Average time to escape poverty.

From a policymaking standpoint, the results give rise to the question on how to improve social capital and reduce absolute poverty. One way proposed by Easterly et al. (2006) involves strengthening social capital through education. They argue schools help provide the context where student uphold social contacts, creating a social network and learn appropriate behaviour to uphold these contacts, and to criticise societal and economic developments. Furthermore, religious denomination and the church as an institution influence social trust through increased social interaction and the discussion of social norms and values. Many societies nowadays base their norms and values on religious beliefs, which determines perceived (un)ethical behaviour and moral standards. Furthermore, these norms and values are translated in laws and policies on an institutional level, influencing members of society. In the sample of this analysis, 47% of the respondents report to be active members of a religious institution. This implies the religious community plays an important role in the development of social capital. Policymakers should certainly not try to influence these mechanisms of social capital creation, but awareness and acceptance assists in enhancing societies' well-being.

## 6 Conclusion

This research sets out to analyse the mechanisms of social capital on poverty alleviation in SSA. Jumping out of poverty allows the poorest households to construct resilience against economic volatility and exogenous shocks to their environment. Episodes of economic growth and decline in SSA harm future prospects and limit the competitiveness of societies through reduced investments and uncertainty about public resources. Social capital steps in, providing a safety mechanism for the most vulnerable in society. Central to this research is the influence of social capital on resilience against absolute poverty. While using an individual level indicator of social trust and a macroeconomic indicator of institutional trust, the analysis captures the effect of resilience against absolute poverty in different levels in society using a perspective of subjective well-being. Studying the effect in a longitudinal cross-country setting allows for comparison across different societies in SSA and over time.

The results of this analysis indicate a positive and significant relationship between social trust and poverty alleviation, which implies that social capital plays a role in the resilience against absolute poverty. This effect is magnified by human capital, which is additionally positively related to a reduction in poverty. Institutional trust does not clearly show a significant relationship with poverty alleviation, indicating that different institutions have contrasting effects on reducing poverty. One argument in the literature suggests that institutional trust is highly related to institutional quality and the mechanisms on how it affects society. High levels of corruption and low transparency in decision-making harm institutional trust, increasing scepticism among members of society about the quality of policymaking and distrust in politicians. Mistrust in the rule of law revolves into scepticism about societies' punishment mechanisms of unethical behaviour, hampering social interactions and increasing costs of transaction.

Furthermore, the results show the changing mechanism of social capital on poverty reduction on different levels of economic development. Notoriously the effect of the judicial system seems to be of importance on the reduction of poverty in more developed economies. On the other hand, policies affecting individuals on a local and national level harm the reduction of absolute poverty, which implies that these cannot sufficiently reach the most vulnerable in society. Low levels of trust in politicians also suggests that poor individuals frame unequal opportunities and an unfair distribution of wealth on policymakers on multiple institutional levels in society.

The findings of this analysis indicate that social capital has a significant influence on reducing poverty and increasing well-being on the most vulnerable in society. Social capital assists those to create resilience against economic despair and offers opportunities to jump out of poverty. Policymakers should be aware of these mechanisms in order to stimulate pro-poor growth and enhance societies' well-being. Furthermore, investing in social capital next to human and physical capital offers a broad base for sustained economic development, where society benefits as a whole. Additionally, policymakers should be aware of the institutional influences on social capital in order to build a resilient political and societal environment to combat damaging exogenous influences. Fighting corruption and increasing transparency of decision-making is a central condition for increasing social trust and creating interconnectedness between different groups in society. Establishing an autonomous and unbiased judicial system further improves social capital, which allows for sustainable development of the economic structure.

Future research should address these institutional influences on social capital, in order to stimulate pro-poor growth and improve the well-being of individuals in SSA. The mechanisms through which social trust is affected should be studied more in detail, potentially taking into account several cultural and historical influences. The findings of this thesis imply that social capital plays an important part in the resilience against absolute poverty in SSA, not only on a rural community level, but alleviating poverty everywhere in societies. More research should additionally be aimed at sustaining improvements in well-being, indicating more inclusive growth in SSA. This enables emerging economies to develop sustaining transformations in the societal and economic structure, creating resilience against future uncertainties and exogenous shocks.



## 7 References

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# Appendix

## A. Descriptive statistics

<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
<b>gender</b>	63,572	0.51442	0.4998	0	1
<b>age</b>	63,572	36.3309	14.2678	18	100
<b>memchurch</b>	46,655	0.47399	0.49933	0	1
<b>attendmeet</b>	47,320	1.77625	0.99873	0	3
<b>trust</b>	63,572	0.23775	0.42571	0	1
<b>trustlaw</b>	63,572	1.82132	1.03494	0	3
<b>trustpol</b>	63,572	1.57898	1.1136	0	3
<b>trustpar</b>	63,572	1.69219	1.06165	0	3
<b>trustgov</b>	63,572	1.57319	1.07573	0	3
<b>wattsindex</b>	63,572	23.9593	15.5337	0.12	61.15
<b>hc</b>	63,572	1.87949	0.43991	1.14611	2.76163
<b>gdpcap</b>	63,572	3931.04	3878.49	714.483	16683.6
<b>loggdp</b>	63,572	7.90566	0.81423	6.57156	9.72218

## B. Overview survey years per country indicated by survey round

Countries	Year observations																		
Benin												2005	2008	2011	2014				
Botswana												1999	2003	2005	2008	2012	2014		
Burkina Faso														2007	2008	2012	2015		
Burundi															2012	2014			
Cameroon															2013	2015			
Côte d'Ivoire															2013	2014			
Ghana												1999	2002	2005	2007	2008	2012	2014	
Kenya													2003	2005		2008	2011	2014	
Lesotho												2000	2003	2005		2008	2012	2014	
Madagascar														2005		2008	2013	2015	
Malawi												1999	2003	2005		2008	2012	2014	
Mali												2001	2002	2005	2007	2008	2013	2014	
Mauritius																	2012	2014	
Mozambique													2002	2005		2008	2012	2015	
Namibia												1999	2003	2006		2008	2012	2014	
Niger																	2013	2015	
Nigeria	1990	1995		2000	2003	2005			2008	2012					2013	2015			
Senegal													2002	2005		2008	2013	2014	
South Africa	1982	1990	1996	2000	2001	2002	2006		2008	2013					2011	2015			
Sudan																2013	2015		
Tanzania													2001	2003	2005		2008	2012	2014
Togo																	2012	2014	
Uganda												2000	2001	2002	2005		2008	2012	2015
Zambia												1999		2003	2005	2007	2009	2013	2014
Zimbabwe												1999	2001	2004	2005		2009	2012	2014

### C. Main model including control variables

	(1)	(2)	(3)	(4)	(5)	(6)
loggdp	10.60*** (0.0718)	10.62*** (0.0728)	10.64*** (0.0729)	8.793*** (0.101)	8.834*** (0.101)	8.832*** (0.101)
trust	0.696*** (0.140)		0.698*** (0.141)	0.938*** (0.140)		0.938*** (0.141)
hc				4.815*** (0.189)	4.776*** (0.189)	4.861*** (0.190)
trustlaw		-0.457*** (0.0728)	-0.457*** (0.0727)		-0.561*** (0.0724)	-0.564*** (0.0724)
trustpol		-0.0961 (0.0680)	-0.107 (0.0680)		0.0217 (0.0677)	0.00850*** (0.0677)
trustpar		0.355*** (0.0704)	0.342*** (0.0704)		0.309*** (0.0699)	0.291*** (0.0699)
trustgov		0.0981 (0.0690)	0.0867 (0.0690)		0.133* (0.0685)	0.119* (0.0685)
gender	-0.408*** (0.119)	-0.412*** (0.119)	-0.411*** (0.119)	-0.411*** (0.118)	-0.412*** (0.118)	-0.409*** (0.118)
age	0.0222*** (0.00417)	0.0229*** (0.00418)	0.0222*** (0.00418)	0.0191*** (0.00414)	0.0198*** (0.00416)	0.0187*** (0.00416)
memchurch	-2.420*** (0.118)	-2.438*** (0.118)	-2.442*** (0.118)	-2.733*** (0.118)	-2.737*** (0.118)	-2.748*** (0.118)
Observations	46,655	46,655	46,655	46,655	46,655	46,655
R-squared	0.328	0.329	0.329	0.337	0.338	0.338

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### D. Classification of countries by income

Low income countries		Lower-middle income countries	Upper-middle income countries
Benin	Mali	Cameroon	Botswana
Burkina Faso	Togo	Cote d'Ivoire	Mauritius
Burundi	Uganda	Ghana	Namibia
Madagascar	Zimbabwe	Kenya	South Africa
Malawi	Mozambique	Lesotho	
Sierra Leone	Niger	Nigeria	
Tanzania	Senegal	Sudan	
		Zambia	



## E. Classification of countries by economic growth

Poverty increasing growth	Stagnant poverty	Poverty decreasing growth	
Benin	Cameroon	Botswana	Namibia
Cote d'Ivoire	Kenya	Burkina Faso	Niger
Madagascar	South Africa	Burundi	Nigeria
Malawi		Ghana	Senegal
Togo		Lesotho	Sierra Leone
Zambia		Mali	Sudan
Zimbabwe		Mauritius	Tanzania
		Mozambique	Uganda