ABSTRACT

Title of Document:	INCOME INEQUALITY, GOVERNMENT WELFARE EFFORT, AND SUBJECTIVE WELL-BEING: THREE ESSAYS
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This dissertation consists of three essays on the relations of income inequality and government welfare effort with subjective well-being. The first essay introduces the concepts, reviews the literature linking income inequality and government welfare effort to subjective well-being, and identifies the research gaps. The paper concludes that the relationship between income inequality and subjective well-being is determined by how inequality is defined and what it signals. Similarly, the relationship between government welfare effort and subjective well-being is determined by factors such as ideology, quality of governance, and the magnitude of social assistance "stigma" effects.

The second essay examines whether the relationship between life satisfaction and income inequality or government welfare effort differs by country income group, that is, low-income, lower middle-income, upper middle-income, and high-income countries. It further provides

insight into the role of governance in mediating the relationship between inequality and life satisfaction. The essay concludes that the relationship between inequality and life satisfaction is similar (significant and negative) across all country income groups when inequality is perceived as or signals inherent unfairness. Similarly, the association between government welfare effort and life satisfaction is similar (significant and positive) across all country income groups when the government is perceived to be doing enough for the poor. Finally, it appears that confidence in national institutions and leaders may reduce the adverse effects of inequality.

The final essay examines whether social protection spending is predictive of life satisfaction in Iraq, a conflict-affected and resource-rich developing country. The main finding is that there is a negative association between life satisfaction and the receipt of most types of public transfers. This negative association is mitigated and, in some cases, becomes positive for individuals in the lowest income quintiles. These patterns are also observed for families considered to be vulnerable based on region of residence and the gender of the household head. A noteworthy finding is that income assistance from private sources is also associated negatively with life satisfaction while income from property ownership and assets is associated positively with life satisfaction. This supports the idea that the source of income matters to individuals, even in the context of a conflict-affected resource-rich developing country like Iraq.

This research aims to contribute to the current base of knowledge and to policy questions of interest to academia, research institutions, developing country governments, donors, and the public at large. The findings shed light on how socio-economic contexts are predictive of life satisfaction as well as on how social policies can be designed or modified to improve welfare in developing countries.

INCOME INEQUALITY, GOVERNMENT WELFARE EFFORT,

AND SUBJECTIVE WELL-BEING: THREE ESSAYS

By

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1.1. Introduction

People's own assessment of their well-being provides direct insight into how they experience the quality of their lives. This information is important to policy makers as they design and evaluate policies. The subjective assessment of well-being varies by individuals and on an aggregate national level and there is a great interest in identifying the dimensions that explain this variation. Two important dimensions pertain to the level of income inequality and to government welfare efforts in the form of public expenditures and services.

The relations of income inequality and government welfare effort with subjective well-being have been widely explored in high-income countries in the West. But limited research has been carried out in low- and middle-income countries (or high-income countries outside of Europe and the United States for that matter). Due to this gap, important questions remain. For example, is the association between income inequality and subjective well-being and that between government welfare effort and subjective well-being similar in rich and poor countries alike? Are the patterns similar or very different across low- and middle-income countries, often referred to as developing countries? How is government welfare effort related to subjective well-being in the context of conflict-affected and/or natural resource-rich developing countries?

In order to answer these questions, it is important to have a solid understanding of the existing literature. This essay provides this informative background and discusses the relevance of subjective well-being metrics in policy and research; introduces the main concepts in the literature; and reviews the literature linking income inequality to subjective well-being and that

linking government welfare effort to subjective well-being. The paper finds that the relationship between income inequality and subjective well-being is determined by how inequality is defined and what it signals. Similarly, the relationship between government welfare effort and subjective well-being is determined by factors such as ideology, quality of governance, and the magnitude of social assistance "stigma."

1.2   Subjective Well-Being Metrics

1.2.1   Relevance of Subjective Well-being Metrics

Is "happiness" or "life satisfaction" a good measure of human welfare? And are there any benefits to using subjective well-being metrics in the development and evaluation of economic and social policy? While psychologists have used subjective well-being surveys to study happiness for a long time, economists have only recently ventured into this arena (Graham, 2005b). Early economists and philosophers such as Aristotle, Bentham, Mill, and Smith incorporated the concept of happiness and their distinct definitions of it in their work. Yet, over time, the field of economics grew more rigorous and quantitative, leading to a focus on income as the primary measure of "utility" (Graham, 2005b; Graham, 2009).

Income and gross national product (GNP) continue to be the most widely used welfare indicators. However, scholars and practitioners have come to agree that human welfare is a multi-dimensional concept that cannot be understood through the lens of income alone. Amartya Sen (1999), for example, promotes a development and welfare approach that is focused on the expansion of human freedoms. This theory, also referred to as the "capability approach," promotes the idea that development is not solely about economic growth but encompasses social

opportunities as well. It is argued that education, health, equality, and political freedoms are equally important measures of welfare and development. The capability approach has inspired the development of such measures as the Human Development Index, an indicator that is used widely to evaluate development progress.

There are others who, like Amartya Sen, oppose the one-dimensional view of human welfare. Some suggest that human rights, including security rights, due process rights, liberty rights, political rights, equality rights, social rights, and group rights, are integral to well-being (Nickel, 2003; Uvin, 2004). As an example, a person imprisoned for expressing his/her opinion in a rich authoritarian country is not necessarily better off than a person who is free to think, speak, and vote in a poor democratic country. Or a country that enjoys a high level of GDP/capita but deprives women of equal rights and persecutes minorities is not necessarily a better model for development than a poor country that respects the equal rights of women and minorities.

In a similar fashion, the subjective well-being approach complements other views of development and human welfare. It is argued that happiness is appreciated as a social value across the world (Veenhoven, 1984; Ott, 2010; Oswald & Wu, 2010), even though the degree to which it is valued or viewed as an end goal may differ across cultures. Subjective well-being surveys enable individuals to directly express their level of well-being rather than being placed in different welfare categories based on their performance on objective indicators. As a result, it is possible to measure directly the welfare output rather than focus on inputs that are presumed to improve welfare such as economic growth, education, and democracy (Veenhoven & Ouweneel, 1995; Flavin et al., 2011).

There are many benefits in incorporating subjective well-being metrics in the development and assessment of policy. Research shows that subjective well-being is linked to actual and/or perceived capabilities (Graham & Nikolova, 2015) and that it has positive effects on other welfare dimensions such as health, productivity, constructive behavior, and social capital (Veenhoven, 2008; Guven, 2011; Ott, 2010). Furthermore, it has been suggested that there is no conflict between happiness and alternative values such as personal autonomy, justice, solidarity, and freedom (Diener & Seligman, 2004; Layard, 2005; Duncan, 2010; Ott, 2010). Therefore, subjective well-being metrics are unlikely to conflict with other welfare metrics.

Incorporating subjective well-being metrics in economic policy research helps to move away from the assumption that individuals always act in rational ways and that individual preferences can be determined solely through *revealed* preferences in the form of choice and behavior (Graham, 2009). Relying on revealed preferences alone limits the type and amount of information that can be gathered and analyzed. For example, individuals do not always have the capability to make optimal choices or take desired actions (Sen, 1999). An individual may prefer X to Y but choose Y because of certain constraints. Furthermore, individuals are not always able to reveal their preferences about policies or institutional arrangements that they are powerless to change (Graham, 2009). For example, how can a poor peasant in a developing country, who is made unhappy by inequality, reveal his or her preference short of emigrating or protesting (Graham, 2010)? There are also instances, such as with addictive behavior, where choice is not the best indicator of utility (Graham, 2009). And choices and behaviors are often influenced by social norms and behavior patterns, regardless of their actual utility (Graham, 2009; Graham, 2011).

1.2.2 Feasibility of Using Subjective Well-being Metrics

While it is evident that subjective well-being is relevant to policy, one may wonder about the validity and reliability of the metrics and the practicality of using them in policy research. On the one hand, subjective well-being questions are easy to understand (thereby resulting in high response rates), easy to measure, and consist of only one or a few survey questions that don't require extensive follow up questions (Clark & Senik, 2011).

On the other hand, and not unlike other metrics, subjective well-being metrics come with certain validity and reliability concerns. One concern is that individuals may not be able or willing to provide an answer that represents their actual well-being. To elaborate, individuals may not have an opinion, be unable to assess their level of well-being, interpret the question differently, answer according to what society expects of someone of their socioeconomic background, and/or be influenced by social desirability. Interestingly, researchers who have investigated these concerns have found little empirical evidence to support them (Veenhoven, 1997; Clark & Senik, 2011; Kacapyr, 2008). It appears that individuals are very good at reporting their own level of happiness and that this level is predicted well by those around them (Watson & Clark, 1991; Sandvik et al., 1993; Lepper, 1998; Clark & Senik, 2011; Layard, 2010). Furthermore, social desirability effects are small (Veenhoven, 1997). And individual behavior as well as physical and neurological measures such as the amount of smiling, health status, and brain activity are consistently correlated to self-reported well-being (Layard, 2010; Ekman et al., 1990). Also, reported well-being and objective measures such as marital and employment status have the type of relationship that would be expected (Clark & Senik, 2011; Layard, 2010; Di Tella et al., 2003).

A second concern is that contextual factors as well as the ordering of survey questions can seriously affect subjective well-being question responses. While these are common survey methodology concerns, they are particularly serious for subjective well-being questions. For example, subjective well-being question responses are very sensitive to the mode of the interview. Similarly, they are sensitive to the questions asked before the subjective well-being questions. Research shows that the use of "buffer questions" and other careful survey design methods can significantly minimize these issues (National Research Council, 2013). Further research on these effects and how to mitigate them is important if subjective well-being is to be integrated more extensively in policy research.

A third concern is whether individual answers can be compared across countries. The objection is rooted in the view that culture, language, and religion influence the understanding of the concept of happiness. For example, individuals are more likely to overstate their happiness in cultures where happiness is valued highly and less likely to report being "very happy" in cultures where modesty is important. This is a valid concern and there is a need for greater examination of the role of culture in influencing reported well-being (National Research Council, 2013). It is important to note, however, that individuals across countries and cultures appear to be fairly good at predicting each other's level of happiness. Moreover, data across countries and over time find consistent patterns in terms of the determinants of happiness (Graham, 2009; Layard, 2010; Graafland & Compen, 2012). For example, age, health status, marital status, employment status, and income are consistently found to be predictive of subjective well-being across the world (Graham, 2009, p. 48). While the role of culture in explaining some of the cross-country variation in reported well-being cannot be negated, social and economic factors may explain an even larger part of this variation (Kacapyr, 2008).

Another concern about using self-reported well-being in policy research relates to the effects of adaptation. For example, people who live under very harsh conditions may adopt a survival strategy whereby they learn to take pleasure in very small things and suppress negative feelings (Graham, 2009, p. 221; Sen, 1999, p. 62-63). Therefore, they may report a happier state than individuals who live under much better conditions (Graham, 2009, p. 221). This makes it challenging to determine how contextual factors affect subjective well-being. Research shows that adaptation may be a greater issue for certain dimensions of subjective well-being than others. For example, in Afghanistan, individuals report high levels of *experienced* happiness while they are aware that life could be much better, and hence, score lower on *evaluative* happiness (Graham, 2009).

A final concern is rooted in the "set point" of happiness theory, the idea that an individual's happiness is fixed around a certain point (as determined by his/her personality) and remains stable through life. Albuquerque et al. (2012) note that neuroticism, extraversion, and conscientiousness explain a large portion of the variance in positive affect, negative affect, and life satisfaction. If this is accurate, then there is a serious risk that personal characteristics, rather than external circumstances, would drive subjective well-being research results, and consequently, policy (Graham, 2009). Some researchers have examined this issue and found that reported well-being is in fact sensitive to changing life circumstances, even though it tends to be fairly stable (Veenhoven, 1997; Diener et al. 1999; Diener et al., 2003; Frey & Stutzer, 2002). For example, changes in income or employment status are found to affect subjective well-being. So, while personality is important to subjective well-being, contextual factors are not irrelevant.

As discussed above, happiness is a complex concept. And similar to other welfare measures, the use of subjective well-being metrics in policy analysis requires attention to some

methodological issues. Noteworthy, however, many concerns regarding the validity and reliability of subjective well-being metrics are not supported by empirical evidence. And some of the remaining issues can be minimized through better survey design and further research.

It is important to underline the usefulness of subjective well-being metrics as inputs to inform policy design and analysis rather than as goals for policy and government efforts (Graham, 2009, p.227). Subjective well-being metrics are increasingly used in policy analysis. For example, the UK has incorporated subjective well-being in its national statistics efforts (Graham & Nikolova, 2015), Bhutan uses national happiness product (GHP) as one of the measures of progress, and the OECD has issued "best practice guidelines" for statistics offices around the world interested in incorporating reported well-being indicators (Graham, in press).

Having discussed the relevance and feasibility of using subjective well-being metrics in policy design and evaluation, I proceed to define the concepts that are important to my research. I explain in greater detail the concepts of subjective well-being, income inequality, and government welfare effort.

1.3 Definition of Concepts

1.3.1 Subjective Well-Being

Subjective well-being consists of several distinct, albeit interrelated, dimensions. The dimensions can be broadly classified as the *evaluative*, *hedonic,* and *eudaimonic* (Graham, 2011; Graham & Nikolova, 2015). The *evaluative* approach to well-being, which is close to the "Aristotelian" concept of welfare, is focused on how people evaluate or feel about their lives as a whole or with different life domains such as health and work (Graham, 2011). The survey

questions used to measure *evaluated* happiness include those on "life satisfaction" as well as the "ladder-of life" questions where respondents are asked to compare their lives to the best possible life that they can imagine (Graham, 2011).

The *hedonic* approach is focused on the affective or emotional angle of well-being (Graham, 2009). Closer to Bentham's definition of well-being as pleasure and absence of pain, this approach focuses on *experienced* happiness, that is, individuals' emotional state and their day-to-day positive and negative experiences. The survey questions that measure this include those that ask about experiencing joy, stress, worry, smiling, and so forth.

Noteworthy is the fact that individuals tend to distinguish between evaluative and hedonic happiness. For example, a very destitute person may report experiencing positive emotions while simultaneously reporting low satisfaction with life (Helliwell et al., 2013, as cited in Graham & Nikolova, 2015). In other words, while adaptation and coping mechanisms may enable day-to-day experienced happiness, individuals are still aware that life could be much better. This distinction is important from a public policy perspective as it helps policy makers to design the right policies for poverty and deprivation (Graham & Nikolova, 2015). Research finds that caregiving, social ties, and respect better predict hedonic well-being (or its absence) while income, education, and employment are more important for evaluative well-being (Graham & Nikolova, 2015).

A third concept is *Eudaimonic* well-being. Eudaimonic well-being focuses on individuals' perception of meaning and purpose in life. This approach, which is possibly the most relevant from a development perspective, captures the realization of human potential or having the means and freedom to fulfill one's life purpose or purposes (Graham & Nikolova, 2015). It is best captured in evaluative questions but can also be reflected in hedonic constructs.

While there is overall consensus about the measurement, reliability, and validity of hedonic and evaluative well-being, the conceptual framework for eudaimonic well-being is not as well-established (OECD, 2013, as cited in Graham & Nikolova, 2015).

1.3.2 Income Inequality

Income inequality is defined and measured in different ways. Researchers use objective measures at the macro and micro levels as well as subjective (perception-based) measures at both levels. At the macro level, objective indicators such as the Gini index and the proportion of income held by different income deciles/quintiles are used to assess the overall income distribution in society. At the micro level, an individual's income is compared to the average of his/her reference group to determine inequality in terms of the distance from this average. The reference group may be based on geographic location, age, education level, and so forth. In addition to the objective inequality indicators, there are subjective measures of inequality, which are based on *perceived* inequality or *perceived* income mobility.

A few additional points about how income inequality is defined and measured are worth highlighting. First, there is an important distinction between relative and absolute income inequality. A measure of relative differences focuses on the proportional shares of the income distribution held by different groups. Absolute differences, on the other hand, account for income differences between cohorts in absolute terms. For example, if the incomes of two individuals, one rich and one poor, is doubled, their relative income shares remain constant while the absolute income difference between them increases (Graham, in press).

Another important distinction is between a stagnant and a changing income distribution. Metrics such as the Gini index provide a snapshot or "one point in time" view of inequality.

They do not provide any information about opportunity and mobility (Graham, in press). The well-being effects of static income inequality are likely to differ from the welfare effects of a changing income distribution (Graham, in press).

Finally, there is a distinction between comparative and normative inequality. The comparative view reflects self-interest while the normative view reflects ethical principles such as fairness and justice. Hence, from a comparative view, an individual evaluates income inequality based on his/her position relative to others. In the normative view, on the other hand, an individual evaluates income inequality independently of where he/she is in the income distribution, for example, behind a Rawlsian "veil of ignorance" (Clark & D'Ambrosio, 2015; Rawls, 1971).

1.3.3   Government Welfare Effort

Different measures are used to determine the *size* and *quality* of the "welfare state" or government welfare efforts. The predominant method is through public finance data. In a broad definition of government welfare effort, researchers observe the rate of progressive taxation or the size of social expenditures, a category that encompasses spending on education, health, housing, and social protection. In a narrow definition, they focus on public expenditures on social protection which consists of social insurance (benefits related to old age, disability, unemployment, work-related injury, sickness, survivor, and maternity), social assistance (cash and in-kind transfers), and social services (such as health clinics).

Beyond expenditures, researchers have examined aspects that could be broadly defined as the *quality* of the welfare state or government welfare efforts. These include legal provisions regarding welfare services as well as the accessibility and generosity of benefits. For example,

Estes's *Welfare Index* (Estes, 1984) uses the adoption year of the first welfare laws as an indication of the level of welfare state development in a country. Similarly, Esping-Andersen's *Decommodification Score* (Esping-Andersen, 1990) reflects rules governing access and eligibility, income replacement levels, and the range of protections against social risks. And building on Esping-Andersen's Decommodification Score, Scrugg's *Benefit Generosity Index* (Scruggs & Allan, 2006) measures the scope and generosity of social insurance programs. Occasionally, researchers use the ideological leaning, left- or right-wing, of the government as a measure of the size/quality of the government's welfare efforts.

In addition to the objective measures above, there are also subjective measures of government welfare effort. These are based on *perceptions* about the provision and quality of public goods. Having clarified the concepts that are relevant to my research, I proceed to reviewing the literature and highlighting research gaps.

1.4   Income Inequality and Subjective Well-being: Literature Review

There is an extensive literature on the effects of income inequality on a variety of development objectives such as income growth, health outcomes, education outcomes, good governance, and social cohesion. An interesting question is whether income equality is as relevant to subjective well-being as it is to objective well-being. Intuitively, there are a few reasons why income inequality could affect subjective well-being. The first is that individuals may be innately opposed to systems that are unequal because it is viewed as an injustice. Or they may dislike inequality because it is viewed as a social harm (Alesina et al., 2004). Another reason is rooted in self-interest; a person may be affected positively or negatively by inequality depending on where he/she finds himself in the socioeconomic ladder. As expressed by Karl

Marx, "a house may be large or small; as long as the surrounding houses are equally small it satisfies all social demands for a dwelling. But if a palace rises beside the little house, the little house shrinks into a hut" (as quoted in Easterlin, 1974).

There are other reasons why income inequality may be relevant to subjective well-being. One reason relates to the distribution of power; income inequality may strengthen the power of the rich and provide them with the means to control the lives of others (Scanlon, 2014). Similarly, income inequality may undermine democratic political processes (Scanlon, 2014). The issue of campaign finance in the United States is a good example. In addition, while individuals are mostly averse to inequality of opportunity rather than inequality of outcome, by default, inequality of outcome reinforces a cycle that undermines equality of opportunity. To illustrate, an individual who starts off with few assets is less likely to obtain financing from a bank versus a person who already has many assets (Scanlon, 2014). Finally, income inequality may result in increased frustration, crime, and violence, all of which have adverse consequences for happiness (Senik, 2009a). The above are some of the intuitive reasons why income inequality may be predictive of subjective well-being. But are they supported by empirical evidence?

1.4.1 Empirical Evidence and Discussion

There is a growing literature on the link between income inequality and subjective well-being. When examining income distribution as a whole, whether this is at the national or sub-national levels, researchers have not been able to find any consistent patterns in terms of its relationship with subjective well-being. Cross-country studies as well as cross-region *within-*country studies find that the association between income inequality and subjective well-being can be negative (Morawetz et al., 1977; Hagerty, 2000; O'Connell, 2004; Haller & Hadler, 2006;

Verme, 2007; Sanfey & Teksos, 2007; Jiang et al., 2008; Oshio & Kobayashi 2009a, 2009b,

2010, 2011; Hanssen, 2011; Verme, 2011; Oishi et al., 2011; Muffels et al. 2012; Wu et al. 2013;

Hajdu & Hajdu, 2013; Easterlin et al., 2013), positive (Tomes, 1986; Clark, 2003; Ohtake &

Tomikoa, 2004; Berg & Veenhoven, 2010; Jiang et al., 2012; Rozer & Kraaykamp, 2013), or not

significant at all (Verme, 2007; Stevenson & Wolfers, 2008; Bjornskov et al., 2008b; Knutsen,

2011; Kim, 2011; Rodriguez-Pose & Maslauskaite, 2012; Zagorski et al., 2014).

This empirical inconsistency points to the fact that there may be specific channels

through which income inequality is related to subjective well-being. With over one hundred

studies on the topic, most studies fall under one of four categories of channels through which

income inequality influences subjective well-being: belief system/ideology; social

comparisons/relative income; signals; and adaptation. Each of these is explained in greater detail

below.

The first channel through which income inequality is allegedly related to subjective well-

being is *Belief System/Ideology*. This idea is straightforward. How an individual identifies human

progress and values concepts such as solidarity, fairness, equality of opportunity, equality of

outcome, freedom, and independence influences how he/she feels about income inequality

(Biancotti & D'Alessio, 2008; Georgellis et al., 2009; Hajdu & Hajdu, 2013; Rozer &

Kraykaamp, 2013). Applied to politics, the effect of income inequality on well-being is

influenced by a person's party affiliation or his/her position on the political spectrum (Alesina et

al., 2004; Jiang et al. 2008; Verme, 2007; Oshio & Kobayashi, 2009a, 2009b). For example, in a

study of Europe and the United States, Alesina et al. (2004) found that the only individuals

unhappy about income inequality were those who placed themselves "left" on the political

spectrum. Of course, these liberal/conservative or left/right categories are neither exhaustive nor exclusive.

Similar to ideology, religiosity is likely to affect the level of inequality aversion. More specifically, religion may moderate the adverse effects of income inequality (Joshanloo & Weijers, 2016); those with strong religious beliefs may find income inequality less stressful or depressing because of the belief that God will either correct this problem or has permitted it for an important reason. Alternatively, religiosity may strengthen the desire for justice and economic equality. Since both political/egalitarian ideology and religious beliefs influence the level of inequality aversion, it follows that, on an aggregate level, the cross-country variation in inequality aversion is partly explained by the "collective" level of egalitarianism or religiosity. For example, Europeans may prefer more equal societies than Americans, and hence, inequality may be a greater part of their "utility function" than that of Americans (Alesina et al., 2004).

A second channel through which income inequality influences subjective well-being is broadly defined as *"social comparisons"* or *"relative income."* This category requires special attention as it occupies a very large segment in the literature. In 1974, Richard Easterlin published a study that gave rise to what has come to be known as the "Easterlin Paradox." In this study, Easterlin concluded that there are no substantial differences between poor and rich countries in terms of the level of happiness. But within countries, those with higher incomes tend to be happier than those with lower incomes (Easterlin, 1974). This finding was in line with the social comparison theory (Festinger, 1954) and the relative income hypothesis (Duesenberry, 1949), two theories that stress the importance of comparisons and relative standings as a basis for self-evaluation and consumption/saving behavior. Applied to subjective well-being and income inequality, these theories suggest that the effect of income inequality on an individual's

happiness is determined by his/her position in relation to the average income of his/her reference group.

Many cross-country studies find support for the social comparison/relative income theory (Easterlin, 1974, 1995; Caporale et al., 2009; Ball & Chernova, 2008; Böhnke & Kohler, 2010; Georgellis et al., 2009; Barrington-Leigh, 2010; Graham & Pettinato, 1999; Graham & Felton, 2005, 2006). Similar evidence has been found in country studies in various parts of the world such as in North America and Europe (Hagerty, 2000; McBride, 2001; Blanchflower & Oswald, 2004; Luttmer, 2005; Dynan & Ravina, 2007; Layard et al., 2009; Clark & Oswald, 1996; Clark, 2003; Brown et al., 2008; Ferrer-i-Carbonell, 2005; Stutzer, 2004), in Latin America (Gori-Maia, 2013; Graham & Pettinato, 2002; Castilla, 2012; Stark & Taylor, 1991; Kuegler, 2009), and in Asia (Tao & Chiu, 2009; Oshio et al., 2011; Smyth & Qian, 2008; Mishra et al., 2010; Appleton & Song, 2008; Gao & Smyth, 2010; Cojocaru, 2012; Carlsson et al., 2009; Brockmann et al., 2009; Easterlin et al., 2013).

Income comparisons may result in very different aggregate happiness levels across countries. For example, a low average happiness level may be indicative of a society where most individuals are worse off than the average income. Similarly, the same level of economic growth across countries may result in different levels of average happiness depending on whether the growth is pro-poor, pro-middle class, or pro-rich (Brockmann et al., 2009; Baggio & Papyrakis, 2014).

One interesting question is whether comparisons with people who are higher (lower) on the income ladder always have negative (positive) effects. This moves us to a discussion of the third channel, *signaling effects,* that mediates the link between income inequality and subjective well-being. This is the channel through which income inequality perhaps has the most direct

effects on individual welfare (Graham, in press). It is based on what income inequality signals to individuals, that is, the prospect of getting ahead or an inherently unfair system. A theory prevalent in the literature is that of Hirschman's "tunnel" effect (Hirschman, 1973). The "tunnel" metaphor is that if a car is stuck in a traffic jam in a tunnel, and the other lane of cars start to move forward, this movement may be interpreted as a positive signal about the stationary car's own progress in the near future. Therefore, in contrast to social comparisons/relative income, which views "others as negatives," this theory is centered on "others as positives" (Luttmer, 2005; Senik, 2009a). Studies on China, Eastern Europe, Russia, Great Britain, and others, find evidence of the tunnel effect (Clark, 2003; Senik, 2004; Knight & Gunatilaka, 2010; Caporale et al., 2009). Noteworthy, the tunnel effect is quite common in transition countries, at least in the beginning of the transition (Grosfeld & Senik, 2008).

While the tunnel effect indicates positive perceptions of income mobility, the opposite scenario is when individuals do not believe there are any prospects for upward mobility. To them, existing and increasing inequalities signal injustice. A well-cited research paper by Alesina et al. (2004), contrasting Europe and the United States, showed that income inequality had a large and negative effect on happiness in Europe while this was not the case in the United States. The reason cited was that Americans believed they lived in a mobile society where individual effort determined movement along the income ladder while Europeans believed there was little prospect for mobility. This research has been followed by a number of cross-country and within-country studies which confirm that perceived fairness of the income generation process significantly affects the income inequality-subjective well-being relationship (Graham & Felton, 2005, 2006; Bjornskov et al. 2009; Grosfeld & Senik, 2008; Oishi et al., 2011; Schneider, 2012; Bjornskov et al., 2013).

The final channel through which income inequality is related to subjective well-being can be broadly defined as *Adaptation.* A few concepts are relevant to this debate. The first is the concept of "hedonic treadmill" which is the idea that individuals adapt to changes in their lives relatively quickly and that their aspirations adjust to the new conditions (Easterlin, 1995; O'Connell, 2004; Stutzer, 2004). For example, as a person's income increases, the material norms on which he/she judges his/her level of well-being rise as well (Easterlin, 1995). Another concept is that of the "happy peasants and frustrated achievers" paradox (Graham, 2011). This is the idea that individuals with low income/wealth and limited opportunity, the "happy peasants," have lowered their expectations and adapted to their difficult conditions so that the conditions cease to affect their happiness. The "frustrated achievers" (and/or millionaires), on the other hand, are miserable because of high expectations and aspirations. In contrast to the hedonic treadmill, where happiness remains constant as aspirations rise with higher income, the "frustrated achievers" actually experience lower happiness due to rising expectations and aspirations (Graham, 2011; Stutzer, 2004; Brockmann et al., 2009).

Adaptation mechanisms can shape the relationship between income inequality and subjective well-being in different ways. As people move up and down the socioeconomic ladder, their expectations may simply adjust to the new circumstances, and thereby, leave their level of happiness unchanged. It follows that income inequality or changes in inequality would not have any significant long-term effects on subjective well-being. A few studies support this reasoning. For example, a study on China showed that increased income inequality during the reform era initially depressed self-reported well-being but its effect diminished over time, possibly because people adapted to the rising inequality and became less affected by it (Tang, 2014). It is also plausible that adaptation mechanisms could result in higher or lower inequality aversion. As an

example, if the incomes of the poor increase, thereby lowering income inequality, overall happiness may decline as the "happy peasants" have now become "frustrated achievers." Alternatively, the "frustrated achievers" that experience a significant loss of income may adapt to the new circumstances and become "happy peasants."

While research has focused predominantly on the aforementioned four channels through which income inequality is related to subjective well-being, that is, belief system and ideology, social comparisons/relative income, signals, and adaptation, the literature highlights many other considerations. These include the *extent* of income inequality (Beja, 2011), the *visibility* of inequality (Nishi et al., 2015), and the prominence of income in the happiness function, that is the "economic gradient of well-being" (Barrington-Leigh, 2010).

1.4.2   Income Inequality and "Happiness Inequality"

So far, the discussion has focused on the relationship between income inequality and subjective well-being at the individual and aggregate national levels. Policy-makers also benefit from knowing the effect of income inequality on the *distribution* of happiness/life satisfaction in countries. This information is not only important for the purposes of justice but also because of its implications for stability and peace within communities. Two societies with the same level of *average* happiness may have very different distributions in happiness. For example, in one society individuals may be equally happy, while in another, some may be extremely happy while others are extremely unhappy.

Since factors such as egalitarian/political ideology and relative income influence the level of inequality aversion, income inequality is likely to create "winners" and "losers" in terms of subjective well-being. Hence, it is plausible that income inequality and happiness inequality are

related and move in the same direction. In fact, many studies find that countries that have a more unequal distribution of income also have a more unequal distribution of happiness. And as income inequality increases over time, happiness inequality is likely to follow suit (Veenhoven, 1990; Rousseau, 2009; Delhey & Kohler, 2011; Lam & Liu, 2014; Easterlin et al., 2013). One study attempts to quantify this relationship and concludes that for every one-unit increase in income inequality, there is a half-a-unit increase in happiness inequality (Gandelman & Porzecanski, 2013).

Certain individual-level characteristics appear to be relevant for predicting income inequality effects. As the relative income theory would predict, the effect of income inequality on happiness varies by income group with the poor being adversely affected (Alesina et al., 2004; Oshio & Koyabashi, 2009a, 2009b, 2010; Hajdu & Hajdu, 2013; Easterlin et al., 2013; Lam & Liu, 2014; Graham & Felton, 2005; Oishi et al., 2011). Furthermore, the subjective well-being effect of income inequality differs by education level (Lam & Liu, 2014; Oshio & Koyabashi, 2009a, 2009b, 2010), gender (Oshio & Koyabashi, 2009a, 2009b, 2010), age (Oshio & Koyabashi, 2009a, 2009b, 2010), employment status (Oshio & Koyabashi, 2009a, 2009b, 2010), and region of residence or immigration status (Jiang et al., 2008).

Having discussed the income inequality-subjective well-being literature, I now move to discuss the literature linking government welfare effort to subjective well-being.

1.5   Government Welfare Effort and Subjective Well-being: Literature Review

Scholars have long debated the role of government in the economy and whether large government is conducive or detrimental to well-being and to desired social and economic goals.

An important component of this debate is focused on the objectives and behaviors of politicians and decision-makers. A few theories dominate the debate. On the one hand is the welfare economics perspective, which views the role of government in a positive way; the government responds to market failures and is a provider of public goods and a regulator of externalities and monopolies (Pigou, 1920; Baumol, 1952; Bator, 1958; Samuelson, 1954; Besley & Coate, 2003). This view assumes a "benevolent" social planner who seeks to maximize the social welfare function, that is, the well-being of everyone (Hessami, 2010). The welfare economics view is challenged by public choice theory, an approach that is centered on government, rather than market, failure. One of the main ideas of public choice theory is that politicians and bureaucrats act according to personal interest and expand budgets beyond their optimal levels because of the power and prestige it gives them with the electorate. Furthermore, they make budget decisions in accordance with special interest group agendas even when this is to the detriment of overall efficiency and well-being. (Buchanan, 1962; Niskanen, 1971; Mueller, 2003; Bjornskov et al., 2007; Hessami, 2010; Perovic & Golem, 2010).

Going beyond the role of government in general, there are also differing viewpoints about the "welfare state" and whether its policies are conducive to well-being. By definition, the welfare state is a system in which government takes responsibility for the well-being of citizens by ensuring that they are provided with public goods to fulfill basic needs. The positive view of the welfare state holds that such a system protects individuals from market failures and protects against economic uncertainty and income fluctuations. Furthermore, it promotes income equality, reduces poverty, improves health and education outcomes, and creates social solidarity (Esping-Andersen, 1990; Schram, 1991; Korpi & Palme, 1998; Kenworthy, 1999; Kenworthy &

Pontusson 2005; Rivera, 2001; Gupta et al., 2002; Haller & Hadler, 2006; Di Tella & McCollough, 2008; Pacek & Radcliff, 2008b; Graham, 2011).

The negative view of the welfare state, on the other hand, holds that government protection throughout life appears to be comfortable but is not very conducive to well-being and agency. The argument is that such a system creates a culture of dependency on the state, which challenges individuals' sense of autonomy, purpose, self-worth, creativity, and accomplishment. Furthermore, it unintentionally creates new inequality by reinforcing the discrimination and stigmatization of already excluded groups and by keeping them in "poverty traps." Other adverse effects include increased budget deficits (as large bureaucratic institutions provide the wrong services in larger quantities than is desired), slower economic growth and competitiveness (as public employment is favored at the expense of an efficient private sector), and the weakening of inter-personal support within communities (as civil society is crowded out and families and the church undermined) (Murray, 1984; Gilder, 1993; Kalil & Danziger, 2000; Saunders, 2000; Veenhoven, 1992; Veenhoven & Ouweneel, 1995).

In addition to the above theories and viewpoints about why government welfare efforts and public expenditures may be conducive or harmful to subjective well-being, a few standard assumptions in economics shed further light on the debate. A basic assumption in economics is that income increases utility because it translates into potential for consumption. Applying this to public finance and subjective well-being, economic theory predicts that, holding all else constant, taxes and fees levied on individuals decreases their income, and hence utility, while increased public spending increases utility (Wassmer et al., 2009). Based on this logic, increasing the income of the poor (through increased public spending) without making any changes to the income of the rich (by keeping taxes constant and not spending any less on this

group) improves overall happiness. However, the redistribution of income may have both positive and negative effects as it increases the consumption power of some at the expense of others. In this case, the government simply "redistributes" happiness while the aggregate happiness level remains unchanged. Another concept in economics, the concept of "marginal utility of income," is equally important in understanding how government tax and expenditure policies may influence overall happiness. Assuming that the marginal utility of income decreases as income goes up, a one-unit increase in the income of a poor person combined with an equal one-unit decrease in the income of a rich person leads to an improvement in overall happiness.

As discussed above, there are many ideas about why public expenditures and government welfare efforts may affect subjective well-being in the same way that they affect objective well-being. I review the literature to see whether these theories are supported by empirical evidence.

1.5.1 Empirical Evidence and Discussion

In contrast to income inequality, there has been much less research on the relations of subjective well-being with public expenditures/government welfare effort. Starting with public expenditures as a whole (which includes all government expenditures including defense expenditures), the empirical evidence is inconclusive; the relationship between overall government expenditure and subjective well-being has been found to be positive (Ram, 2009; Flavin et al., 2011; Xie et al., 2012), negative (Bjornskov et al., 2007; Bjornskov et al., 2008b; Rodriguez-Pose & Maslauskaite, 2012), inversely U-shaped (Hessami, 2010; Perovic & Golem, 2010), or non-existent (Di Tella et al., 2003; Graafland & Compen, 2012; Wassmer et al. 2009; Oishi et al., 2012).

The empirical findings are also inconclusive when looking specifically at government welfare effort or public social expenditures. A large number of cross-country as well as country studies find a positive link between subjective well-being and government welfare effort whether this is measured through progressive taxation, public spending on education, health, and social protection, or through qualitative features of welfare programs (Radcliff, 2001; Pacek & Radcliff, 2008a, 2008b; Haller & Hadler, 2006; Flavin et al., 2011; Di Tella et al., 2003; Di Tella & McCollough, 2008; Hajdu & Hajdu, 2013; Oishi et al., 2012; Switek, 2012; Rodriquez-Pose & Maslauskaite, 2012; Kotakorpi & Laamanen, 2010; Alvarez-Diaz et al., 2010; Xie et al., 2012; Easterlin, 2013; Easterlin et al., 2013). On the other hand, a notable number of cross-country and country studies are not able to identify any significant relationship between the two (Veenhoven & Ouweneel, 1995; Veenhoven, 2000; Bjornskov et al., 2007; Ouweneel, 2002; Schwarpe & Harpfer, 2007; Wong et al., 2006; Ono & Lee, 2013) and a few even find a negative one (Swenson, 2015; Chung & Bemak, 1996; Chindarkar, 2012).

As evidenced by the literature, there are no consistent patterns in terms of how overall public expenditures and government welfare effort are related to subjective well-being. Seemingly, various factors mediate the relationship. A few, including egalitarian/political ideology, the quality of governance, and stigma, stand out. Each of these is explained in greater detail below.

The strength of egalitarian ideology as well as viewpoints about whether government plays a conducive or harmful role for development and human welfare shapes the relationship between public (social) expenditures and subjective well-being. In a study of the United States, Wassmer et al. (2009) find that liberals and conservatives are affected differently by public expenditures; liberals are affected positively while moderates and conservatives are not affected.

Similarly, in Europe, the main "happiness beneficiaries" of income redistribution and large

public sectors are "left-wing" voters (Hessami, 2010; Hajdu & Hajdu, 2013). In Finland,

specifically, Kotakorpi and Laamanen (2010) find that the life satisfaction effect of publicly

provided health care is positive for "left-wing" voters while it is not significant for "right-wing"

voters.

      Another factor that mediates the association between public expenditures/government

welfare efforts and subjective well-being is the quality of governance. The quality with which

the government works is very influential in determining whether large government enhances or

hurts subjective well-being (Ott, 2010; Rothstein, 2010a). For example, Hessami (2010) finds

that government size has a more positive effect on subjective well-being when corruption is low.

Similarly, Oishi et al. (2012) find that the positive association between progressive taxation and

life satisfaction is mediated by citizen satisfaction with public goods such as education and

public transportation. And Bjornskov et al. (2007) conclude that the adverse effect of

government consumption on life satisfaction weakens for some groups when the government is

perceived to be effective.

      Finally, "*stigma*" is an important concept in the literature, particularly that linking *social*

assistance and subjective well-being. This concept rests on the idea that the bureaucratic

processes involved in the application process for welfare are not user-friendly and result in

"stigma" or feelings of shame for applicants or recipients (Chindarkar, 2012; Swenson, 2015;

Graham & Swenson, 2015). It is further argued that government assistance may result in a

feeling of "disempowerment" where – given that the recipient is the "passive recipient" of a

state's development scheme – the recipient's sense of autonomy, self-worth, and

accomplishment is undermined, all of which have adverse consequences for happiness. A

number of country studies find evidence of this social assistance stigma. For example, Swenson (2015) finds that receiving public transfers in the United States is associated negatively with subjective well-being. Similarly, Chung and Bemak (1996) conclude that, among Southeast Asian refugees in the Unites States, those that have been "touched by welfare" at any point in their lives are at risk of developing psychological stress (although this finding does not hold for all refugee groups). And in Peru, Chindarkar (2012) finds that receiving social transfers is associated negatively with subjective economic well-being. It is important to note that stigma effects are likely to differ by income level. For example, for a person who lives in extreme poverty, the welfare stigma effect may be non-existent or very small (Chindarkar, 2012; Swenson, 2015).

The concept of stigma is in line with the *procedural utility hypothesis* outlined by Frey et al. (2004). This hypothesis underlines the importance of procedures that lead to certain outcomes rather than the outcomes per se. Applied to the context of social protection spending, individuals do not only care about additions to their income but they also value the procedures that lead to the additional income.

There are many other considerations in the literature linking public expenditures and government welfare effort to subjective well-being. It is beyond the scope of this paper to discuss them in detail but a short summary is useful. For example, the effect of public expenditures may be influenced by the level of government at which public expenditures are carried out, that is national or sub-national (Bjornskov et al., 2008a; Hessami, 2010; Diaz-Serrano & Rodriguez-Pose, 2012; Gao et al., 2014), or by the sector of spending (Switek, 2012; Kiya, 2013; Xie et al., 2012; Rodriguez-Pose & Maslauskaite, 2012). Interestingly, the *nature* of welfare efforts, that is,

whether they are universal or targeted in nature (Rothstein 2010a), may also influence their effect on subjective well-being.

1.5.2   Government Welfare Effort and "Happiness Inequality"

In addition to the relationship between government welfare effort and subjective well-being at the individual and aggregate national levels, policy-makers benefit from knowing whether government welfare efforts affect the *distribution* of happiness within countries and societies. Welfare efforts are generally focused on the young (through child care and education expenditure), the elderly (through pensions and old age care and health expenditure), and vulnerable groups (such as the poor, the unemployed, and the disabled). Since public expenditures are generally financed through taxes and other forms of revenue, it is plausible that they create "winners" and "losers" and, as a result, reduce the gap in happiness. A few studies find that this is indeed the case. It appears that the distribution of happiness in societies closely reflects their distribution of resources (Ono & Lee, 2013), and the more nations spend on social security, the more equally happiness is distributed in the population (Veenhoven, 1990). However, there is no consensus on this as these findings are contested by other studies (Veenhoven, 1992, 2000).

So who is really gaining or losing from public social spending and redistributive policies? Research shows that the subjective well-being effects of government welfare efforts generally differ by income, gender, marital status, employment status, and residency status. As predicted, low-income earners tend to benefit more (or are not as adversely affected) than high-income earners from large government, social spending, and redistributive policies (Hessami, 2010; Ono & Lee, 2013; Hajdu & Hajdu, 2013; Chindarkar, 2012; Swenson, 2015; Kiya, 2013).

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Others add middle-income earners to this group (Kiya, 2013; Kotakorpi & Laamanen, 2010) although the benefit to middle-income earners is negated in other studies (Bjornskov et al., 2007; Bjornskov et al., 2008b; Schwarze & Harpfer, 2007). In addition, females as well as individuals who are married and have children are possibly more positively/less adversely affected by social spending than males and single individuals who do not have any children (Ono & Lee, 2013). The evidence for the unemployed is mixed (Lapinski et al., 1998; Ouweneel, 2002).

1.6   Gaps in the literature

After an extensive review of the income inequality, government welfare effort, and subjective well-being literatures, it is evident that there are some important research gaps. These include research on developing countries as well as research on mediating factors (such as governance) that shape the relationship between subjective well-being and income inequality/government welfare efforts.

1.6.1   Income Inequality and Subjective Well-being

While there are arguably many research gaps, in this section, I focus only on a few areas that are relevant to international development policy. The literature linking income inequality to subjective well-being is predominantly focused on developed countries and regions, particularly the United States and the European Union. There is a dearth of studies in other parts of the world; a limited number have examined the relationship in regions such as Latin America, Eastern Europe, and East Asia. While the contrast between developed and developing countries

will be discussed in greater detail in the second paper, a short summary here is useful. It appears that the relationship between income inequality and subjective well-being may differ by country income level. Particularly, the aversion to inequality may be stronger in developed countries than in developing countries (Berg & Veenhoven, 2010; Ott, 2005; Beja, 2011; Ferrer-i-Carbonell & Ramos, 2014; Evans & Kelley, 2014). Since the relationship between income inequality and subjective well-being is determined by how inequality is defined and by mediating factors such as political/egalitarian ideology and signaling effects, the strength of these various influences possibly explain the variation between developed and developing countries in terms of inequality aversion. With significant improvement in data availability for developing countries, there is a great opportunity to understand better the inequality-subjective well-being link in the context of low- and middle-income countries.

Another area that deserves greater attention is the role of governance in mediating the relationship between income inequality and subjective well-being. This includes the role of *actual* and *perceived* government effectiveness, the prevalence of corruption, and the extent of political freedoms. For example, the adverse effects of inequality may be weaker in democracies than in authoritarian systems. Individuals who live in democracies have a greater say in government policies as well as greater access to mechanisms to change policies that they are not satisfied with. Therefore, the distribution of income may be more reflective of citizen preferences in democratic societies, thereby resulting in higher levels of happiness. Similarly, inequality aversion may be lower in places that have efficient, accountable, and transparent institutions that provide for people in need. Alternatively, inequality aversion may in fact be higher, not lower, in places that have good governance. This is because individuals who trust their country's institutions and leaders may be less tolerant of inequality – at least when it gets

over a certain level – as they expect the government not to let it happen or to do more about it (Rozer & Kraaykamp, 2013; Ferrer-i-Carbonell & Ramos, 2014; Rothstein & Uslaner, 2005).

1.6.2 Government Welfare Effort and Subjective Well-being

Similar to income inequality, the literature on government welfare effort and subjective well-being in developing countries is quite limited. I provide a short summary here and discuss the developing country findings in greater detail in the second paper. Cross-country research does not provide a clear picture of whether the relationship between public expenditures or government welfare effort and subjective well-being differs by country income level. Some have suggested that the relationship is more negative in developing countries than in developed countries (Ott, 2005; Yamamura, 2011; Kiya, 2013) while others have not found any evidence of this (Graafland & Compen, 2012; Veenhoven & Ouweneel, 1995; Ouweneel, 2002). Since the relationship between public social expenditures and subjective well-being is determined by factors such as ideology, the quality of governance, and the magnitude of social assistance stigma, how these factors play out in developing versus developed countries may explain any potential differences between them.

1.7   Methodological Considerations

One thing that is evident from the literature is that the methodology used is essential to the research outcome. It is important to keep in mind a few factors when choosing a research methodology to answer important questions about how income inequality and government

welfare effort are linked to subjective well-being. These factors include the type of analysis, the level of analysis, and the definition of concepts.

Verme (2007) underlines the distinction between static and dynamic analysis in determining research results; for example, he finds that cross-section analysis at the country level shows no significant relationship between income inequality and subjective well-being while a longitudinal analysis at the country level and over time shows a significant and negative relationship between the two. Most existing studies on income inequality, government welfare effort, and subjective well-being are cross-sectional. This is due to data limitations as subjective well-being data has not been collected for the same individuals (or countries) over a long time span. Inevitably, longitudinal studies may better detect the real effect of income inequality and government welfare effort by controlling for unobservable variables such as personality, culture, and history.

The next consideration is the level of analysis, that is, macro versus micro. The income inequality-subjective well-being and government welfare effort-subjective well-being literatures consist of a good mixture of cross-country and *within*-country studies. In cross-country studies, researchers have either aggregated variables at the country-level or pooled individual-level data from different countries and years into one large dataset (which in some cases also include one or a few macro-level indicators). The within-country studies have most frequently used individual-level or family-level data but a few have also aggregated variables at the regional (province or city) level. When contrasting micro- and macro-level analysis, it is evident that the former can better detect trends and associations as it has more data points and one can also control for a variety of individual-level observable variables that affect subjective well-being such as age,

gender, education, income, marital status, health, employment status etc. The findings of macro-level research have not been as consistent or conclusive (Bjornskov et al., 2008b).

Another consideration in subjective well-being research is the definition of concepts. For example, it is important to be clear about the dimension of subjective well-being (hedonic, evaluative, and so forth) that the research is focused on, particularly as the different dimensions tend to be related differently to various demographic, social, and economic indicators. Generally, the research question determines the selection of subjective well-being dimension. Scholars have suggested that a person's micro-social embedding and socio-cultural integration is more relevant for day-to-day hedonic happiness while social and institutional indicators such as national income, income distribution, the size of the welfare state, and political freedoms tend to be more relevant for evaluative happiness (Haller & Hadler, 2006). Similarly, personality and character traits are more relevant for hedonic than evaluative happiness (Graham, 2011). This does not imply that different factors are related to one dimension of subjective well-being and not the other. It simply means that they are related to evaluative and hedonic happiness in different ways. For example, income has a limited effect on hedonic happiness after a certain threshold while its effect on evaluative happiness tends to be linear (Graham & Nikolova, 2015).

Similarly, how income inequality is defined matters for how it is related to subjective well-being. As discussed previously, the overall income distribution, reference group income, and *perceived* inequality are related differently with subjective well-being. Inequality measures such as the national-level Gini coefficient pick up many differences across countries and do not provide any information on income mobility or what inequality signals to individuals. Hence, the Gini coefficient is likely to have a more complex relationship to subjective well-being than relative income or inequality that signals opportunity/injustice. Similarly, inequality of

opportunity and inequality of effort do not have similar effects on subjective well-being (Clark, 2003; Hopkins, 2008).

Also, perceptions are important. An individual's *perceived* relative income status or the *perceived* level of income inequality may be as influential, if not more influential, for happiness, than objective inequality (Beja, 2011; Kim, 2011). The perceived income distribution is not always reflective of the actual income distribution, as studies from the United States and Europe have shown (Norton & Ariely, 2011; Niehues, 2014). Also, perceptions are "sticky" and do not change at the same pace as objective changes in income inequality (Graham, in press). For example, the United States now has the second highest level of income inequality among OECD countries and one of the lowest rates of income mobility in this group. Despite this, until very recently, a significant share of Americans viewed inequality as a reflection of individual effort. This is an interesting contrast to Latin America where public frustration with inequality has remained high even as inequality has fallen and income mobility increased (Graham, in press). Many researchers find evidence of this type of a "perception gap," that is, a gap between the objective situation and the subjective evaluation of it (Beja, 2011; Schneider, 2012; Graham & Pettinato, 1999; Verme et al., 2014). Furthermore, perceptions are also partly driven by personality traits such as optimism/pessimism (Graham, 2009, p.82). For example, a person who is optimistic is also more likely to be satisfied with life and also see economic conditions in a positive way.

Similar to subjective well-being and income inequality, how government welfare effort is defined and measured has a great influence on research findings. As discussed previously, scholars have used a variety of indices accounting for the size of public social expenditures, welfare entitlements, and the coverage and generosity of benefits. Each of these indices provides

information about a different aspect of government welfare effort. For example, Estes' welfare index is based on the assumption that the earlier a country has adopted its welfare laws, the stronger that country's welfare system is likely to be today. This is not always the case. For example, Sweden was a laggard in its welfare state development but now has one of the world's most developed welfare systems (Veenhoven & Ouweneel, 1995). Similarly, while Esping-Andersen's decommodification score is very useful, its data on legal entitlements are limited and the package of welfare services is not identical in all states. This makes it challenging to compare across countries. Financial indicators seem to be the most straightforward. However, they have limitations as well, particularly as public expenditures are influenced significantly by country specific contexts. For instance, public expenditure on pensions depends heavily on the age composition of the population and may not reflect the real quantity and quality of government welfare effort (Veenhoven & Ouweneel, 1995). In addition, the effect of perceptions (versus objective) does not always equate actual trends. For example, the *perceived* government provision of services or social spending levels may be as influential as, if not more than, objective levels of government welfare effort (Wong et al., 2006).

1.8   Conclusion

In this paper, I provided a thorough background for research on income inequality, government welfare effort, and subjective well-being. I discussed the relevance of subjective well-being to policy and the validity/reliability of subjective well-being metrics, clarified concepts in the literature, reviewed and discussed the empirical evidence, highlighted research gaps, and underlined methodological considerations.

The literature review shows that the relationship between income inequality and subjective well-being is determined by how income inequality is defined and what it signals. In a similar fashion, the relationship between government welfare effort and subjective well-being is influenced by factors such as political ideology, the quality of governance, and/or the magnitude of "stigma" and "disempowerment" effects attached to receiving public transfers.

As highlighted in the paper, there are some important research gaps. One area that has not been examined very well is how income inequality and government welfare efforts are related to subjective well-being in the context of developing countries and whether this is similar to patterns observed in high-income countries. The factors or channels through which income inequality and government welfare effort are related to subjective well-being are likely to determine similarities and differences between developed and developing countries. For example, if inequality signals injustice in one place and opportunities for the future in another, then the level of inequality aversion is likely to differ between these two places. Similarly, if the quality of governance is better in one context than another, then public expenditures are likely to have different effects on subjective well-being in these two contexts. Another area that has not been examined very well in the literature is the role of governance in mediating the relationship between income inequality and subjective well-being.

Based on this background review, I intend to answer a few important policy-relevant questions through cross-country analysis as well as a country study on Iraq. I use both subjective and objective data for the analysis. In the second paper, I examine, by country income group, the relationship between subjective well-being and income inequality, using *perceived* inequality as a proxy. More specifically, I examine whether signals about inequality and perceived income mobility are equally predictive of life satisfaction in low-income, middle-income, and high-

income countries. I also provide some insight into the role of *perceived* governance in mediating the relationship between perceived inequality and subjective well-being. Moreover, I examine, by country income group, the relationship between subjective well-being and government welfare effort, using *perceived* government effort to reduce poverty and provide for all as a proxy. In the third paper, I focus on objective social protection spending and how it is related to subjective well-being in Iraq, a conflict-affected and natural resource-rich developing country. I examine this relationship for vulnerable groups based on income, gender of the household head, and region of residence.

Chapter 2: Income Inequality, Government Welfare Effort, and Subjective Well-Being: Patterns by Country Income Group

2.1   Introduction

This paper examines whether the association between income inequality and subjective well-being differs by countries' level of economic development. The association may differ because inequality may signal different things in developing versus developed countries. Furthermore, the size of reference groups is likely to differ, and relative income effects may not be equally strong in poor and rich countries alike. On the other hand, individuals across the world may be similarly averse to inequality when it is perceived as or signals the same thing, that is, inherent injustice rather than future opportunities.

This paper also contrasts the relationship between government welfare effort and subjective well-being in developing and developed countries. This relationship may differ as the transparency and efficiency with which the government works is different in these two contexts. Furthermore, government expenditures may interact differently with economic growth at different stages of economic development. On the other hand, individuals across the world may be influenced in a similar way by *perceived* government welfare effort.

Finally, this paper provides some insight into the role of *perceived* governance in influencing the association between inequality and life satisfaction. The adverse effects of inequality may be weaker in countries that espouse democratic values and have efficient, accountable, and transparent governance mechanisms in place to protect the poor and most vulnerable. Alternatively, the adverse effects of inequality may be stronger in places where

individuals have confidence in government institutions and leaders as they expect the existing institutions and leaders to address issues of inequality.

2.2   Background and Literature Review

Mainly driven by data availability, most research on income inequality, government welfare effort, and subjective well-being has thus far been conducted in the context of economically advanced countries. The research in developing countries is relatively new and limited to specific regions. The field is thus wide open to explore and to learn more. In this paper, I make use of World Values Survey data to examine the relations of income inequality and government welfare effort with subjective well-being in developed versus developing countries. I also go one step further and examine potential differences within the developing world, that is, in low-income (LIC), lower middle-income (LMI), and upper middle-income (UMI) countries. Finally, I provide some insight into the role of governance in influencing the level of inequality aversion as this has not been explored well in general and almost not at all in developing countries. Understanding the relationship between subjective well-being and income inequality/government welfare effort is important from a development policy perspective as it helps to design more effective policies and prioritize areas for investment.

2.2.1   Income Inequality and Subjective Well-Being by Level of Economic Development

As discussed before, there is a limited literature contrasting the income inequality-subjective well-being nexus in developing countries with that in developed countries. This

literature, which predominantly uses macro-level inequality indicators such as the Gini index, suggests that the relationship between income inequality and subjective well-being is likely to differ by the level of economic development. More specifically, it is suggested to be predominantly irrelevant or negative in high-income countries, less negative or even positive in developing countries, and positive in emerging economies (Berg & Veenhoven, 2010; Ott, 2005; Beja, 2011; Ferrer-i-Carbonell & Ramos, 2014; Evans & Kelley, 2014).

As a background to my main research questions, it is useful to see whether these prior findings are confirmed by the more recent and comprehensive data. Using World Values Survey (WVS) and Standardized World Income Inequality Database (SWIID) data from 1981 through 2014, I explore how the national-level Gini index is associated with life satisfaction across country income groups (see Appendix 2.A). The analysis confirms the findings of previous research; the association between the Gini index and life satisfaction differs across country income groups and appears to be more positive in low- and middle-income countries than in high-income countries. National-level measured inequality variables (such as the Gini index) pick many observable and unobservable differences between countries, and hence, make it challenging to draw any firm conclusions.

There are various explanations to why the association between measured national-level income inequality and subjective well-being may differ across country income groups, and seemingly, be less negative (more positive) in poor countries than in rich countries. Many mechanisms that mediate the relationship between inequality and subjective well-being, including signaling effects, relative income effects, reference group size effects, and other differences across countries explain these differences. Below is a brief explanation.

First, inequality may signal different things in changing versus stable contexts. It is not unusual for inequality to signal future opportunities in changing environments while serving as a basis for social comparison in stable contexts (Caporale et al., 2009). As discussed in the first paper, Hirschman's "tunnel effect" is quite common in transition countries (Rodriguez-Pose & Maslauskaite, 2012; Senik, 2004; Grosfeld & Senik, 2008; Knight & Gunatilaka, 2010; Caporale et al., 2009). In a study of ten Central and Eastern European countries, Rodriguez-Pose and Maslauskaite (2012) find that the economic boom of the 2000s and the rise of a dynamic entrepreneurial class increased the tolerance for rising inequality. Evidence of the "tunnel effect" has also been found in countries such as Russia and China (Senik, 2004; Knight & Gunatilaka, 2010). The stage of the transition process appears to be an important factor. In Poland, for example, the effect of income inequality on happiness changed through the transition process; inequality was interpreted as a signal of wider opportunities in the initial stage while it became a source of frustration in the later stages (Grosfeld & Senik, 2008).

The role of signals in shaping the relationship between income inequality and subjective well-being is also visible in middle-income countries that are not transition economies. In a study of the Middle East and North Africa (MENA) region, Arampatzi et al. (2015) find perceived inequality to be one of the main reasons for the declining life satisfaction in the run up to the Arab Spring; perceptions that people cannot get ahead by working hard became more prevalent during this time period. Similarly, in Latin America, the nature of income inequality influences its effect on subjective well-being; during the 1990s and 2000s, individuals were averse to inequality as it was viewed as a sign of persistent advantage for the rich and disadvantage for the poor (Graham & Felton, 2006; Graham, 2009, p.163).

Another explanation to why the aversion to inequality may be stronger in high-income countries is that relative income effects generally strengthen as a country's income rises. The argument is that individuals don't care much about relative differences until basic needs are met (Graham, 2009, p. 158). Hence, absolute income is possibly more important to happiness in poor than rich countries while relative income becomes more important in rich countries. This theory is supported by various cross-country studies. For example, Graham and Nikolova (2015) find that individuals in the wealthier EU-15 place a smaller emphasis on absolute income than individuals in Latin America and in transition countries. And Corazzini et al. (2012), who explore the absolutist and relativist perception of well-being in eight countries - four developing and four high-income - find that relativism is stronger in high-income countries.

Regional and country studies largely confirm these cross-country findings. Studies on low-income countries, particularly those conducted in contexts of extreme poverty, provide great insight. Ravallion and Lokshin (2010) find that in Malawi, a country where fulfilling basic needs is a challenge, most respondents do not show concern for relative income. Similarly, the life satisfaction of the very poor in Ethiopia is not affected by reference group income (Akay & Martinson, 2011) and the choices of most Ethiopian subsistence farmers are based on absolute income alone and not driven by relative concerns (Akay et al., 2012).

Relative income effects appear to strengthen in middle-income regions and countries. They are visible in Latin American countries (Castilla, 2012; Stark & Taylor, 1991; Gori-Maia, 2013; Kuegler, 2009; Graham & Pettinato, 1999, 2001, 2002; Graham & Felton, 2005, 2006) and may matter even more for happiness than absolute income (Rojas, 2010; Graham, 2009, p. 161). Relative income effects are also visible in middle- and high-income countries in Asia such as China, Japan, Korea, Tajikistan, and India (Oshio et al., 2011; Mishra et al., 2010; Smyth &

Qian, 2008; Appleton & Song, 2008; Gao & Smyth, 2010; Cojocaru, 2012; Carlsson et al., 2009). In India, for example, slightly more than half of the marginal utility of income comes from some kind of relative income effect (Carlsson et al., 2009). And in China, where the country's rapid growth was followed by increased income inequality, researchers have predominantly found the positive subjective well-being effects of absolute income to be overshadowed, and perhaps even cancelled out, by the negative well-being effects of increased inequality (Easterlin et al., 2013; Brockmann et al., 2009; Tang, 2014; Wu & Li, 2013). While there are exceptions (Fafchamps & Shilpi, 2008; Kingdon & Knight, 2007), relative concerns seem to become stronger as a country's income rises. This explains why the aversion to inequality may be stronger in high-income countries than in poor countries.

A third explanation to why the relationship between income inequality and subjective well-being may differ by country income level is the size of reference groups. Graham (in press) explains that positive signaling effects are more likely in smaller reference groups, such as in neighborhoods and small towns, possibly because schools and other public goods are shared at this level. However, in larger reference groups, such as in cities, comparison effects are more likely as inequalities are more visible and income mobility may seem much harder (Graham, in press). In China, for example, rural residents confine their reference group mainly to the village. So even though they are much poorer than their urban counterparts, they are not affected in the same way because the lack of information confines their reference group to the immediate surrounding. This also explains why the happiness level of rural migrants drops as they move to cities and their reference group changes (Knight & Gunatilaka, 2010). Considering the level of urbanization in poor versus rich countries (World Bank WDI, 2016), it is plausible that people

would be more averse to inequality in high-income countries as the higher level of urbanization would result in larger reference groups and more *visibility* of inequality.

In addition to signals, relative income, and reference group size, a variety of country-specific factors explain why the relationship between income inequality and subjective well-being may differ across countries, even those within the same country income group. History, culture, and norms are all relevant. For example, norms about the level of inequality that is tolerable is likely to differ across countries. Similarly, the scope of inequality matters – inequality with respect to whom and whether it is based on race, ethnicity, and religion. This is very much tied into a country's history, ethnic and racial diversity, and culture. In South Africa, for example, income comparisons have a different effect when the reference group is the local community than when it is the same racial group (Kingdon & Knight, 2007) and the effect of relative income differs by race (Bookwalter & Dalenberg, 2010). In the Middle East and North Africa, inequality between different ethnic and sectarian groups seems to be a source of great grievance (World Bank, 2015d). In China, the income disparity between migrants and urban residents is cause for unhappiness (Jiang et al., 2012). And in India, caste is important; an individual's utility is higher if his/her own caste's average income is higher than the income of other castes (Carlsson et al., 2009).

To conclude, research shows that the relationship between objective national-level income inequality and subjective well-being may differ by the level of economic development. These differences can be explained by several mechanisms that are often at play simultaneously. First, inequality signals different things in changing versus stable contexts. Second, relative income matters in both developing and developed countries but its effects tend to become stronger as a country's income rises. Third, due to the level of urbanization, reference groups are

often larger in developed countries than in developing countries. Large reference groups, such as in cities, are more likely to trigger comparison effects since inequalities are more visible and income mobility may seem much harder. Finally, history, culture, and norms about what is tolerable vary across countries, and hence, affect the relationship between income inequality and subjective well-being differently across countries.

As discussed in the first paper, what inequality signals is perhaps the most direct channel through which income inequality is related to subjective well-being. Therefore, I focus on this channel alone in my research. It is plausible that when inequality signals the same thing – that is, inherent injustice rather than future opportunity – individuals across all country income groups are affected by it in a similar way. This is an interesting question which will be explored in greater detail in this paper.

2.2.2 Government Welfare Effort and Subjective Well-Being by Level of Economic Development

A limited number of cross-country studies have examined whether public expenditures or government welfare efforts affect subjective well-being differently in developed versus developing countries. The overall size of government is possibly unrelated to subjective well-being in both rich and poor countries alike (Graafland & Compen, 2012), or perhaps, associated negatively to subjective well-being in developing countries and positively in OECD countries (Kiya, 2013). The evidence is also inconclusive when looking specifically at government welfare effort. Ott (2005) splits up countries into two groups – poor and rich – and finds that social security spending is correlated negatively to subjective well-being in poor nations while it is correlated positively to subjective well-being in rich nations. Others negate this and argue that

the "welfare state" does not increase self-reported well-being in developed or developing countries (Veenhoven & Ouweneel, 1995; Ouweneel, 2002).

As a background to my research, I run a few regressions to examine how objective national-level public expenditures are related to life satisfaction across country income groups (See Appendix 2.B). Once again, I use life satisfaction data from the World Values Survey as well as public expenditure data from the World Development Indicators Database (WDI). The analysis confirms the inconsistency that previous research has pointed to; the patterns in terms of how public (social) expenditures are related to life satisfaction differ across country income groups.

There are various explanations to why the relationship between national-level public expenditures, including social expenditures, and subjective well-being may differ across country income groups. One explanation is that the transparency and efficiency with which the government works is different in low-income, middle-income, and high-income countries. As discussed in the first paper, the quality of governance is one of the mediating factors that shapes the relationship between subjective well-being and government size/government welfare efforts (Bjornskov et al., 2007; Hessami, 2010; Oishi et al., 2012; Rodriguez-Pose & Maslauskaite, 2012). Developing countries tend to perform worse than developed countries in many areas of governance including accountability, transparency, government effectiveness, and corruption (World Bank WGI, 2016). One illustrative example is a study from Uganda showing that schools received only 13 percent of the education grants disbursed by the central government (Reinikka & Svensson 2004). Due to the lower quality of governance, it is plausible that the subjective well-being effect of public (social) expenditures is more complex in poor countries when

compared to rich countries, especially as official expenditure data do not reflect how much citizens actually benefit from or are perhaps even aware that the government is spending.

In addition to the quality of governance, government expenditures may interact differently with economic growth at different stages of economic development. For example, a study on Japan shows that government size has a detrimental effect on life satisfaction during the economic development stage as it tends to impede economic growth. But the adverse effect decreases in the developed stage when government size is no longer associated with economic growth (Yamamura, 2011).

Finally, history, culture, and norms about the role of government influence the effect of public (social) expenditures on subjective well-being. This makes it challenging to establish clear patterns, even when the comparison is among developing countries alone. Regional and country studies in low- and middle-income regions have found public spending and government welfare effort to have a positive (Xie et al., 2012; Easterlin, 2013; Easterlin et al., 2013; Switek, 2012), negative (Rodriguez-Pose & Maslauskaite, 2012; Chindarkar, 2012), U-shaped (Perovic & Golem, 2010), or insignificant relationship with subjective well-being (Wong et al., 2006).

In conclusion, a variety of factors explain why the relationship between public expenditures/government welfare effort and subjective well-being may differ across country income groups. The quality of governance, the interaction of government size with economic growth, and country-specific factors explain these cross-country variations.

One may wonder where individuals across the world are affected in a similar way when they perceive the government to be providing for citizens and doing enough for the poor. In other words, does experiencing and being aware of government welfare efforts affect subjective well-

being in a similar way in poor and rich countries? This question will be examined in greater detail in this paper.

2.2.3   Income Inequality and Subjective Well-being: the Mediating Role of Governance

The quality of governance, whether objective or perceived, is likely to play a role in how income inequality is related to subjective well-being. For example, the adverse effects of inequality may be weaker in countries that are democratic and have good governance mechanisms in place to protect the poor and most vulnerable. Or alternatively, the adverse effects of inequality may be stronger in places where individuals have high confidence in government institutions and leaders as they expect the existing institutions and leaders to address issues of inequality.

Few studies have examined the role of objective or perceived governance in mediating the relationship between income inequality and subjective well-being. In fact, Ferrer-i-Carbonell and Ramos (2014), who conducted a comprehensive review of the income inequality-subjective well-being literature, highlight that trust in institutions may be an important factor shaping the relationship between the two. The limited literature provides some insight. In a cross-country study, Rozer and Kraaykamp (2013) find that the association between income inequality and subjective well-being is less positive when individuals express more social and institutional trust. Rothstein and Uslaner (2005) reach a similar conclusion. They note that a high level of trust in government and institutions leads to dissatisfaction when little is done by those institutions to reduce inequality. On the other end of the spectrum, Grosfeld and Senik (2008) contend that reduced trust in the political system leads to stronger inequality aversion.

This paper provides insight into the role of perceived governance in shaping the income inequality-life satisfaction link across country income groups.

2.3   Methodology

Informed by the current base of knowledge, my research aims to answer specific questions about the relationship between income inequality or government welfare effort and life satisfaction across country income groups, that is, low-income, lower-middle-income, upper-middle-income, and high-income. I focus on *perceived* inequality and *perceived* government welfare effort as well as the *evaluative* dimension of well-being, particularly satisfaction with life. I choose evaluative well-being as it is a more well-established and tested concept than eudaimonic well-being. And it is more closely linked to social and institutional indicators such as national income, income distribution, and welfare state development than hedonic well-being (Haller & Hadler, 2006). Below are my hypotheses, and the reasoning behind these claims.

2.3.1   Hypotheses

Hypothesis 1: The association between life satisfaction and income inequality is similar across country income groups when income inequality signals inherent unfairness.

The relationship between income inequality and life satisfaction is likely to be similar in low-, middle-, and high-income countries when income inequality signals the same thing, that is, an inherently unfair system, or alternatively, future opportunity and mobility.

Hypothesis 2: The association between life satisfaction and perceived government welfare effort is similar across country income groups.

The relationship is likely to be similar across income levels of countries when the government is perceived to be providing for citizen and doing enough for the poor.

In addition to the above two hypotheses, I provide insight into the role of governance in mediating the relationship between life satisfaction and income inequality. The question that I ask is: Does confidence in public institutions and satisfaction with national leaders moderate the negative association between income inequality and life satisfaction?

2.3.2   Empirical model

I use a standard model that has been used by most researchers when working with a pooled sample of individual observations from different countries and years. The model is as follows:

$$Y_{ict} = \alpha + \beta_1 X_{ict} + \beta_n R_{ict} + C + T + \varepsilon_{ict}$$

where Y is life satisfaction (individual level); X is perceived income inequality/perceived government welfare effort (individual level); R is a vector of control variables for individual characteristics including sex, age, health status, marital status, income, education level, and unemployment status (all individual level); C is the country dummy; T is the year dummy; and ε is the error term. Lower case letters signify individual i living in country c in year t.

This is a pooled cross-section because it combines data for individuals from 54 countries. The year dummy controls for time-specific factors, that is, things common to all countries in each year. The country dummy controls for country-specific factors that vary across countries but not across time. It accounts for the distinct historical, cultural, and institutional influences and the fact that life satisfaction may not be internationally comparable. The model includes robust standard errors clustered at the country level. Robust standard errors are used to address heteroscedasticity and country clustering is introduced because observations are likely to be rather homogeneous within countries. Weights are included to account for the variability in country sample size. In this way, all countries count equally and no country drives the results because of its larger sample size.

Estimations are made both with the ordered logit method as well as with OLS. Ordered logit is used because the life satisfaction variable is ordinal and based on a ten-point scale. It appears that using OLS, or alternatively, ordered logit has little effect on the results (Ferrer-i-Carbonell & Frijters, 2004). As noted by Barrington-Leigh (2010), considerable confidence has been gained in comparing subjective well-being reports as though they were cardinal measures. This is based on finding consistent patterns across countries and on comparing estimation methods that relax the cardinality assumption with those that rely on it. Furthermore, using robust standard errors corrects for heteroscedasticity that may result from using OLS with ordinal dependent variables. And OLS is appropriate in situations when the objective is to explore patterns (particularly when the main interest is to observe the direction and significance of coefficients) rather than to establish exact predictions.

The shortcoming of a cross-section (in contrast to panel) is that it has a higher chance of suffering from issues of endogeneity. Causality cannot be established in the same way since it is not possible to observe changes in the variables over time.

2.3.3   Data description

I use World Values Survey (WVS) data for my analysis. WVS data have been collected in six waves over the 1981-2014 time period.[1] The quality of the survey data vary significantly across waves. In order to take account of this, I use only data from Wave 3 which extends from year 1994 through 1999. In total, 77,129 individuals from 54 countries were surveyed in Wave 3 of the WVS (see Appendix 2.C for a list of countries). The country samples are nationally representative and reflect the population in terms of characteristics such as age and gender composition. Table 2.1 lists the number of countries and individuals by country income groups.

Table 2.1: Number of Countries and Individuals by Country Income Group

	Low-Income	Lower-Middle Income	Upper-Middle Income	High-Income
No. of Countries	8	21	12	13
No. of Individuals	12780	32020	15790	16539

Note: Data from World Values Survey Wave 3

I use WVS data to assess the relations of life satisfaction (dependent variable) with perceived inequality/perceived government welfare effort (independent variable), while

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[1] World Values Survey samples are drawn from the entire population of 18 years and older in the participating countries. The minimum sample is 1000. In most countries, no upper age limit is imposed and some form of stratified random sampling is used to obtain representative national samples. The survey is carried out by professional organizations using face-to-face interviews or phone interviews for remote areas. Each country has a Principal Investigator (social scientists working in academic institutions) who is responsible for conducting the survey in accordance with the fixed rules and procedures (WVS website).

controlling for individual-level variables, including sex, age, marital status, health status, education level, employment status, and income.[2] The following is a more detailed description of the variables.

Dependent variable: Life Satisfaction

    i.   Life satisfaction (Individual Level – World Values Survey)

The question is: *"All things considered, how satisfied are you with your life as a whole these days?"*

Independent variable: Perceived Income Inequality/Perceived Government Welfare Effort

    i.   Perceived Income Inequality
        a. Hard work brings success or not (Individual Level – World Values Survey)
        b. Poverty due to laziness or unfair society (Individual Level – World Values Survey)
        c. The poor can escape poverty or not (Individual Level – World Values Survey)
        d. People can only get rich at the expense of others (Individual Level – World Values Survey)

    ii. Perceived Government Welfare Effort
        a. Government doing enough for poor or not (Individual Level – World Values Survey)
        b. People should take more responsibility to provide for themselves or Government should take more responsibility to provide for everyone (Individual Level – World Values Survey)

Control Variables: Individual Characteristics

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[2] It should be noted that macro-level control variables such as national-level income are not included as control variables. This is because the analysis is carried out by country income group, and hence, only countries at similar income levels are included in each regression. This division also addresses other factors that generally differ between countries at different income levels, such as the quality of institutions.

i. Sex (Individual Level – World Values Survey)

ii. Age (Individual Level – World Values Survey)

iii. Marital status (Individual Level – World Values Survey)

iv. Health status (Individual Level – World Values Survey

v. Education level (Individual Level – World Values Survey)

vi. Employment status (Individual Level – World Values Survey)

vii. Income (Individual Level – World Values Survey)

When providing insight into the role of perceived governance in mediating the relationship between perceived inequality and life satisfaction, I use the same empirical model as listed above. However, I run the regressions separately for two groups: for individuals who have confidence in their country's institutions and national leaders versus those who do not. The first group includes individuals who say that they have "a great deal" or "quite a lot" of confidence in institutions and are "very" or "fairly" satisfied with national leaders while the second group includes individuals who say that they have "not at all" or "not very much" confidence in institutions and are "very" or "fairly" dissatisfied with national leaders.

The following are the perceived governance variables that I use:

i. Confidence in Parliament (Individual Level – World Values Survey)

ii. Confidence in Government (Individual Level – World Values Survey)

iii. Confidence in Justice System (Individual Level – World Values Survey)

iv. Satisfaction with National Leaders (Individual Level – World Values Survey)

Only regression results using the variables listed above are presented in the paper. However, I have analyzed additional variables for which the regression results are presented in the Appendix. A complete summary of all variables can be viewed in Appendix 2.D. Below is a description and summary of the main variables in this paper (see Table 2.2).

Table 2.2: Summary Statistics

Life Satisfaction and Control Variables						
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**	**Values**
Satisfaction with Life (Dependent Variable)	74367	6.36	2.54	1	10	1-10; 1-Dissatisfied, 10-Satisfied
Sex (Control Variable)	77053	1.52	0.50	1	2	1-2; 1-Male, 2-Female
Age (Control Variable)	76950	41.24	16.04	15	95	Continuous
Marital Status (Control Variable)	73947	0.66	0.47	0	1	0-1; 1-Married or living together as married
Education Level (Control Variable)	74252	1.87	0.74	1	3	1-3; 1-Lower, 2-Middle, 3-Upper
Employment Status (Control Variable)	73234	0.09	0.28	0	1	0-1; 1-Unemployed
Health Status (Control Variable)	72816	2.33	0.94	1	5	1-5; 1-very good, 2-good, 3-fair, 4-poor, 5-very poor
Income Decile (Control Variable)	66818	4.58	2.58	1	10	1-10; 1 the lowest decile and 10 the highest decile.
Perceived Inequality Variables (Independent Variable)						
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**	**Values**
Hard work and success (Independent Variable)	67175	4.42	2.88	1	10	1-10; 1-In the long run, hard work usually brings a better life, 10-hard work doesn't generally bring success- it's more a matter of luck and connections
Poverty because of Laziness/Unfair Society (Independent Variable)	62228	0.69	0.46	0	1	0-1;0- Poor because of laziness and lack of willpower, 1-poor because of an unfair society
Poor have chance of escaping poverty (Independent Variable)	65065	0.60	0.49	0	1	0-1; 0-have a chance, 1-very little chance
Wealth Accumulation (Independent Variable)	64154	4.63	2.79	1	10	1-10; 1-wealth can grow so there is enough for everyone, 10- people can only get rich at the expense of others

Perceived Government Welfare Effort Variables (Independent Variable)						
Variable	Obs	Mean	Std. Dev.	Min	Max	Values
Government doing enough for poor or not (Independent Variable)	64614	0.27	0.44	0	1	0-1; 0-Government doing too little for people in poverty, 1-Government doing about the right amount or too much for the poor
Individual versus Government responsibility to provide for people (Independent Variable)	70452	4.66	3.00	1	10	1-10; 1- government should take more responsibility to ensure that everyone is provided for 10-Individuals should take more responsibility to provide for themselves.

2.4   Results and Discussion

Tables 2.3 and 2.4 present the findings on the relations of life satisfaction with perceived

inequality as well as perceived government welfare effort in low-income, lower middle-income,

upper middle-income, and high-income countries. Since the OLS and ordered logit analysis

reached similar results (in terms of the direction and significance of the coefficients) and OLS

results are easier to interpret, I present only those in the paper while including the ordered logit

results for all regressions in the Appendix. It is important to note that I am taking a cautious

approach by analyzing only the data from Wave 3 of the World Values Survey. This is to

account for the variability in sampling quality across the different waves. When using all six

waves of the WVS, the findings become even stronger (almost all results are significant at 1%).

The regression results based on all six waves are included in Appendix 2.E and 2.F.

2.4.1 Perceived Inequality and Life satisfaction

Data on *perceived* inequality allows for deeper exploration into what income inequality signals to individuals and how this is related to their satisfaction with life. This section addresses hypothesis 1, that is, the association between income inequality and life satisfaction is similar across country income groups when inequality signals unfairness. This hypothesis is based on the assumption that when inequality signals the same thing, individuals across the world are similarly tolerant of or averse to it.

As a start, it is useful to know about the significance of absolute income and whether it is associated differently with life satisfaction in developing countries vis-à-vis developed countries. The regression results show that, consistent with the literature, absolute income is associated positively with life satisfaction in all country income groups and the magnitude of the association is greater for individuals in developing countries than for individuals in high-income countries (see Table 2.3). For example, in a low-income country, the life satisfaction of individuals in the highest income decile is, on average, 1.62 points higher (0.180 *9) than the life satisfaction of individuals in the lowest income decile. In a high-income country, the life satisfaction difference between the top and bottom income deciles is only 0.49 points (0.054*9).

Now moving to the main question, is the aversion to inequality similar across country income groups if inequality signals the same thing? A few questions in the World Values surveys capture perceptions about the fairness of the income generation process and income mobility prospects. I use these questions as proxies for perceived unfairness. Overall, the regression results (see Table 2.3 and Appendix 2.E) are significant and show that the life satisfaction of individuals in rich and poor countries alike is associated negatively with systems that are perceived to be unfair.

Table 2.3: Income/Perceived Inequality and Life Satisfaction

	OLS				
	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC
Income Decile (1-10)	0.132***	0.180*	0.161***	0.142***	0.0540**
	(0.0157)	(0.0752)	(0.0177)	(0.0252)	(0.0173)
Observations	54,406	10,367	22,938	9,965	11,136
R-squared	0.315	0.271	0.287	0.185	0.196
	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC
Poor because of unfair society (0-1)	-0.463***	-0.661***	-0.587***	-0.291***	-0.219***
	(0.0577)	(0.161)	(0.0997)	(0.0712)	(0.0419)
Observations	47,029	9,240	20,625	8,849	8,315
R-squared	0.317	0.285	0.298	0.187	0.193
	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC
Little chance of escaping poverty (0-1)	-0.454***	-0.627***	-0.542***	-0.366***	-0.266***
	(0.0552)	(0.159)	(0.100)	(0.0900)	(0.0335)
Observations	49,659	9,578	20,732	9,546	9,803
R-squared	0.315	0.284	0.284	0.184	0.191
	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC
Hard work does not bring success (1-10)	-0.0427***	-0.0223	-0.0507***	-0.0401*	-0.0553***
	(0.00566)	(0.0159)	(0.00737)	(0.0179)	(0.00901)
Observations	50,230	10,143	19,316	9,803	10,968
R-squared	0.307	0.269	0.238	0.186	0.202
	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC
People only rich at expense of others (1-10)	-0.0692***	-0.0510*	-0.0621***	-0.0885***	-0.0721***
	(0.00719)	(0.0230)	(0.0121)	(0.0115)	(0.00576)
Observations	47,996	9,664	17,944	9,615	10,773
R-squared	0.311	0.276	0.221	0.192	0.202

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

For example, one question asks whether poverty exists because the poor are lazy and lack willpower, or alternatively, because society is unfair. The results show that believing that poverty is due to unfairness in society is associated negatively with life satisfaction for individuals in low-, middle-, and high-income countries alike. Interestingly, the magnitude of the negative association is greatest for individuals in low-income countries and reduces with the level of economic development. For example, in low-income countries, the life satisfaction of an individual who believes that poverty is caused by unfairness in society is 0.66 points lower than the life satisfaction of an individual who believes the poor are lazy and lack willpower. In high-income countries, the life satisfaction difference between two individuals with these opposing perceptions is only 0.22 points.

Similar results are reached when using a question on whether the poor can escape poverty. Believing that the poor have very little chance of escaping poverty is associated negatively with life satisfaction in all country income groups. The magnitude of this negative association is greater for individuals who live in developing countries. For example, the difference in life satisfaction between those who believe that the poor have a chance of escaping poverty and those who don't is, on average, 0.63 points in LIC, 0.54 in LMI, 0.37 in UMI, and 0.27 in HIC. It appears that fairness of the income generation process, especially for the most vulnerable members of society, is particularly important for individuals living in poor countries. This is possibly because the poor live under very dire conditions in developing countries while this is not necessarily the case in high-income countries.

Another question, which is focused on overall income mobility (not necessarily as it relates to the poor), asks survey participants whether they believe that hard work brings a better life, or alternatively, that hard work doesn't bring success and it is more a matter of luck and

connections. The scale is from 1-10, with 10 being that hard work does not bring success and it is more a matter or luck and connections. Believing that hard work does not bring success is associated negatively with life satisfaction in developing and developed countries alike. For example, in lower middle-income countries, individuals who believe that hard work doesn't bring success are likely to be, on average, 0.46 points less satisfied with life (-0.0507*9) than individuals who believe that hard work brings a better life. A similar negative association is observed in UMI and HIC countries, albeit with different magnitudes. The result for low-income countries is not significant when using OLS but it is significant when using ordered logit (see Appendix 2.E).

A final question asks whether respondents believe that wealth can grow so that there is enough for everyone or whether people can only get rich at the expense of others. The scale is 1-10 with 10 being that people can only get rich at the expense of others. This question captures views about the process by which inequality has come about and whether the rich have attained their status at the expense of the poor. Once again, as shown in Table 2.3, believing that people can only get rich at the expense of others is associated negatively with life satisfaction in all country income groups.

It should be noted that I tested the robustness of all my results by including a control variable to account for political ideology.[3] Including this control variable did not change the findings about the relations of perceived inequality with life satisfaction. I also ran the regressions in other forms such as with age squared as a control variable (particularly as this is very common in the literature). The regression results remain the same, that is, the association is negative and significant.

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[3] I used a question in the WVS that asks: "In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking?" The scale ranges from 1(left) to 10 (right).

To conclude, hypothesis 1 is supported by the data. The analysis shows that individuals are averse to inequality when it signals injustice, irrespective of whether they live in a low-income, lower middle-income, upper middle-income, or high-income country. The inequality aversion may be stronger in poor countries, especially when it relates to income mobility prospects for the poor. As noted previously, the results are even stronger when using data from all six waves of the WVS – most results are significant at 1% (see Appendix 2.E). In drawing conclusions about these results, it is important to note that individual characteristics do play a role in explaining some of the similarity across country income groups. For example, an individual who is pessimistic is more likely than an optimistic person to be less satisfied with life and also perceive society to be unfair. In this case, pessimism is influencing both life satisfaction and perceptions. Since I do not have panel data, I am not able to control for these personality characteristics.

Having analyzed perceived inequality, I move to the next hypothesis, which concerns perceived government welfare effort.

2.4.2   Perceived Government Welfare Effort and Life Satisfaction

This section examines hypothesis 2: the association between life satisfaction and perceived government welfare effort is similar across country income groups. The World Values survey contains a few questions on perceived government effort to reduce poverty and to provide for all. I use these questions as proxies for government welfare effort.

The results of the analysis are shown in Table 2.4 (ordered logit results as well as regression results using all six waves of the WVS are presented in Appendix 2.F). The first question asks survey participants if they believe that the government is doing too little, the right

amount, or too much for the poor; with 1 being "the right amount" or "too much." As the results show, the life satisfaction of those who believe that the government is doing enough or too much for the poor is, on average, higher than the life satisfaction of those who believe that the government is not doing enough. The association is similar, that is positive and significant, in all country income groups. However, it is greater in magnitude in developing countries than in high-income countries, possibly due to the dire conditions that the poor in developing countries live under. This is most visible in LMI countries, where there is a 0.56 point difference between the life satisfaction of an individual who believes the government is doing too little for the poor versus an individual who thinks that the government is doing the right amount or too much.

Table 2.4: Perceived Government Welfare Effort and Life Satisfaction

	OLS				
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Govt doing enough/too much for the poor (0-1)	0.316*** (0.0551)	0.311* (0.150)	0.557*** (0.0970)	0.235* (0.116)	0.112** (0.0472)
Observations	49,823	9,637	21,026	9,531	9,629
R-squared	0.314	0.275	0.284	0.179	0.190
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
People should take more responsibility (1-10)	0.0626*** (0.0104)	0.0573 (0.0313)	0.0595*** (0.0173)	0.0635** (0.0196)	0.0626*** (0.0140)
Observations	53,355	10,143	22,430	9,795	10,987
R-squared	0.319	0.273	0.289	0.190	0.203

Robust standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$
Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

Another question captures indirectly whether survey respondents believe the government is ensuring the economic well-being of citizens. This question asks whether the government should take more responsibility to ensure that everyone is provided for or whether people should take more responsibility to provide for themselves, with the scale ranging from 1 to 10 (10 being that people should take more responsibility). While this question may be better suited to capture beliefs about the role that the government *should* play, in using it, I am assuming that an individual who believes that the government is not doing enough would respond that the government should take more responsibility, and alternatively, a person who believes that the government is doing enough would respond that people should take more responsibility.

As seen in Table 2.4, the pattern is similar (positive and significant) across country income groups except for in low-income countries where it is not significant. However, when using ordered logit, the result in low-income countries is significant (it is also significant at 1% when using all six waves of the WVS - see Annex 2.F). To interpret the findings, individuals who live in high-income countries and believe fully that people should take more responsibility to provide for themselves (that is, select 10 on the 1-10 scale) are, on average, 0.56 (9 * 0.0626) points higher on the life satisfaction scale than individuals who believe that government should take more responsibility.

The analysis and findings above support hypothesis 2. Perceived government welfare effort is associated similarly with life satisfaction across country income groups. It is important to keep in mind, however, that just as in the case of perceived inequality, perceptions do carry elements of personality characteristics which are in turn correlated with life satisfaction. For example, perceiving that the government is doing enough for the poor may be driven partly by optimism, which in turn is also associated with life satisfaction.

2.4.3 Perceived Inequality and Life Satisfaction: The Mediating Role of Institutional Confidence and Leadership Satisfaction

This section provides insight, rather than answers, to questions concerning the role of governance in mediating the relationship between income inequality and life satisfaction. To clarify, I examine how *perceived* governance influences the relationship between *perceived* inequality and life satisfaction. I focus on a few specific dimensions of governance including confidence in institutions and satisfaction with people in national office. I divide up individuals into two groups – those who have some or a lot of confidence in their country's institutions and leaders versus those who have little or no confidence. I run the regressions (using the same empirical model as before) for three different samples: one containing only low-income countries (LIC), the second combining low-income and middle-income countries (LIC/LMI/UMI), and a third consisting of high-income countries (HIC) alone. This is to explore the nuances that exist within the developing world and how they compare with high-income countries.

For perceived inequality (the independent variable), I use the WVS question that asks whether the respondent believes that poverty exists because society is unfair (versus because of laziness). The dependent variable is life satisfaction. The results are presented in Table 2.5 (ordered logit results in Appendix 2.G). As noted previously, believing that poverty is caused by injustice in society is associated negatively with life satisfaction across the world. Interestingly, however, the magnitude of this negative association is smaller for the group of individuals who have confidence in their country's institutions and national leaders. This is true in all country income group samples (that is, in low-income countries, in developing countries as a whole, and in high-income countries) but is most visible in low-income countries. For example, in LIC countries, the association between perceived inequality and life satisfaction is -0.754 for the

group that has low confidence in parliament and -0.516 for the group that has high confidence in parliament. In high-income countries, the associations for the same two groups are -0.204 and -0.180 respectively. Similar patterns hold for confidence in government and the justice system as well as satisfaction with national leaders. It should be noted that I examined the role of perceived in different ways[4] and reached similar results.

Table 2.5: Perceived Governance, Perceived Inequality, and Life Satisfaction

Independent Variable: Poverty due to laziness or unfair society

	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	NOT SATISFIED	SATISFIED
LIC	-0.754***	-0.516*	-0.650***	-0.568**	-0.800**	-0.459*	-0.760***	-0.400
LIC/LMI/UMI	-0.510***	-0.435***	-0.510***	-0.440***	-0.525***	-0.440***	-0.490***	-0.388***
HIC	-0.204**	-0.180**	-0.256***	-0.100	-0.300***	-0.124*	-0.219***	-0.144

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

My analysis supports the findings of Grosfeld and Senik (2008) and suggests that good governance may mitigate the adverse effects of inequality on life satisfaction. There is much to learn in this area and future research should examine this in greater detail.

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[4] For example, I created and included an interaction term (with the perceived governance and perceived inequality variables) as a control variable. I did this as an alternative to running the regressions separately for people who have high confidence in government versus those who have low confidence. As a second option, I constructed a "perceived governance" variable which combined the four perceived governance variables rather than analyzing each of them (justice system, parliament, government, as well as satisfaction with national leaders) separately.

2.5   Policy Implications

These research findings have several policy implications. First, equality of opportunity is as, if not more, predictive of life satisfaction in low- and middle-income countries as it is in high-income countries. Therefore, policies and programs to reduce inequality of opportunity are as important (if not more important) in developing countries.

Second, perceptions of inequality should not be disregarded or discredited. In many cases, perceived inequality provides a more accurate picture of opportunity and income mobility than measured inequality. Individuals perceive inequality to be higher than it may be if there is "process" inequality and they experience injustice. Also, perceptions of inequality/injustice matter more to (political) behavior than do objective trends. As an example, the social discontent which led to the Arab Spring could not be detected in measured development data; poverty, inequality, and human capital data showed progress. Yet, the perception that it was hard to get ahead without connections became more prevalent in the run up to the uprisings (Arampatzi et al., 2015; World Bank, 2015d).

Even when perceptions do not accurately reflect reality, it is important for political and policy reasons to pay as much attention to them as to measured inequality. This is because perceptions may be more influential for well-being than objective trends. Moreover, perceived inequality, especially when it is deeply entrenched in the psyche of people, can affect individuals' motivations and aspirations and undermine their ability to transform their lives (Hoff & Pandey, 2006; Krishnan et al., 2016). In addition, perceived inequality can have profound effects on social harmony and trust in public institutions (Krishnan et al 2016), and hence, adverse consequences for development. Finally, perceived inequality, even when it does not

reflect the actual income distribution, could interact with political incentives and produce distortionary economic policies that slow down growth and development (Krishnan et al., 2016).

Since perceptions are important, one policy prescription is that as governments design policies and roll out programs aimed at reducing inequality of opportunity, they should also invest in information campaigns about the policies and programs. Public awareness of these programs is likely to be as important as establishing them.

Some of the policy implications discussed above are also applicable to government welfare efforts. Individuals in low- and middle-income countries are just as likely as individuals in high-income countries to want for their governments to protect people against poverty. Thus, effective social protection programs to protect the poor are just as, if not more, crucial in developing countries. Moreover, public awareness of the social protection programs may be as important as their implementation.

Similarly, it is important to pay as much attention to perceptions of government welfare effort as to objective trends. This is not only for political purposes but also because perceptions may provide a more accurate picture of actual (or experienced) government welfare effort. For example, objective public expenditures do not reveal how much individuals actually receive in the end; corruption and other factors may distort the disbursements and their intended effect. Also, measured public expenditures may be a better reflection of society's needs rather than actual government welfare effort. For example, some countries may have high social protection spending because of their age distributions (for example, a large proportion of senior citizens) as opposed to their effective efforts to provide for the poor.

Finally, as the analysis on governance showed, there are substantial benefits for governments that invest in improved governance, specifically in reducing corruption and

increasing the transparency, accountability, and effectiveness of institutions. Good governance may provide some space for individuals to tolerate temporary injustices while knowing that policy-makers and institutions will correct for the inequalities in the foreseeable future.

2.6   Conclusion

This research is of great policy significance as it examines and contrasts the potential effects of perceived inequality and government welfare effort on human welfare in developing and developed countries as well as by country income group as the patterns may be very different in low-income countries than in middle-income countries.

The analysis confirmed the main theories in the inequality-subjective well-being literature. The association between income inequality and life satisfaction is similar across countries when inequality signals the same thing. For example, when inequality signals injustice rather than future opportunities, it is associated negatively with life satisfaction in all country income groups. And interestingly, the negative association is greatest in magnitude in the poorest countries.

Similarly, my research shows that perceived government welfare effort is associated positively with life satisfaction in all country income groups. Noteworthy, the magnitude of this positive association is greater in developing countries than in developed countries, particularly as it relates to government efforts to alleviate poverty. This is possibly because the poor live under very dire conditions in developing countries while this is not necessarily the case in high-income countries.

Finally, the analysis shows that governance cannot be left out of the inequality-life satisfaction debate. It appears that individuals who have confidence in their country's institutions

and national leaders are less averse to inequality. This is possibly because of their belief that there are some elements of security and hope, even in the midst of injustice.

Chapter 3: Social Protection Spending and Life Satisfaction in Iraq

3.1   Introduction

This essay examines the relations of public spending on social protection with subjective well-being in Iraq. In the context of the country's recent history of violent conflict and everyday uncertainties in civic life, public transfers can potentially be strongly predictive of subjective well-being, and even play a crucial role in the very survival of Iraqi citizens. This association may be stronger in parts of Iraq where security is a greater challenge.

In addition, government assistance may influence the subjective well-being of vulnerable families differently than those that are not so vulnerable. For example, public transfers may have a stronger and more positive association with subjective well-being for poorer families. Also, public transfers may affect female-headed households differently than male-headed households; in a context where lack of jobs is a challenge for all, and women face even greater barriers, female-headed households may be much more dependent on government help for survival and overall well-being.

This essay also examines how financial assistance from private sources may differently influence subjective well-being. Receiving financial assistance from private sources may have a more positive effect on well-being as recipients feel cared for on a more personal level. On the other hand, receiving help from private sources may also lead to greater feelings of shame or discomfort that one is burdening other families or the community. In other words, "stigma" or "disempowerment" effects may in fact be more visible in the case of private assistance than public assistance. This is especially pertinent to a country like Iraq where government assistance

is often viewed as an entitlement due to the country's rich natural resource endowments (Alzobaidee, 2015).

Finally, different sources of income – capital income versus assistance – may influence the subjective well-being of individuals differently. It is plausible that income received from property ownership and assets has a more positive relationship with subjective well-being than public/private assistance as it is likely to result in a greater sense of empowerment.

3.2   Motivation

This research adds to the current base of knowledge on how public expenditures and government social protection policies influence individuals' sense of well-being. It contributes to the debate between the two main theoretical camps; the welfare economics view and the proponents of the welfare state on the one end of the spectrum and the public choice view and the critics of the welfare state on the other. Also, it goes beyond the "large versus small government" debate and contributes to debates on the types of government programs that best promote wellbeing, that is, income transfers versus agency-enhancing initiatives.

The study is unique in several ways. First, the analysis is conducted in the context of a developing country that is both resource-rich and conflict-affected; since many developing countries are in a similar context, the findings of this study have broader relevance. While limited research has been conducted in developing countries on social spending and subjective well-being, few are focused on social protection specifically, and to my knowledge, there is no country-level research in conflict-affected and resource-rich developing countries.

Furthermore, since this study exploits micro data on public transfers, it can more robustly identify its relationship with subjective welfare. This type of data helps mitigate concerns that

factors such as corruption may distort the influence of social spending at the national level on life satisfaction at the individual level – something that is of particular relevance to studies of developing countries. This analysis looks at what individuals and families actually receive, i.e. after all the leakages that may take place until the assistance reaches the recipients.

There is also a dearth of studies on subjective well-being in the Middle East and North Africa (MENA). Considering the volatility of the region as well as the recently demonstrated dissatisfaction with government policies (through civic uprisings), it is important to gain a better understanding of the factors that influence individuals' sense of well-being. This knowledge could inform the design of policies that increase citizen satisfaction and in turn promote social cohesion and stability.

Finally, the government of Iraq is considering various reforms and has attempted to improve the efficiency of its social protection system. For example, the public distribution system involves universal transfers that benefit both the poor and non-poor. This represents a great fiscal burden (World Bank, 2011, p. 72). One of the considerations for reform has been to move to a more targeted system that benefits predominantly the poor. In this way, the poor would continue to benefit from such programs while freed up resources could be used to design programs to promote employment, education, and housing for the poor and non-poor alike (World Bank, 2014b). The feasibility of such reforms would hinge to a large degree on citizens' assessment of their own well-being under the different programs. Therefore, it is of crucial importance to know the relationship between existing programs and subjective welfare in order to complement the knowledge on the objective effects of these programs.

3.3 Background

Given Iraq's unique circumstances and the number of major developments each year, I will focus the background review on the few years leading up to 2012, the survey year. This time period was relatively stable in the highly unstable Iraqi context - it signifies the significant reduction of sectarian violence in 2007/2008 and the relative stability through 2012,[5] after which developments such as the militancy and insurgency again led to heightened instability (World Bank, 2015b).

3.3.1 Historical Context

Iraq has a very rich history and it would be impossible to account for all its complexities in this paper. For the purposes of my research, I intend to cover only a few events that have significantly affected the country's development until 2012 as well as the role of the state in promoting the well-being of Iraqi citizens.

In the 1970s, the increase in the price of oil helped the government to play a prominent role in the provision of infrastructure and social services. Despite the usual shortcomings of a natural resource-driven economy, the oil-financed development during this time worked well. However, the changing nature of the Iraqi regime toward greater authoritarianism coupled with the Iranian revolution in 1979 changed the geopolitics of the region and led to a new development path for Iraq (World Bank, 2014a, p.3).

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[5] In 2007, the Iraqi civilian fatalities were estimated to be 25501(by the Iraq Body Count) and 23600 (by the US Department of Defense). In 2012, the fatalities were estimated to be 4573 (by the Iraq Body Count), and 1317 (by the US Department of Defense) (Brookings Institution, 2013)

Since the early 1980s, Iraq has been at the center of various types of conflict including international war, insurgency, sectarian violence, terrorism, regional fragmentation, and spillovers from conflict in other countries (World Bank, 2015b). First, the1980-88 war with Iran was very costly and led to significant destruction. The oil-financed development of the 1970s was no longer feasible during this time; while Iraq had tacit foreign support, and was still able to export oil and benefit from global trade, defense and food imports became the main priorities of economic activity. And while many other developing countries carried out structural reforms and reduced state control of the economy during time, in Iraq, the allocative role of the state was further centralized (World Bank, 2014a, p.4).

The second conflict, the invasion of Kuwait, had even more damaging consequences for Iraq, particularly as the Arab countries aligned against Iraq and a US-led force intervened. More importantly, the invasion of Kuwait led to stringent UN sanctions whereby Iraqi oil export revenues had to be paid into a designated bank account, with revenue released only to finance approved imports, predominantly food and medicine (World Bank, 2014a, p.5). The Public Distribution System (PDS), which was introduced in 1990 and expanded under the Oil-for-Food Program, delivered a monthly subsistence ration to most Iraqis (World Bank, 2011, p.72). Noteworthy, an unintended consequence of the sanctions was that it further enhanced the state's role as the provider of goods (World Bank, 2014a, p.5).

The next major conflict was the 2003 US-led war, which was followed by insurgency and the 2005/2006 sectarian civil war. During this time, government spending was focused on security as well as on increasing public employment and salaries in order to maintain public loyalty (World Bank, 2014a, p.6). Gradually, with restored oil production and higher oil prices,

the government's revenue and spending increased significantly. And there was a relative decline in insurgency and sectarian violence from 2008 through 2011/2012.

3.3.2   Economic Growth and Poverty

Between 2007 and 2012, the Iraqi economy grew at an annual rate of 7 percent. This growth was driven mainly by the oil sector which accounts for approximately half of Iraq's GDP (World Bank, 2015a). Despite the removal of sanctions in 2003, insecurity and unstable relationships with neighboring countries prevented potential growth in trade (World Bank, 2014a, p.8) and the state remained the main source of economic activity and income. Currently, Iraq has one of the largest public sectors in MENA – the public spending to GDP ratio is 61 percent and half of all employment is in the public sector (World Bank, 2014a, p.8).

While the economic growth during 2007-2012 resulted in more public sector jobs and increased salaries, the poverty rate decreased by only 3.8 percentage points (World Bank, 2015a). In 2012, approximately 20 percent of Iraqis lived under the poverty line. And a large proportion of people remained vulnerable to falling into poverty; if the cost of basic needs such as food, fuel, clothing and shelter increased by 10 percent, poverty would increase by more than 30 percent (World Bank, 2015c).

So who are the poor in Iraq? One group that may come to mind is female-headed households. In 2012, approximately 12 percent of all households were headed by women (of which the great majority were widows).[6] Surprisingly, female-headed households were not poorer than male-headed households; the poverty rate for female-headed households was 16 percent compared to 20 percent for male-headed households in 2012 (World Bank, 2014a, p.30).

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[6] Based on my calculation from the household survey data

And a smaller proportion of female-headed households were in the lowest income quintiles when compared to the proportion of male-headed households in the same quintiles. Of course, this may be due to the additional assistance that female-headed households receive from various sources. My analysis of the household survey data as well as previous research confirms that this is in fact the case; female-headed household are more likely to receive assistance (World Bank, 2011, p. 79).

The poverty incidence varies significantly across regions. In 2012, the headcount poverty rates in the Kurdish region, Baghdad, and the rest of the country were 12.35, 18.04, and 22.1 percent respectively (World Bank, 2014b).

3.3.3 Gender Equality and Economic Opportunities

While Iraq is struggling with its overall job creation agenda, the challenge to create economic opportunities for women is even greater. The female labor force participation rate in Iraq is one of the lowest in the Middle East, a region that already has some of the lowest female labor force participation rates in the world. In 2012, the labor force participation rate of Iraqi women was 16 percent while that of Iraqi men was 70 percent. Despite this low participation, the unemployment rate was much higher for women than men; 23 percent versus 14 percent (World Bank WDI, 2016).

Conflict settings generally restrict women's access to work as issues of security make it challenging to be present and active in the public sphere. The challenges are even greater in Iraq where socio-cultural reasons as well as lack of jobs for the population at large lead to a preference for providing jobs to men first. Furthermore, job segregation is prevalent and

women's entrance into male-dominated professions, including business and political leadership, is forbidden in certain communities (USAID, 2010).

3.3.4   Public Expenditures and Social Protection System

While the Iraqi Constitution designates the country as a federal state, sub-national powers are limited (with the exception of the Kurdish region which has more autonomy). Public finance policies are established in the capital, Baghdad, and implemented through de-concentrated agencies of central ministries in the governorates and municipalities. Over 90 percent of total public expenditure is executed through the federal government and its de-concentrated agencies (World Bank, 2014a, p.10). This level of centralization may change as a result of power politics as well as a revised provincial powers law passed in 2013. However, in 2012 (the year of the survey), the system was still predominantly centralized.

The nature and size of public expenditures shows the leverage that a state may have in affecting citizen welfare. During 2005-2012, total government expenditure accounted for approximately half of GDP (Kulaksiz et al., 2014c). Over 20 percent of public expenditures consist of transfers and subsidies (see Figure 3.1). Noteworthy, government expenditure in Iraq is not dependent on tax revenue in the same way that it is in many other countries; during 2005-2012, 80 percent of Iraq's fiscal revenue came from oil receipts while only 2 percent were from taxes (Kulaksiz et al., 2014).

Figure 3.1: Composition of Public Expenditure, 2005-10
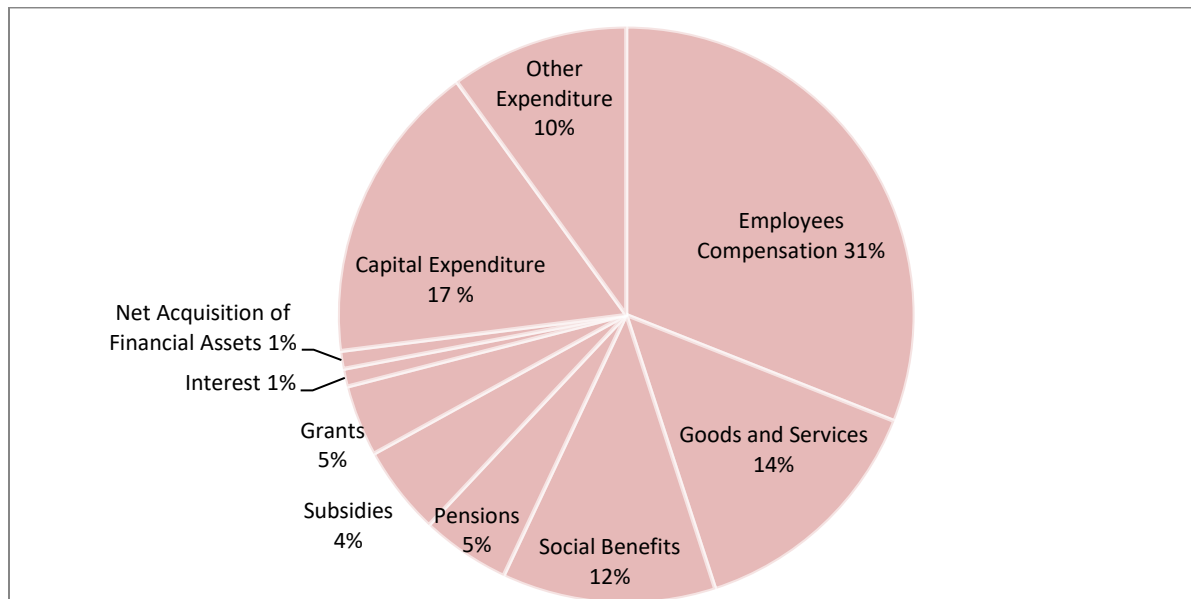
Note: The social benefits category consists of the PDS, the social protection network, allowances for military employees, and expenses for relief and aid for refugees.

The government's financial assistance to Iraqi citizens consists of many different programs. One of these programs is the Public Distribution System (PDS). Iraq's PDS is the world's largest publicly subsidized food distribution system and has almost universal coverage; it covers 99.1 percent of households below the national poverty line and 98.2 percent of households above the national poverty line (see Figure 3.2).[7] Ration items under this program include, among others, wheat flour, rice, sugar, vegetable oil/fat, and infant formula. The government is considering reforms of the PDS toward a more targeted system, thereby increasing the beneficiary impact in relation to costs (Kulaksiz et al., 2014c). However, since the PDS is of a universal nature, and other efficient safety nets are lacking, any major one-shot reform will inevitably have adverse welfare effects (World Bank, 2015c).

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[7] Of families who do not receive rations, the reasons are: household name was removed; household never had a ration card; and other (from 2012 household survey)

Figure 3.2: Receipt of Different Types of Non-Labor Income
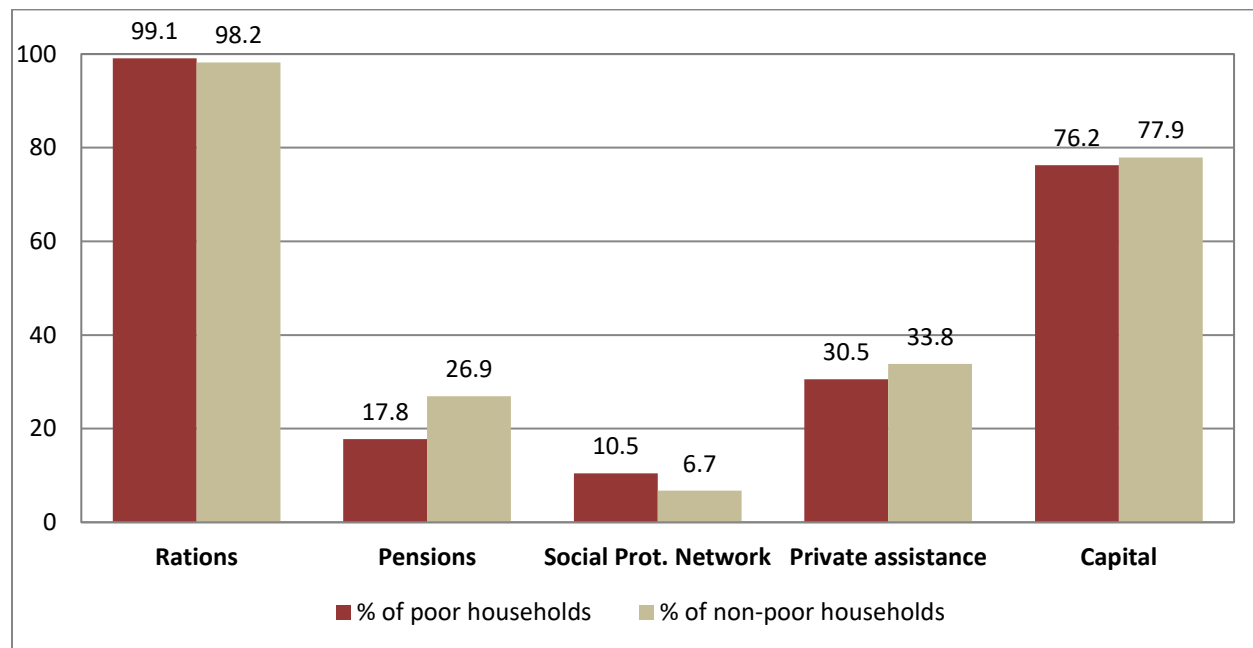
The other large program is the pension system - among the largest in the MENA region. In 2003, as part of other emergency policies, regular pensions were replaced by emergency "flat" payments paid directly from the Ministry of Finance budget, with very limited contributions from employers and employees (World Bank, 2014a, p.7). Only a quarter of the total labor force (most of them public sector workers) in Iraq is covered by the mandatory pension system (World Bank, 2014a, p.7). The inefficiency of the pension system has resulted in calls for reform to ensure its adequacy, affordability, and fiscal sustainability (World Bank, 2014a, p.7). Currently, 17.8 percent of all poor households and 26.9 percent of households above the poverty line receive pension income (see Figure 3.2).

In addition to the ration card system and pensions, the government provides other types of assistance (see Appendix 3.A for a detailed description). One of them is transfers from

the social protection network, a cash-based program which was introduced in 2004 and targets the poor specifically (World Bank, 2011, p.75). The targeting has not been very efficient and the program does not have much coverage; 10.5 percent of poor households and 6.7 percent non-poor households received transfers from the social protection network. However, the average transfer amount from the social protection network is on par with rations and is much greater than the other types of cash and in-kind transfers.

Outside of public assistance, a sizeable number of families receive income assistance from private sources. For example, 30.5 percent of families below the poverty line and 33.8 percent of families above the poverty line receive assistance through zakat (alms) or gifts and assistance from other families inside or outside of Iraq. In addition to assistance from private sources, three quarters of households, whether poor or not, receive some type of capital income, that is, income from assets or property ownership (see Figure 3.2). The main source of this income is rent of residential buildings.

While it is useful to know the coverage rate of the various transfers or income sources, it is perhaps more informative to know the extent to which they contribute to family income, and hence, potentially to subjective well-being. Table 3.1 gives an overall view of the main sources of income for Iraqi families. Overall, non-labor income accounts for 32 percent of total income. For the poorest income decile, it is significantly higher at 51 percent.

Table 3.1: Income Sources as Share of Total and Non-Labor Income

	Share in Total Income (%)		Share of Non-Labor Income (%)			
	Labor Income	Non-Labor Income	Rations	Pensions	Domestic Remittances	Capital Income
Overall	68%	32%	39%	26%	14%	8%
Lowest Decile	49%	51%	60%	13%	11%	3%

Source: Table based on data in the 2014 World Bank Iraq Poverty Assessment. Data is for year 2012.

The importance of rations for family income is clear. In 2012, rations accounted for approximately 39 percent of families' non-labor income. This share is as high as 60 percent for families in the lowest income decile. Pensions also account for a sizeable portion of family income. The significance of public assistance to non-labor income vis-à-vis income from private sources is evident.

3.3.5   Subjective Well-Being in Iraq

Iraqis appear to be more dissatisfied with certain aspects of life than others. For example, satisfaction with income, housing, work, and education tends to be much lower than satisfaction with food or health or freedom of choice and control (see Figure 3.3). However, within each category, the level of satisfaction with life varies by region. For example, satisfaction levels in all categories are generally lower in Baghdad and the rest of the country than in the Kurdish region.

Figure 3.3: Satisfaction with Different Aspects of Life (% fairly or very satisfied)
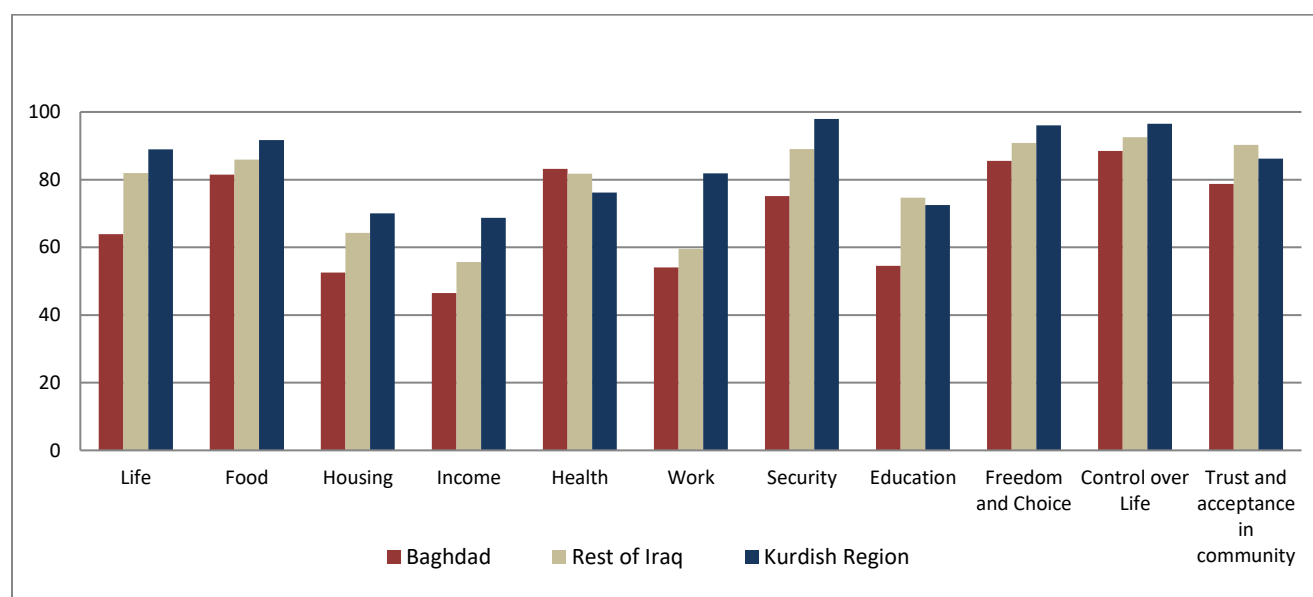
Note: My calculations based on the 2012 household survey data

To get an idea of the factors that may influence life satisfaction the most, I used the survey data to examine the correlation between satisfaction with life overall and satisfaction with specific aspects of life as shown in Figure 3.3. Satisfaction with food, income, and work are the most strongly correlated with life satisfaction. Hence, the food subsidy program (PDS) and other public transfers may be influential for life satisfaction.

3.3.6   Social Protection and Subjective Well-Being in Developing Countries

Social protection programs have addressed issues of poverty and vulnerability by supporting higher consumption and improving health, education, employment, and gender equality outcomes in developing countries.[8] One may wonder whether social protection programs are relevant to individuals' own assessment of their lives in the same way that they are to objective poverty, health, and education goals achievements. As discussed in the second paper, the association between public spending or government welfare effort and subjective well-being is not straightforward and can be very country-specific. However, the limited literature suggests that the subjective well-being of the poorest and most vulnerable is associated positively with social protection spending while the association for the middle-class or rich may be non-existent or even negative. Interestingly, stigma effects have been found in developing and developed countries alike (Chindarkar, 2012; Swenson, 2015). And it appears that the stigma

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[8] Examples of programs include Mexico's *Oportunidades* and *Progresa*, Ecuador's *Bono de Desarrollo Human,* India's *Maharashtra Rural Employment Guarantee Scheme* and *the National Rural Employment Guarantee Scheme,* Ethiopia's *Productive Safety Net Programme,* Bangladesh's *Cash for Education* and *Challenging the Frontiers of Poverty Reduction/Targeting the Ultra Poor Programme,* Colombia's *Familias en Acción,* Peru's *Juntos,* Chile's *Chile Solidario,* Nicaragua's *Red de Protección Social,* South Africa's *Old Age and Disability Grant* and *Child Support Grant,* Brazil's *Bolsa Familia* and *Child Labour Eradication Programme,* Costa Rica's *Superémonos,* Mongolia's *Child Money Programme* (ILO, 2010)

effects of income assistance from private sources are just as strong as the stigma effects of income assistance from government programs (Swenson, 2015).

It is important to keep in mind that when we speak of "stigma" in Iraq, this term is defined a little differently than how it is generally conceptualized in developed countries like the United States. While the feeling of "shame" involved in the application process for government assistance is a component of it, the bureaucratic procedures as well as the "disempowerment" effects, whereby the recipient's sense of autonomy, self-worth, and accomplishment is undermined, are likely to account for a greater portion of this stigma. This is because public assistance is often viewed as an entitlement in the Iraqi context due to the country's rich natural resource endowments (Alzobaidee, 2015), and therefore, feelings of "shame" for receiving such aid may not be as strong in Iraq as they are in other country contexts.

3.4   Methodology

3.4.1   Research Questions

1. How is public assistance (cash and/or in-kind) associated with life satisfaction?

2. Is this association different by income level, gender of the household head, and region of residence?[9]

3. How is income assistance from private sources (cash and/or in-kind) associated with life satisfaction in comparison to income assistance from public sources?

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[9] My research is focused only on how income, gender, and security affect the social protection spending-life satisfaction link. There are other interesting dimensions, such as how the relationship between social spending and life satisfaction may vary for different religious groups, such as Sunni versus Shia Muslims. These are important nuances that may be explored in greater detail in future research.

4. How is capital income associated with life satisfaction in comparison to public and
   private assistance?

3.4.2 Empirical Model

The basic model used is the following:

$$Y = \alpha + \beta_1 Assistance + \beta_2 Assistance*Quintile1 + \beta_3 Assistance*Quintile2 + \beta_4 Assistance* Quintile3 + \beta_5 Assistance*Quintile4 + \beta_n C + G + \varepsilon$$

Where Y is life satisfaction (individual level); Assistance is a dummy variable for living in a household that is the recipient of public assistance/private assistance/capital income (household level); Assistance*Quintile is a dummy for living in a household that is in a certain income quintile (determined through per capita household consumption expenditure) and is the recipient of public assistance/private assistance/capital income (household level); C is a vector of control variables including log of per capita household consumption expenditure, gender, age, marital status, health status, household size, education, and unemployment (individual level); G is the governorate dummy; and ε is the error term. The choice of control variables is based on what is generally used in subjective well-being research.

Estimations are based on the OLS and ordered logistics methods. Ordered logit is used because the life satisfaction variable is ordinal and based on a 1 to 4 scale. As discussed in the second paper, using OLS or alternatively ordered logit appears to have little effect on the results (Ferrer-i-Carbonell and Frijters 2004), particularly when observing the direction and significance of coefficients. Furthermore, using robust standard errors corrects for heteroscedasticity that may result from using OLS with ordinal dependent variables. Therefore, for ease of interpretation and

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discussion, I present the OLS results in the paper while including all ordered logit results in Appendix 3.C. Both types of estimations are weighted to better represent the population in each Qadha (district). Furthermore, robust standard errors are used. The analysis is conducted for all households but also by the gender of the household head as well as by region of residence. The regions are the Kurdish region (3 governorates)[10] and the rest of Iraq including Baghdad (15 governorates).

3.4.3   Data Description

The analysis is based on data from the 2012 Iraq Household Socio-Economic Survey, the second household socio-economic survey carried out in the country. The survey, conducted by the Government of Iraq and the World Bank, is representative of the Iraqi population and includes 25,146 households and 176,042 individuals across Iraq's 18 governorates and 118 districts. The survey is the most comprehensive ever carried out in Iraq and contains information on, among other things, household consumption expenditure, life satisfaction, demographics, education, health, anthropometrics, housing and living conditions, migration, income sources, household shocks and coping strategies, rations, employment, access to justice, and time use. It is also the first household survey in the Middle East region to contain subjective well-being questions.

Table 3.2 contains summary statistics of all variables. A detailed description of all variables and survey questions can be found in Appendix 3.A. The dependent variable, life satisfaction, is based on a survey question that asks: "In general, how satisfied or unsatisfied are

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[10] Duhok, Sulaimaniya, and Erbil.

you with your life overall?" Respondents have the options "very satisfied," "fairly satisfied,"

"not very satisfied," and "not at all satisfied."

Table 3.2: Summary Statistics

Dependent Variable	Obs.	Mean	Std. Dev.	Min	Max	Values
Life Satisfaction	100582	2.918	.755	1	4	1-4; 1-very dissatisfied, 2-fairly dissatisfied, 3-fairly satisfied, 4-very satisfied
Independent Variable	**Obs.**	**Mean**	**Std. Dev.**	**Min**	**Max**	**Values**
Received Any Assistance	175925	.565	.496	0	1	0-1; 1= household received assistance
Received Rations	176033	.988	.111	0	1	0-1; 1= household received ration
Received Pension	71062	.476	.499	0	1	0-1; 1= household received pension
Received Social Protection Network Transfer	176042	.082	.274	0	1	0-1; 1= household received a transfer from the social protection network
Received Private Assistance	176042	.312	.463	0	1	0-1; 1= household received private assistance
Received Capital Income	176042	.800	.400	0	1	0-1; 1= household received income from assets and property ownership
Control Variables	**Obs.**	**Mean**	**Std. Dev.**	**Min**	**Max**	**Values**
Gender	176042	.503	.500	0	1	0-1; 1-Female
Age	176041	23.143	18.706	0	120	Continuous
Marital Status	114336	.540	.498	0	1	0-1; 1-Married
Health Status	176038	.884	.320	0	1	0-1; 1-Healthy
Education Status	143764	.857	.350	0	1	0-1; 1-is attending/has attended school
Employment Status	90787	.091	.287	0	1	0-1; 1-unemployed
Household Consumption Expenditure/Capita (person/month in thousand dinars)	174863	190.360	118.398	19.025	3237.427	Continuous
Household Consumption Expenditure/Capita (log)	174863	5.106	.520	2.946	8.083	Continuous
Household Size	176042	8.412	4.222	1	42	Continuous

The "received" of a particular income variable is based on survey questions that ask whether anyone in the household received a particular type of income. The public assistance categories include rations, pensions, and social protection network transfers. The private income sources include cash and in-kind transfers from other families and religious institutions as well as capital income. The details of each income category are in Appendix 3.A. Most variables are straightforward but a few require additional explanation. "Received Any Assistance" is based on a survey question that asks whether the household received any assistance, cash or other than cash, during the past 12 months. This includes assistance from any public or private sources. For the variable "Received Pension" I included only two types of households in the analysis; those where at least one person is above the age of retirement and those in which at least one member is a widow. This is because it wouldn't make sense to include in the analysis households that should not be receiving a pension (for example household where all members are young and/or no one has a deceased spouse for which they receive a pension), thereby comparing non-comparable groups. Private assistance includes traditional zakat (alms) as well as cash and in-kind assistance from other families inside and outside of Iraq. Capital income includes all income from assets and property ownership. It should be noted that my research looks only at whether assistance (or other types of income) is received or not, not how much is received in monetary terms. This is particularly beneficial since individuals are generally more hesitant to report on amounts than on whether they receive a certain type of income or not. Therefore, the likelihood of getting truthful and accurate answers is higher.

For health status, I used a question that asked whether the household member had a chronic illness or not. For education, I used a question that asked whether a household member was attending/had ever attended school or not. There was also a question on the literacy of

household members but there were significantly fewer observations for that than for the school attendance question. For employment status, two questions were used to determine unemployment according to ILO criteria. The questions asked how many hours the person worked the past week and whether he/she was searching for work.

3.4.4   Hypotheses

Based on the literature linking government welfare effort to subjective well-being, Iraq background review, and the data, the following are some results that I expect to find.

1. On average, the association between public assistance and life satisfaction is positive.

In a volatile economic and security environment, public assistance may be one of few stable sources of income to relieve economic hardship. Related to this is that public assistance accounts for a sizeable portion of non-labor income in Iraq. Also, since public expenditure is financed predominantly through natural resource revenues (rather than taxes), it is likely to have an overall positive influence.

2. On average, the association between public assistance and life satisfaction is more positive/less negative for the poor.

The poor in developing countries are likely to live under dire conditions. Hence, the benefit of any additional income is likely to outweigh all negative contributing factors including stigma and disempowerment effects.

3. On average, the association between public assistance and life satisfaction is more positive/less negative for female-headed households than male-headed households.

While the poverty rate is lower for households headed by women than those headed by men, women have less access to economic opportunities and may therefore be more dependent on public assistance. Hence, the benefit of receiving any additional income outweighs all negative influences for female-headed households.

4. On average, the association between public assistance and life satisfaction is more positive/less negative in the "rest of Iraq" than in the Kurdish region.

Living conditions are better and security higher in the Kurdish region.[11] Individuals who live in the Kurdish region are more satisfied with their level of income, work, and security than individuals who live in the rest of Iraq. Furthermore, incomes are higher and poverty levels lower in the Kurdish region than in the rest of the country. Therefore, additional income may not be as critical in the Kurdish region as it is in the "rest of Iraq."

5. On average, the association between life satisfaction and income assistance from private sources is negative.

There may be strong stigma and disempowerment effects attached to private assistance. More specifically, knowing the person or community that provides this assistance may result in

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[11] Data from the 2012 household survey show that that average income is higher and poverty rates lower in the Kurdish region; the mean expenditure/person/month is approximately 280, 000 dinars in the Kurdish region versus 175, 000 in the rest of the country. Furthermore, the higher security level in the Kurdish region in 2012 is confirmed by the Iraq Body Count which collects data on civilian casualties in different regions of Iraq and for different years.

strong feelings of shame. Moreover, income assistance from private sources may have undesirable conditions attached to it and the assistance flow may be uncertain and unreliable.

6. On average, the association between capital income and life satisfaction is positive.

Capital income may give a more "empowering" feeling than the sense of "shame" or "dependency" that may accompany public/private assistance.

3.5 Results and Discussion

What follows is a presentation and discussion of the results. In almost all cases, the OLS and ordered logit regressions show similar results in terms of both direction and significance. Therefore, for ease of interpretation, I present only the OLS results in the paper. Full results are included in Appendix 3.B (OLS) and 3.C (ordered logit).

3.5.1 Assistance and Life Satisfaction

A first question is whether living in a household that receives any type of assistance, public or private, is predictive of life satisfaction. Before answering this question, it is interesting to see whether the control variables are related to life satisfaction in a way that would be predicted by prior research. Consistent with the existing literature, per capita consumption expenditure (income), being a woman, married, healthy, and attending/attended school are related positively with life satisfaction while being unemployed is related negatively with life satisfaction. Across all estimations, per capita consumption expenditure, education, and unemployment are powerful predictors of life satisfaction in Iraq.

Table 3.3: Any Assistance and Life Satisfaction

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedAnyAssistance	-0.139***	-0.247***	-0.124***	0.0748***	-0.232***
	(0.0162)	(0.0493)	(0.0172)	(0.0257)	(0.0200)
ReceivedAnyAssistance*Quintile1	0.0228	0.154**	0.00679	-0.208**	0.121***
	(0.0219)	(0.0782)	(0.0227)	(0.0818)	(0.0252)
ReceivedAnyAssistance*Quintile2	0.0163	0.130**	-0.000481	0.0642	0.0845***
	(0.0200)	(0.0647)	(0.0210)	(0.0428)	(0.0228)
ReceivedAnyAssistance*Quintile3	0.0710***	0.0454	0.0730***	0.000317	0.129***
	(0.0191)	(0.0632)	(0.0199)	(0.0364)	(0.0218)
ReceivedAnyAssistance*Quintile4	0.0122	0.114**	-0.00378	-0.00406	0.0464**
	(0.0189)	(0.0535)	(0.0202)	(0.0332)	(0.0219)
Female	0.0127*	0.0246	0.0123	-0.00511	0.0150*
	(0.00770)	(0.0277)	(0.00808)	(0.0178)	(0.00847)
Age	0.00162***	0.00192*	0.00166***	0.00173**	0.00163***
	(0.000286)	(0.00107)	(0.000298)	(0.000675)	(0.000314)
Married	0.0291***	0.0649**	0.0212**	0.0546***	0.0209**
	(0.00848)	(0.0273)	(0.00922)	(0.0191)	(0.00943)
Educated	0.0919***	0.0990***	0.0899***	0.0366*	0.104***
	(0.0103)	(0.0350)	(0.0107)	(0.0212)	(0.0117)
Healthy	0.0537***	0.0471	0.0532***	0.0473**	0.0570***
	(0.0109)	(0.0331)	(0.0116)	(0.0224)	(0.0122)
Unemployed	-0.111***	-0.101**	-0.111***	-0.121***	-0.110***
	(0.0152)	(0.0413)	(0.0163)	(0.0319)	(0.0168)
Consumption Expenditure (log)	0.211***	0.258***	0.206***	0.122***	0.259***
	(0.0108)	(0.0358)	(0.0113)	(0.0221)	(0.0124)
Household size	0.0182***	0.0264***	0.0173***	0.00823***	0.0194***
	(0.000894)	(0.00333)	(0.000929)	(0.00274)	(0.000947)
Constant	2.153***	1.981***	2.176***	2.651***	1.415***
	(0.0636)	(0.210)	(0.0667)	(0.138)	(0.0692)
Observations	85,606	7,700	77,906	19,513	66,093
R-squared	0.156	0.185	0.154	0.074	0.138

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies are included in the regression model but not presented in the table

Moving to the main question, the analysis shows that receiving any type of assistance is, on average, associated negatively with life satisfaction (see Table 3.3). In Iraq as a whole, individuals who live in households that receive any assistance are 0.139 points lower on the life satisfaction scale (which goes from 1 to 4, with 4 being very satisfied) than those who live in households that do not receive any assistance. However, it appears that this negative association is mitigated (but not fully cancelled out) in the lower income quintiles. This is especially visible when looking at the "rest of Iraq" sample. In this region, receiving assistance is, on average, associated with a 0.232 point lower life satisfaction. But for households in the lowest income quintile, it is associated with a 0.111 point lower life satisfaction (-0.232+ 0.121).

Contrary to expectation, the negative association between receiving any assistance and life satisfaction is greater for female-headed households than male-headed households (-0.247 versus -0.124). This is possibly because male-headed households are, on average, poorer than female-headed households. When the comparison is between households at the same income level, such as in the lowest income quintile, the negative association is, as expected, smaller in magnitude for female-headed households than for male-headed households. It is -0.093 (-0.247+0.154) for female-headed households and -0.117 (-0.124 + 0.00679) for male-headed households.

When contrasting regions, the regression results show that assistance and life satisfaction are related positively in the Kurdish region and negatively in other parts of Iraq. This finding is contrary to what was expected since living conditions in the Kurdish region are better than in the rest of the country. One explanation to this unexpected finding is that a smaller proportion of households in the Kurdish region receive assistance in general when compared to households in

other parts of the country.[12] Therefore, assistance of any type may be a surprising and welcome addition to family income.

3.5.2 Rations and Life Satisfaction

Moving to public assistance specifically, I start with the PDS program. Table 3.4 shows how rations are related to life satisfaction (the full table with all control variables is in Appendix 3.B). As noted previously, the PDS has almost universal coverage – over 98 percent of families receive rations. Also, rations account for the largest component of non-labor income for families.

Table 3.4: Rations and Life Satisfaction

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedRation	-0.0320	-0.260*	-0.0218	0.370***	-0.101**
	(0.0449)	(0.137)	(0.0464)	(0.123)	(0.0474)
ReceivedRation*Quintile1	0.0929***	0.0953	0.0925***	-0.0924	0.149***
	(0.0330)	(0.106)	(0.0347)	(0.0704)	(0.0390)
ReceivedRation*Quintile2	0.0701***	0.0473	0.0701***	-0.0273	0.107***
	(0.0249)	(0.0786)	(0.0262)	(0.0459)	(0.0292)
ReceivedRation*Quintile3	0.108***	-0.00604	0.121***	0.0207	0.136***
	(0.0201)	(0.0652)	(0.0212)	(0.0380)	(0.0235)
ReceivedRation*Quintile4	0.0734***	0.0790	0.0708***	0.0455	0.0840***
	(0.0159)	(0.0489)	(0.0169)	(0.0280)	(0.0188)
Constant	1.789***	2.122***	1.778***	2.314***	1.068***
	(0.127)	(0.395)	(0.134)	(0.248)	(0.151)
Observations	85,653	7,700	77,953	19,513	66,140
R-squared	0.152	0.176	0.151	0.075	0.130

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies and all control variables are included in the regression model but have not been presented in the table.

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[12] Based on my calculation of the 2012 survey data

The results show that, on average, living in a household that is the recipient of rations does not have a significant relationship to life satisfaction in Iraq (although the ordered logit result is significant and negative). However, among those who are in the lowest four income quintiles, the association is positive, albeit very modest. For example, in the poorest quintile, receiving rations is associated with a 0.06 point higher life satisfaction. A look at the other sub-samples (FHH, MHH, and the rest of Iraq) confirms that the negative association is either mitigated or becomes positive for the poorest individuals.

Once again, the negative relationship between rations and life satisfaction is, on average, greater for female-headed households than for male-headed households. In fact, at -0.260, it is very large in magnitude for female-headed households. And surprisingly, the findings do not change when comparing poor female-headed households to poor male-headed households. A more detailed analysis shows that the results in this regression should be interpreted with caution. It is plausible that, since the ration program is almost universal, there are too few observations of female-headed households that don't receive rations to create a valid comparison group. The sample data shows that, among the 7700 individuals who live in female-headed households, only 46 live in households that do not receive rations. Splitting them up by income quintile, it becomes clear that there are just too few observations within each quintile to draw any firm conclusions. The number of observations for the lower quintiles is around 10 and as low as 5 for the third quintile. This means that only one or two female-headed households within each quintile do not receive rations.

The results by region show, once again, that receiving rations is associated positively with life satisfaction in the Kurdish region while the association is negative in the rest of Iraq. The reason for this is unclear. However, as discussed before, it may be explained by the fact that

a smaller proportion of households in the Kurdish region receive assistance. Therefore, rations and other types of assistance may simply be a welcome addition to family income. Another possible reason is rooted in the historical relations of the Kurds with the central government; perhaps, because the flow of assistance from Baghdad has fluctuated and depended on political events and other issues, receiving assistance from the central government may be viewed in a more positive light in this region. A final explanation is that there may be something unique in the way that the de-concentrated government agencies in the Kurdish region implement social protection programs. I leave these questions to be explored in future research.

3.5.3   Pensions and Life Satisfaction

The next public transfer category is pensions. I include in this analysis only households that have at least one member who is above the official age of retirement and households in which at least one resident is a widow. Table 3.5 shows the regression results.

Overall, receiving a pension is not predictive of life satisfaction in Iraq. However, this is not true for the poor. For the lowest income quintile, for example, the relationship between receiving a pension and life satisfaction is 0.057 (-0.0006 + 0.0580). This positive, albeit modest, association for the poor is visible in all the subsamples, except in the Kurdish region. The results for the poor in the Kurdish region are surprising. It is unclear as to what could explain this.

Table 3.5: Pensions and Life Satisfaction

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedPension	-0.000563	0.0120	-0.000724	0.0218	-0.00569
	(0.0212)	(0.0444)	(0.0243)	(0.0361)	(0.0258)
ReceivedPension*Quintile1	0.0580**	0.0442	0.0586*	-0.246**	0.0739**
	(0.0294)	(0.0670)	(0.0329)	(0.122)	(0.0333)
ReceivedPension*Quintile2	0.0359	0.0794	0.0172	-0.0467	0.0434
	(0.0268)	(0.0592)	(0.0300)	(0.0614)	(0.0306)
ReceivedPension*Quintile3	0.0585**	-0.161***	0.111***	-0.00946	0.0643**
	(0.0254)	(0.0606)	(0.0276)	(0.0578)	(0.0294)
ReceivedPension*Quintile4	0.0579**	0.0260	0.0615**	0.0674*	0.0510*
	(0.0225)	(0.0460)	(0.0260)	(0.0394)	(0.0272)
Constant	2.196***	2.216***	2.207***	2.529***	1.611***
	(0.0895)	(0.225)	(0.0977)	(0.191)	(0.0935)
Observations	40,924	6,730	34,194	8,493	32,431
R-squared	0.153	0.187	0.150	0.098	0.128

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies and all control variables are included in the regression model but have not been presented in the table.

There are no significant differences between female- and male-headed households in terms of how pensions predict life satisfaction; the result for both groups is not significant. Similarly, there are no differences between regions.

3.5.4 Social Protection Network Transfers and Life Satisfaction

The final category of public assistance is transfers from the Social Protection Network. In contrast to rations and pensions, this assistance is intended for the poor specifically, even though the targeting has not been efficient and many non-poor families also benefit from

the program. On average, being a recipient household of Social Protection Network transfers is associated negatively with life satisfaction, irrespective of the region of residence and the gender of the household head (see Table 3.6). However, as expected, the negative association is mitigated and sometimes fully offset in the lowest income quintile.

Table 3.6: Social Protection Network Transfers and Life Satisfaction

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
Received_ Socprotnet	-0.134***	-0.394***	-0.0638*	-0.0710*	-0.175***
	(0.0373)	(0.112)	(0.0329)	(0.0398)	(0.0631)
Received_ Socprotnet *Quintile1	0.0824*	0.364***	0.00891	0.184**	0.122*
	(0.0446)	(0.126)	(0.0425)	(0.0765)	(0.0681)
Received_ Socprotnet *Quintile2	0.0737*	0.559***	-0.0393	-0.124*	0.121*
	(0.0427)	(0.120)	(0.0401)	(0.0746)	(0.0667)
Received_ Socprotnet *Quintile3	0.210***	0.260*	0.187***	0.202***	0.241***
	(0.0450)	(0.142)	(0.0412)	(0.0535)	(0.0692)
Received_ Socprotnet*Quintile4	0.134***	0.415***	0.0543	0.124**	0.151**
	(0.0475)	(0.128)	(0.0467)	(0.0547)	(0.0742)
Constant	2.090***	2.075***	2.106***	2.638***	1.484***
	(0.0574)	(0.175)	(0.0608)	(0.125)	(0.0590)
Observations	85,655	7,700	77,955	19,513	66,142
R-squared	0.152	0.181	0.150	0.072	0.129

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies and all control variables are included in the regression model but have not been presented in the table.

Similar to the case of rations, the negative association between social protection transfers and life satisfaction is, on average, greater for female-headed households than male-headed households. But as expected, when comparing female- and male-headed households in the same income quintile, the negative association is smaller in magnitude (positive in some of the income

quintile) for female-headed households. Once again, the data shows that the negative relationship is greater in magnitude in the rest of Iraq than in the Kurdish region; -0.175 versus -0.071.

As the results show, all categories of public assistance are, on average, associated negatively with life satisfaction. Depending on the public assistance program, the negative association is either modest and insignificant, or alternatively, significant and relatively large in magnitude. This may be due to differences in the quality of the programs and the way in which they are administered. I leave these to be explored in future research.

3.5.5   Private Assistance and Life Satisfaction

Having covered the different public assistance programs, it is interesting to see whether receiving cash and in-kind transfers from private sources is related differently to life satisfaction than receiving the transfers from public sources. It has been suggested that receiving help from other families or charities indicates care and results in more meaningful and closer relationships between people, and hence, may contribute to a higher satisfaction with life for recipients. Alternatively, the "stigma" or "disempowerment" effect may in fact be much greater if the recipient knows the provider of assistance on a personal level. It may lead to greater shame and feelings of indebtedness in comparison to public assistance which is funded by unknown tax payers or through natural resource revenues.

Table 3.7 shows the relationship between life satisfaction and income assistance from private sources. "Private assistance" consists of zakat as well as cash and in-kind transfers from families inside and outside of Iraq. Similar to public assistance, private assistance is associated negatively with life satisfaction (except for in the Kurdish region). On average, receiving assistance from private sources is associated with a 0.094 point lower life satisfaction score.

In contrast to public assistance, the negative association between private transfers and life satisfaction is not always mitigated in the poorer households. In fact, the negative association is even greater for those in the lowest income quintile in the full sample as well as among male-headed households and Kurdish households. This is indicative of the strong stigma effects that many be attached to private transfers.

Table 3.7: Private Assistance and Life Satisfaction

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedPrivateAssist	-0.0941***	-0.135***	-0.0874***	0.0285	-0.150***
	(0.0179)	(0.0499)	(0.0192)	(0.0260)	(0.0233)
ReceivedPrivateAssist*Quintile1	-0.0592**	0.0506	-0.0738***	-0.281***	0.00697
	(0.0260)	(0.0724)	(0.0280)	(0.0836)	(0.0305)
ReceivedPrivateAssist*Quintile2	-0.0600**	0.0729	-0.0775***	0.00606	-0.0232
	(0.0244)	(0.0672)	(0.0262)	(0.0438)	(0.0290)
ReceivedPrivateAssist*Quintile3	0.0536**	0.0212	0.0598***	-0.0278	0.0967***
	(0.0215)	(0.0590)	(0.0232)	(0.0412)	(0.0262)
ReceivedPrivateAssist*Quintile4	-0.0240	0.0697	-0.0427*	-0.0508	0.00201
	(0.0231)	(0.0573)	(0.0254)	(0.0366)	(0.0287)
Constant	2.241***	2.177***	2.250***	2.798***	1.577***
	(0.0604)	(0.208)	(0.0632)	(0.135)	(0.0628)
Observations	85,655	7,700	77,955	19,513	66,142
R-squared	0.156	0.177	0.154	0.073	0.135

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies and all control variables are included in the regression model but have not been presented in the table.

As was found with other types of assistance, the negative association between private assistance and life satisfaction is of greater magnitude for female-headed households than for male-headed households. And again, the association is reversed when female- and male-headed household in the same income quintile are compared to each other. Consistent with previous

findings, the life satisfaction of those who live in the rest of Iraq is associated negatively with private assistance while this is not the case in the Kurdish region.

3.5.6 Capital Income and Life Satisfaction

As a point of contrast, it is informative to see how capital income is predictive of life satisfaction vis-à-vis public and private transfers. Assuming that people feel more self-reliant and "empowered" through income from their own assets and property, it should have positive consequences for subjective well-being.

As expected, the relationship between life satisfaction and capital income is positive (see Table 3.8). On average, individuals in households that receive capital income are likely to be 0.08 points more satisfied with life. The positive association is visible in all sub-samples but is particularly strong for female-headed households where receiving income from property ownership and assets is linked to a 0.16 point higher life satisfaction score.

The positive association between capital income and life satisfaction is slightly greater for those in the lower income quintiles. This holds for some sub-samples (such as MHH and the rest of Iraq) but not others (such as FHH and the Kurdish Region). This inconsistency is possibility due to the fact that poor households are less likely to have capital income, and when they do, the amount is very small and insignificant in relation to total household income. As noted in the background section, capital income accounts for only 1.5 percent of total family income for the lowest income decile.

Table 3.8: Capital Income and Life Satisfaction

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedCapital	0.0812***	0.163***	0.0701***	0.0687**	0.0878***
	(0.0178)	(0.0531)	(0.0189)	(0.0290)	(0.0217)
ReceivedCapital*Quintile1	0.0324	-0.0830	0.0477*	-0.115	0.0380
	(0.0245)	(0.0817)	(0.0258)	(0.0720)	(0.0285)
ReceivedCapital*Quintile2	0.0238	-0.0739	0.0351*	-0.0249	0.0224
	(0.0195)	(0.0634)	(0.0206)	(0.0410)	(0.0227)
ReceivedCapital*Quintile3	0.0669***	-0.0864	0.0853***	0.0570*	0.0607***
	(0.0168)	(0.0536)	(0.0178)	(0.0342)	(0.0196)
ReceivedCapital*Quintile4	0.0522***	-0.0104	0.0597***	0.0775***	0.0377**
	(0.0146)	(0.0447)	(0.0155)	(0.0268)	(0.0173)
Constant	1.985***	2.253***	1.958***	2.600***	1.371***
	(0.0833)	(0.250)	(0.0886)	(0.172)	(0.0940)
Observations	85,655	7,700	77,955	19,513	66,142
R-squared	0.155	0.178	0.154	0.076	0.133

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies and all control variables are included in the regression model but have not been presented in the table.

On average, female-headed households appear to benefit more from capital income than male-headed households. And people who live in the "rest of Iraq" benefit slightly more than people who live in the Kurdish region.

3.5.7 Summary of Findings and Discussion

After reviewing the results, it is evident that some of the original hypotheses are supported while others are rejected. First, public assistance is, on average, associated negatively with life satisfaction in Iraq. Sometimes the negative association is modest and insignificant, and

other times, significant and relatively large in magnitude, depending on the type of public assistance. And with the exception of the Kurdish region, this finding holds in all sub-samples and for all types of public assistance. Therefore, the hypothesis that public assistance has a positive relationship with life satisfaction is rejected. Seemingly, "stigma" and/or "disempowerment" effects of public assistance are strong, even in a conflict-affected, natural resource-rich developing country like Iraq. This finding supports the procedural utility hypothesis (discussed in the first paper) which promotes the idea that individuals are not only concerned with outcomes but also procedures that lead to the particular outcome.

The second hypothesis concerned the association between public assistance and life satisfaction for the relatively poor vis-à-vis the relatively rich. The assumption was that the association between the two variables would be more positive (or less negative) for the poor. This assumption is supported by the data for all public assistance categories including rations, pension, and social protection network transfers.

The third hypothesis was that the association between public assistance and life satisfaction would be more positive (or less negative) for female-headed households than for male-headed households. Surprisingly, the association between rations as well as social protection network transfers and life satisfaction is actually more negative for households headed by women than households headed by men. This could be explained by the fact that male-headed households are, on average, poorer than female-headed households. This idea is confirmed when female- and male-headed households in the same income quintile are compared to each other. For example, when comparing female- and male-headed households in the poorest income quintile, the association between life satisfaction and public assistance is more positive/less negative for female-headed households. Hence, the original hypothesis is partly supported and

partly rejected; the association between public assistance and life satisfaction is more positive/less negative for female-headed households, but only when the comparison is between households at a similar income level.

The fourth hypothesis was that the association between public assistance and life satisfaction is more positive/less negative in the "rest of Iraq" than in the Kurdish region. This assumption was based on the fact that living conditions and the security situation is relatively worse in the "rest of Iraq" than in the Kurdish region. The analysis rejects this hypothesis. While public assistance is, on average, associated negatively with life satisfaction in the rest of Iraq, this is not always the case in the Kurdish region. In fact, the association is generally either positive or less negative in the Kurdish region than found elsewhere in the country.

The fifth hypothesis, that life satisfaction is related negatively to income assistance from private sources, is supported by the data. With the exception of the Kurdish region, assistance from private sources is, on average, associated negatively to life satisfaction in all sub-samples. The magnitude of this negative association is greater than that found for rations and pensions but not for social protection network transfers. And interestingly, this negative association is not always mitigated for the poorest families.

Finally, in contrast to income assistance, capital income is positively associated with life satisfaction. As expected, it appears that individuals may feel more empowered, proud, and fulfilled by this type of income than public and private transfers. Hence, the final hypothesis is confirmed and the procedural utility hypothesis is further supported.

As with any research method, there are some weaknesses in my method as well. One issue is that of causality. Since the data is not over time, it is not possible to see how changes in one variable affect another. Also, one may wonder if there are issues of reverse causality, i.e. that

life satisfaction determines whether an individual or family receives assistance. Certainly, it is plausible that a person who is not content with life communicates this to friends, relatives, and/or the local mosque and is thus helped financially. Similarly, a person who is happy may have more enthusiasm and energy to engage in income-generating activities such as renting out property. Reverse causality may be a valid concern for the private assistance and capital income analyses but it is unlikely to be the case for public assistance. Receiving public assistance is based on certain income criteria and not on whether people have expressed satisfaction with life. And programs such as the PDS do not have any income requirements.

Another issue is the lack of information about cases where individuals/families are denied assistance. For example, receiving assistance may contribute to an individual feeling less positive about his/her life overall. However, being in need of, and not receiving assistance, is possibly an even worse and more frustrating situation. Therefore, in this scenario, receiving public transfers may actually be beneficial to life satisfaction in comparison to a situation where a person is in dire need of but denied aid.

Finally, one may wonder whether analyzing these relationships on all household members, rather than the direct recipient, is an accurate representation of the relationship between the two variables. While this is a valid point, the counter argument is that including the direct recipient alone would not allow for full use of the rich life satisfaction data in the survey. Moreover, while the association between any type of income and life satisfaction may be strongest and most visible for the direct recipient, it is unlikely to be insignificant for other household members. In a community-based culture like that in Iraq and many other developing countries, additions to family income tend to benefit other family members as well, maybe even

as much as the direct recipient. Therefore, assuming that additional income to the family affects all family members in some way is a logical assumption.

3.6   Policy Implications

These research findings have implications for social protection policies in Iraq. The recommendations here are more relevant/applicable to times characterized by greater stability in Iraq. In current times, when instability, food insecurity and other issues have left the Iraqi population heavily dependent on government assistance, any changes to the social protection system may result in serious humanitarian and political crises.

As the Government of Iraq aims to reform the social protection system and its various programs in the future, a few considerations will be of particular significance. First, since self-generated income is more conducive to life satisfaction than income assistance, the government should intensify its efforts to create jobs and promote entrepreneurship. Furthermore, it should ensure stronger enforcement of land and property rights laws, particularly since income from assets and property ownership is predictive of life satisfaction in Iraq.

In reforming the social protection system specifically, the best approach for the government is to invest in non-stigmatizing forms of income support. Social protection and poverty alleviation interventions should emphasize self-reliance rather than dependency. In striking a balance between addressing the dire needs of the poor and promoting programs that emphasize self-reliance, the government has a few options. The first option is to implement programs that combine "livelihood-protection" and "livelihood-promotion" components. These are, for example, programs that combine income transfers with a second component such as skills training. Another option is to roll out different programs for different income groups. For

example, cash and in-kind transfer programs for the poorest individuals/families and employment and training programs for middle- and high-income earners.

In considering different options, it is important to keep in mind the highly politicized nature of social protection programs in Iraq (Alzobaidee, 2015). The suspension of any program will have heavy political implications, particularly because the programs are viewed as entitlements and people have benefited from them over long periods of time. Consequently, the best approach in terminating any social protection program is to replace it with another scheme, even if the latter is of a temporary nature. For example, if the Government wishes to move toward a more targeted PDS, it should consider replacing the program for middle- and high-income earners with another intervention such as skills training.

Finally, as the Government of Iraq aims to maximize the benefits of its social protection/poverty alleviation interventions, it should consider including subjective well-being alongside objective well-being in its program design and evaluation framework. This is to inform policy in terms of programs that can achieve the greatest and most sustainable impact without creating a cycle of dependency.

3.7   Conclusion

Subjective and objective well-being are complementary measures of development. As this research concludes, subjective and objective well-being do not always move in the same direction. For example, additions to income (regardless of the source) contribute positively to individuals' objective well-being. But this is not always the case with subjective well-being. The source of income is an important predictor of subjective well-being, even in a conflict-affected

and natural resource-rich developing country like Iraq. Self-generated income is more conducive to life satisfaction than income transfers from public and private sources.

This study finds evidence in support of both the public choice and welfare economics theories. On average, public spending on social protection is associated negatively with life satisfaction, possibly due to an overall sense of loss of autonomy, self-worth, and creativity for recipients (as the public choice theory and the critics of the welfare state would predict). But for the poor, public spending on social protection is generally positive (as the welfare economics view and the proponents of the welfare state would predict). These findings underline the need to design policies and implement social protection programs that protect the poor while emphasizing self-reliance rather than dependency.

As the Government of Iraq attempts to reform its social protection system, the findings of this and future research are very important. They inform policy by providing insight into the types of social protection programs that are most conducive to the subjective well-being of different cohorts in Iraq. They further shed light on the political feasibility of different social spending policies, something that is of great importance in all countries but even more so in contexts of conflict and political instability.

Appendix Tables

Appendix 2.A

I use World Values Survey (WVS) and Standardized World Income Inequality Database (SWIID)[13] data from 1981 through 2014 to show how the national-level Gini index is associated with life satisfaction across country income groups. I use OLS and ordered logit and control for a variety of factors that are generally included in standard models of subjective well-being. The empirical model is:

$$Y_{ict} = \alpha + \beta_1 X_{ict} + \beta_n R_{ict} + C + T + \varepsilon_{ict}$$

where Y is life satisfaction (individual level); X is Gini Index (national level); R is a vector of control variables for individual characteristics including sex, age, health status, marital status, income, education level, and unemployment status (all individual level); C is the country dummy; T is the year dummy; and ε is the error term. Lower case letters signify individual i living in country c in year t. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability. I run the regressions with data from Wave 3 of the World Values Survey (covering 54 countries over the 1994-1999 time period – see Appendix 2.C for a list of countries) since this is the wave I will use for my main research questions. However, since the Wave 3 countries, split by country income group, do not allow for much variation in the national-level Gini index, I also analyze the

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[13] SWIID is better suited to cross-national research on income inequality than previously available sources: it offers greater coverage than other income inequality datasets and its record of comparability is three to eight times better than those of alternate datasets (SWIID Website).

association using a sample with data from all six waves of the World Values Surveys (covering 100 countries over the 1981-2014 time period—see Appendix 2.C for a list of countries). The regression results for both samples can be seen in the following tables.

NATIONAL-LEVEL GINI INDEX (SWIID)

ALL WVS WAVES (Wave 1 through 6)								
	OLS				ORDERED LOGIT			
	(1) LIC	(2) LMI	(3) UMI	(4) HIC	(1) LIC	(2) LMI	(3) UMI	(4) HIC
Gini Index (SWIID)	0.304*** (0.0752)	0.0205 (0.0770)	0.0388 (0.0322)	0.00863 (0.0278)	0.246*** (0.0703)	0.0199 (0.0607)	0.0204 (0.0299)	0.0275 (0.0371)
Constant	-5.131* (2.596)	4.142 (2.498)	6.103*** (1.380)	7.793*** (0.872)				
Observations	33,208	62,998	49,236	56,725	33,208	62,998	49,236	56,725
R-squared	0.253	0.258	0.191	0.218				

WVS WAVE 3						
	OLS				ORDERED LOGIT	
	(1) LIC	(2) LMI	(3) UMI	(4) HIC	(1) LIC	(4) HIC
Gini Index (SWIID)	0.160*** (0.0219)	3.101*** (0.161)	0.414*** (0.0250)	0.00434 (0.00400)	0.130*** (0.0162)	0.0145*** (0.00394)
Constant	-1.268 (1.745)	-133.1*** (7.009)	-11.18*** (1.168)	6.619*** (0.201)		
Observations	10,367	20,780	9,965	11,136	10,367	11,136
R-squared	0.271	0.311	0.185	0.196		

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.
Note: No ordered logit results for WVS Wave 3 LMI and UMI countries

Appendix 2.B

I use the same methodology described in Appendix 2.A to examine the association between national-level public expenditures and life satisfaction across country income groups.

OBJECTIVE NATIONAL-LEVEL PUBLIC EXPENDITURE VARIABLES (WDI)

ALL WVS WAVES (Wave 1 through 6)										
	OLS					ORDERED LOGIT				
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Government Consumption (% of GDP)	-0.0409*	-0.0777	-0.229***	-0.0954*	-0.0194	-0.0346*	-0.0741	-0.175***	-0.0968**	-0.0211
	(0.0222)	(0.0571)	(0.0698)	(0.0541)	(0.0336)	(0.0193)	(0.0476)	(0.0582)	(0.0404)	(0.0458)
Constant	5.930***	7.583***	7.566***	8.284***	8.391***					
	(0.306)	(1.247)	(0.868)	(1.061)	(0.586)					
						235,153	36,049	75,637	63,784	59,683
Observations	235,153	36,049	75,637	63,784	59,683					
R-squared	0.269	0.249	0.260	0.192	0.213					
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Education Spending (% of GDP)	-0.142*	-0.304***	0.266**	-0.480*	-0.358***	-0.118*	-0.266***	0.220**	-0.358	-0.521***
	(0.0730)	(0.00379)	(0.125)	(0.272)	(0.114)	(0.0666)	(0.0132)	(0.0876)	(0.291)	(0.115)
Constant	5.793***	7.671***	5.683***	7.157***	8.256***					
	(0.351)	(0.367)	(0.643)	(0.354)	(0.182)					
Observations	161,395	21,799	47,762	40,029	51,805	161,395	21,799	47,762	40,029	51,805
R-squared	0.279	0.252	0.285	0.187	0.218					

	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Health Spending (% of GDP)	-0.170** (0.0692)	-0.531*** (0.0133)	-0.601*** (0.0754)	-0.0158 (0.104)	-0.249** (0.115)	-0.160*** (0.0580)	-0.457*** (0.0250)	-0.460*** (0.0743)	0.0172 (0.0974)	-0.296** (0.145)
Constant	5.482*** (0.271)	6.171*** (0.277)	7.212*** (0.357)	6.258*** (0.488)	7.828*** (0.345)					
Observations	219,763	31,958	73,655	55,616	58,534	219,763	31,958	73,655	55,616	58,534
R-squared	0.269	0.251	0.261	0.193	0.206					
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Military Spending (% of GDP)	-0.0367 (0.0648)	-1.242 (1.081)	0.615** (0.233)	-0.0506 (0.188)	0.0176 (0.0782)	-0.0171 (0.0544)	-1.216 (0.907)	0.455** (0.185)	0.0112 (0.131)	0.0746 (0.100)
Constant	5.608*** (0.278)	9.961*** (3.287)	1.755 (1.141)	6.926*** (1.427)	7.993*** (0.298)					
Observations	233,054	36,255	73,231	63,963	59,605	233,054	36,255	73,231	63,963	59,605
R-squared	0.266	0.247	0.254	0.185	0.206					

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

WVS WAVE 3										
	OLS					**ORDERED LOGIT**				
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Government Consumption (% of GDP)	0.0142*** (0.00427)	-0.441*** (0.0604)	0.0765*** (0.00365)	-2.196*** (0.133)	-0.0131** (0.00503)	-0.0230*** (0.00363)	-0.359*** (0.0445)	0.0555*** (0.00369)	-2.271*** (0.119)	- 0.0305*** (0.00545)
Constant	6.670*** (0.122)	11.66*** (0.376)	3.996*** (0.143)	36.00*** (1.742)	7.886*** (0.202)					
Observations	52,697	10,367	21,948	9,965	10,417	52,697	10,367	21,948	9,965	10,417
R-squared	0.325	0.271	0.299	0.185	0.189					

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	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Education Spending (% of GDP)	-0.0520*** (0.0159)	-0.0406 (0.0593)	0.667*** (0.0355)	-0.349*** (0.0264)	-0.217** (0.0833)	0.0748*** (0.0135)	0.0279 (0.0440)	0.491*** (0.0356)	-0.275*** (0.0311)	-0.505*** (0.0902)
Constant	7.759*** (0.274)	6.971*** (0.987)	3.962*** (0.113)	8.131*** (0.455)	8.761*** (0.483)					
Observations	45,733	8,738	18,879	7,699	10,417	45,733	8,738	18,879	7,699	10,417
R-squared	0.326	0.273	0.313	0.159	0.189					
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Health Spending (% of GDP)	1.144*** (0.0151)	1.155*** (0.158)	1.158*** (0.0254)	-0.385*** (0.0252)	0.0333** (0.0128)	0.870*** (0.0254)	0.940*** (0.117)	0.864*** (0.0368)	-0.399*** (0.0228)	0.0777*** (0.0139)
Constant	4.744*** (0.128)	5.515*** (0.860)	0.648*** (0.197)	8.604*** (0.323)	7.493*** (0.167)					
Observations	52,659	10,367	22,938	8,937	10,417	52,659	10,367	22,938	8,937	10,417
R-squared	0.315	0.271	0.287	0.169	0.189					
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Military Spending (% of GDP)	0.0670*** (0.0193)	0.236*** (0.0324)	0.822*** (0.0392)	-0.290*** (0.0190)	0.0249** (0.00957)	-0.101*** (0.0166)	0.192*** (0.0239)	0.596*** (0.0397)	-0.302*** (0.0172)	0.0580*** (0.0104)
Constant	6.690*** (0.127)	6.174*** (0.779)	2.113*** (0.108)	7.121*** (0.317)	7.600*** (0.164)					
Observations	51,669	10,367	21,948	8,937	10,417	51,669	10,367	21,948	8,937	10,417
R-squared	0.322	0.271	0.299	0.169	0.189					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

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Appendix 2.C

World Values Survey Countries: Wave 3 (1994-1998)

Country	Number of Individuals	Percent of full sample		Country	Number of Individuals	Percent of full sample
Albania	999	1.3		Moldova	984	1.28
Azerbaijan	2,002	2.6		Montenegro	240	0.31
Argentina	1,079	1.4		New Zealand	1,201	1.56
Australia	2,048	2.66		Nigeria	1,996	2.59
Bangladesh	1,525	1.98		Norway	1,127	1.46
Armenia	2,000	2.59		Pakistan	733	0.95
Bulgaria	1,072	1.39		Peru	1,211	1.57
Belarus	2,092	2.71		Philippines	1,200	1.56
Chile	1,000	1.3		Poland	1,153	1.49
China	1,500	1.94		Puerto Rico	1,164	1.51
Taiwan	780	1.01		Romania	1,239	1.61
Colombia	6,025	7.81		Russia	2,040	2.64
Croatia	1,196	1.55		Serbia	1,280	1.66
Czech Rep.	1,147	1.49		Slovakia	1,095	1.42
Dominican Rep.	417	0.54		Slovenia	1,007	1.31
El Salvador	1,254	1.63		South Africa	2,935	3.81
Estonia	1,021	1.32		Spain	1,211	1.57
Finland	987	1.28		Sweden	1,009	1.31
Georgia	2,008	2.6		Switzerland	1,212	1.57
Germany	2,026	2.63		Turkey	1,907	2.47
Hungary	650	0.84		Ukraine	2,811	3.64
India	2,040	2.64		Macedonia	995	1.29
Japan	1,054	1.37		Great Britain	1,093	1.42
South Korea	1,249	1.62		United States	1,542	2
Latvia	1,200	1.56		Uruguay	1,000	1.3
Lithuania	1,009	1.31		Venezuela	1,200	1.56
Mexico	2,364	3.06		Bosnia	800	1.04
				Total:	**77,129**	**100**

World Values Survey Countries: Waves 1-6 (1981-2014)

Country	Number of Individuals	Percent of full sample	Wave 1 1981-1984	Wave 2 1989-1993	Wave 3 1994-1998	Wave 4 1999-2004	Wave 5 2005-2009	Wave 6 2010-2014
Albania	1,999	0.59			X	X		
Algeria	2,482	0.73				X		X
Andorra	1,003	0.29					X	
Azerbaijan	3,004	0.88			X			X
Argentina	6,398	1.87	X	X	X	X	X	X
Australia	6,174	1.81	X		X		X	X
Bahrain	1,200	0.35						X
Bangladesh	3,025	0.89			X	X		
Armenia	3,100	0.91			X			X
Bosnia	1,200	0.35				X		
Brazil	4,768	1.4		X			X	X
Bulgaria	2,073	0.61			X		X	
Belarus	4,642	1.36		X	X			X
Canada	4,095	1.2				X	X	
Chile	5,700	1.67		X	X	X	X	X
China	7,791	2.28		X	X	X	X	X
Taiwan	3,245	0.95			X		X	X
Colombia	10,562	3.09			X		X	X
Croatia	1,196	0.35			X			
Cyprus	2,050	0.6					X	X
Czech Rep.	2,071	0.61		X	X			
Dominican Rep.	417	0.12			X			
Ecuador	1,202	0.35						X
El Salvador	1,254	0.37			X			
Ethiopia	1,500	0.44					X	
Estonia	2,554	0.75			X			X
Finland	3,004	0.88	X		X		X	
France	1,001	0.29					X	
Georgia	4,710	1.38			X		X	X
Palestine	1,000	0.29						X
Germany	6,136	1.8			X		X	X
Ghana	3,086	0.9					X	X
Guatemala	1,000	0.29					X	
Hong Kong	2,252	0.66					X	X
Hungary	3,121	0.91	X		X		X	

Country	Number of Individuals	Percent of full sample	Wave 1 1981-1984	Wave 2 1989-1993	Wave 3 1994-1998	Wave 4 1999-2004	Wave 5 2005-2009	Wave 6 2010-2014
India	10,124	2.97		X	X	X	X	X
Indonesia	3,015	0.88				X	X	
Iran	5,199	1.52				X	X	
Iraq	6,226	1.82				X	X	X
Israel	1,199	0.35				X		
Italy	1,012	0.3					X	
Japan	8,170	2.39	X	X	X	X	X	X
Kazakhstan	1,500	0.44						X
Jordan	3,623	1.06				X	X	X
South Korea	7,070	2.07	X	X	X	X	X	X
Kuwait	1,303	0.38						X
Kyrgyzstan	2,543	0.75				X		X
Lebanon	1,200	0.35						X
Latvia	1,200	0.35			X			
Libya	2,131	0.62						X
Lithuania	1,009	0.3			X			
Malaysia	2,501	0.73					X	X
Mali	1,534	0.45					X	
Mexico	10,827	3.17	X	X	X	X	X	X
Moldova	3,038	0.89			X	X	X	
Montenegro	1,300	0.38			X	X		
Morocco	3,651	1.07				X	X	X
Netherlands	2,952	0.87					X	X
New Zealand	2,996	0.88			X		X	X
Nigeria	6,778	1.99		X	X	X		X
Norway	2,152	0.63			X		X	
Pakistan	3,933	1.15			X	X		X
Peru	5,422	1.59			X	X	X	X
Philippines	3,600	1.05			X	X		X
Poland	4,057	1.19		X	X		X	X
Puerto Rico	1,884	0.55			X	X		
Qatar	1,060	0.31						X
Romania	4,518	1.32			X		X	X
Russia	8,534	2.5		X	X		X	X
Rwanda	3,034	0.89					X	X
Saudi Arabia	1,502	0.44				X		
Serbia	2,480	0.73			X	X		
Singapore	3,484	1.02				X		X
Slovakia	1,561	0.46		X	X			

Country	Number of Individuals	Percent of full sample	Wave 1 1981-1984	Wave 2 1989-1993	Wave 3 1994-1998	Wave 4 1999-2004	Wave 5 2005-2009	Wave 6 2010-2014
Viet Nam	2,495	0.73				X	X	
Slovenia	3,113	0.91			X		X	X
South Africa	16,786	4.92	X	X	X	X	X	X
Zimbabwe	2,502	0.73				X		X
Spain	6,319	1.85		X	X	X	X	X
Sweden	3,218	0.94			X		X	X
Switzerland	3,853	1.13		X	X		X	
Thailand	2,734	0.8					X	X
Trinidad and Tobago	2,001	0.59					X	X
Tunisia	1,205	0.35						X
Turkey	9,289	2.72		X	X	X	X	X
Uganda	1,002	0.29				X		
Ukraine	5,311	1.56			X		X	X
Macedonia	2,050	0.6			X	X		
Egypt	7,574	2.22				X	X	X
Great Britain	2,134	0.63			X		X	
Tanzania	1,171	0.34				X		
United States	6,223	1.82			X	X	X	X
Burkina Faso	1,534	0.45					X	
Uruguay	3,000	0.88			X		X	X
Uzbekistan	1,500	0.44						X
Venezuela	2,400	0.7			X	X		
Yemen	1,000	0.29						X
Serbia and Montenegro	1,220	0.36					X	
Zambia	1,500	0.44					X	
Bosnia	800	0.23			X			
Total	**341,271**	100						

Appendix 2.D

Dependent and Control Variables								
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**	**Source**	**Description or Question**	**Values**
Satisfaction with Life (A170) - Wave 3 Sample	74367	6.36	2.54	1	10	WVS	Question: "All things considered, how satisfied are you with your life as a whole these days?"	1-10; 1-Dissatisfied, 10-Satisfied
Satisfaction with Life (A170) - All Waves Sample	335809	6.61	2.41	1	10	WVS	Question: "All things considered, how satisfied are you with your life as a whole these days?"	1-10; 1-Dissatisfied, 10-Satisfied
Sex (X001) - Wave 3 Sample	77053	1.52	0.50	1	2	WVS	Sex	1-2; 1-Male, 2-Female
Sex (X001) -All Waves Sample	336531	1.51	0.50	1	2	WVS	Sex	1-2; 1-Male, 2-Female
Age (X003) -Wave 3 Sample	76950	41.24	16.04	15	95	WVS	Age	Continuous
Age (X003) -All Waves Sample	337058	40.96	16.19	13	99	WVS	Age	Continuous
Marital Status (X007) - Wave 3 Sample	73947	0.66	0.47	0	1	WVS	Marital Status	0-1; 1-Married or Living together as married
Marital Status (X007) -All Waves Sample	336453	0.64	0.48	0	1	WVS	Marital Status	0-1; 1-Married or Living together as married
Education Level (X025R) - Wave 3 Sample	74252	1.87	0.74	1	3	WVS	Education Level	1-3; 1-Lower, 2-Middle, 3-Upper

Education Level (X025R) - All Waves Sample	296142	1.92	0.74	1	3	WVS	Education Level	1-3; 1-Lower, 2-Middle, 3-Upper
Employment Status (X028) - Wave 3 Sample	73234	0.09	0.28	0	1	WVS	Employment Status	0-1; 1-Unemployed
Employment Status (X028) - All Waves Sample	329450	0.09	0.29	0	1	WVS	Employment Status	0-1; 1-Unemployed
Health Status (A009) - Wave 3 Sample	72816	2.33	0.94	1	5	WVS	Question: "All in all, how would you describe your state of health these days?"	1-5; 1-very good, 2-good, 3-fair, 4-poor, 5-very poor
Health Status (A009) - All Waves Sample	330606	2.20	0.89	1	5	WVS	Question: "All in all, how would you describe your state of health these days?"	1-5; 1-very good, 2-good, 3-fair, 4-poor, 5-very poor
Income Decile (X047) - Wave 3 Sample	66818	4.58	2.58	1	10	WVS	Question: "Here is a scale of incomes. We would like to know in what group your household is, counting all wages, salaries, pensions and other incomes that come in. Just give the letter of the group your household falls into, before taxes and other deductions."	1-10; 1 being the lowest decile and 10 being the highest decile. Note: The deciles are income brackets based on the income distribution in each country. Respondents are asked to place themselves in the decile that describes where they are in the income distribution (listed in local currency).
Income Decile (X047) - All Waves sample	308298	4.63	2.33	1	10	WVS	Question: "Here is a scale of incomes. We would like to know in what group your household is, counting all wages, salaries, pensions and other incomes that come in. Just give the letter of the group your household falls into, before taxes and other deductions."	1-10; 1 being the lowest decile and 10 being the highest decile. Note: The deciles are income brackets based on the income distribution in each country. Respondents are asked to place themselves in the decile that describes where they are in the income distribution (listed in local currency).

Inequality/ Social Class Variables (Independent Variables)								
Variable	Obs	Mean	Std. Dev.	Min	Max	Source	Description or Question	Values
GINI-Net (SWIID) - Wave 3 Sample	74809	36.25	9.22	21.94	55.59	Swiid	Inequality in net (post-tax, post-transfer) income,	0-100; continuous
GINI-Net (SWIID) - All Waves Sample	284896	37.00	9.10	17.63	57.40	Swiid	Inequality in net (post-tax, post-transfer) income,	0-100; continuous
Social class (X045) - Wave 3 Sample	74002	2.67	0.94	1	5	WVS	Question: "Would you describe yourself as belonging to the: Upper class, Upper middle class, Lower middle class, Working class, Lower class"	1-5; 1- Lower class, 2-working class, 3-Lower middle class , 4-Upper Middle Class, 5-Upper class
Social class (X045) - All Waves Sample	284337	2.68	0.98	1	5	WVS	Question: "Would you describe yourself as belonging to the: Upper class, Upper middle class, Lower middle class, Working class, Lower class"	1-5; 1- Lower class, 2-working class, 3-Lower middle class , 4-Upper Middle Class, 5-Upper class
Hard work and success (E040) - Wave 3 Sample	67175	4.42	2.88	1	10	WVS	Question: "How would you place your views on this scale? Agreement: Hard work brings success"	1-10; 1-In the long run, hard work usually brings a better life, 10-hard work doesn't generally bring success- it's more a matter of luck and connections
Hard work and success (E040) - All Waves Sample	250683	4.34	2.86	1	10	WVS	Question: "How would you place your views on this scale? Agreement: Hard work brings success"	1-10; 1-In the long run, hard work usually brings a better life, 10-hard work doesn't generally bring success- it's more a matter of luck and connections
Poverty and Laziness/Unfair Society (E131) - Wave 3 Sample	62228	0.69	0.46	0	1	WVS	Question: "Why, in your opinion, are there people in this country who live in need?"	0-1;0- poor because of laziness and lack of willpower, 1-poor because of an unfair society
Poverty and Laziness/Unfair Society (E131) - All Waves Sample	62228	0.69	0.46	0	1	WVS	Question: "Why, in your opinion, are there people in this country who live in need?"	0-1;0- poor because of laziness and lack of willpower, 1-poor because of an unfair society

Chance of escaping poverty (E132) - Wave 3 Sample	65065	0.60	0.49	0	1	WVS	Question: "In your opinion, do most poor people in this country have a chance of escaping from poverty, or is there very little of chance escaping?"	0-1; 0-have a chance, 1-very little chance
Chance of escaping poverty (E132) - All Waves Sample	65065	0.60	0.49	0	1	WVS	Question: "In your opinion, do most poor people in this country have a chance of escaping from poverty, or is there very little of chance escaping?"	0-1; 0-have a chance, 1-very little chance
Incomes should become more equal (E035) -Wave 3 Sample	70748	5.27	2.96	1	10	WVS	Question: "How would you place your views on this scale? Sentences: Incomes should be made more equal vs We need larger income differences as incentives"	1-10; 1-we need larger income differences to provide incentives, 10- incomes should be made more equal.
Incomes should become more equal (E035) - All Waves Sample	313927	5.19	2.98	1	10	WVS	Question: "How would you place your views on this scale? Sentences: Incomes should be made more equal vs We need larger income differences as incentives"	1-10; 1-we need larger income differences to provide incentives, 10- incomes should be made more equal.
Wealth Accumulation (E041) - Wave 3 Sample	64154	4.63	2.79	1	10	WVS	Question: "How would you place your views on this scale? Agreement: Wealth accumulation."	1-10; 1-wealth can grow so there is enough for everyone, 10- people can only get rich at the expense of others,
Wealth Accumulation (E041) - All Waves Sample	242605	4.65	2.74	1	10	WVS	Question: "How would you place your views on this scale? Agreement: Wealth accumulation."	1-10; 1-wealth can grow so there is enough for everyone, 10- people can only get rich at the expense of others,

Government Welfare Effort/Public Expenditure Variables (Independent Variables)								
Variable	Obs	Mean	Std. Dev.	Min	Max	Source	Description or Question	Values
General government final consumption expenditure (% of GDP) - Wave 3 Sample	75309	15.72	5.43	4.73	27.10	WDI	General government final consumption expenditure includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defense and security, but excludes government military expenditures that are part of government capital formation.	Percent, continuous
General government final consumption expenditure (% of GDP) - All Waves Sample	319763	15.43	5.08	3.32	27.11	WDI		Percent, continuous
Government expenditure on education (% of GDP) - Wave 3 Sample	63094	4.25	1.68	1.23	9.90	WDI		Percent, continuous
Government expenditure on education (% of GDP) -All Waves Sample	212793	4.41	1.47	1.23	9.90	WDI		Percent, continuous
Government expenditure on health (% of GDP) -Wave 3 Sample	75185	4.06	2.05	0.71	8.28	WDI		Percent, continuous

Government expenditure on health (% of GDP) - All Waves Sample	280940	3.93	2.04	0.59	10.09	WDI		Percent, continuous
Military Expenditure (% of GDP) - Wave 3 Sample	74145	2.13	1.35	0.50	8.19	WDI		Percent, continuous
Military Expenditure (% of GDP) -All Waves Sample	305753	2.20	1.44	0.42	8.74	WDI		Percent, continuous
Government doing enough for poor (E133) - Wave 3 Sample	64614	0.27	0.44	0	1	WVS	Question: Do you think that what the government is doing for people in poverty in this country is about the right amount, too much, or too little?	0-1; 0-Too little, 1-About the right amount or too much
Government doing enough for poor (E133) - All Waves Sample	64614	0.27	0.44	0	1	WVS	Question: Do you think that what the government is doing for people in poverty in this country is about the right amount, too much, or too little?	0-1; 0-Too little, 1-About the right amount or too much
Government Responsibility (E037) - Wave 3 Sample	70452	4.66	3.00	1	10	WVS	Question: "How would you place your views on this scale? Sentences: People should take more responsibility to provide for themselves vs The government should take more responsibility to ensure that everyone is provided for"	1-10; 1 government should take more responsibility, 10-Individuals should take more responsibility,
Government Responsibility (E037) - All Waves Sample	315301	4.75	2.97	1	10	WVS	Question: "How would you place your views on this scale? Sentences: People should take more responsibility to provide for themselves vs The government should take more responsibility to ensure that everyone is provided for"	1-10; 1 government should take more responsibility, 10-Individuals should take more responsibility,

Governance Variables								
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**	**Source**	**Description or Question**	**Values**
Confidence in Parliament (E069_07) - Wave 3 Sample	69700	2.78	0.87	1	4	WVS	Question: "I am going to name a number of organisations. For each one, could you tell me how much confidence you have in them: Parliament"	1-4; 1-A great deal, 2-Quite a lot, 3- Not very much, 4-None at all
Confidence in Parliament (E069_07) - All Waves Sample	306726	2.70	0.93	1	4	WVS	Question: "I am going to name a number of organisations. For each one, could you tell me how much confidence you have in them: Parliament"	1-4; 1-A great deal, 2-Quite a lot, 3- Not very much, 4-None at all
Confidence in Government (E069_11) - Wave 3 Sample	67779	2.67	0.89	1	4	WVS	Question: "I am going to name a number of organisations. For each one, could you tell me how much confidence you have in them: Government"	1-4; 1-A great deal, 2-Quite a lot, 3- Not very much, 4-None at all
Confidence in Government (E069_11) -All Waves Sample	289619	2.59	0.93	1	4	WVS	Question: "I am going to name a number of organisations. For each one, could you tell me how much confidence you have in them: Government"	1-4; 1-A great deal, 2-Quite a lot, 3- Not very much, 4-None at all
Confidence in Justice System (E069_17) - Wave 3 Sample	71903	2.54	0.87	1	4	WVS	Question: "I am going to name a number of organisations. For each one, could you tell me how much confidence you have in them: Justice System"	1-4; 1-A great deal, 2-Quite a lot, 3- Not very much, 4-None at all
Confidence in Justice System (E069_17) -All Waves Sample	260785	2.46	0.91	1	4	WVS	Question: "I am going to name a number of organisations. For each one, could you tell me how much confidence you have in them: Justice System"	1-4; 1-A great deal, 2-Quite a lot, 3- Not very much, 4-None at all
Satisfaction with people in national office (E125) - Wave 3 Sample	66028	2.88	0.81	1	4	WVS	Question: How satisfied are you with the way the people now in national office are handling the country's affairs?	1-4; 1-Very Satisfied, 2-Fairly Satisfied, 3-Fairly Dissatisfied, 4-Very Dissatisfied
Satisfaction with people in national office (E125) - All Waves Sample	117533	2.75	0.85	1	4	WVS	Question: How satisfied are you with the way the people now in national office are handling the country's affairs?	1-4; 1-Very Satisfied, 2-Fairly Satisfied, 3-Fairly Dissatisfied, 4-Very Dissatisfied

WVS WAVE 3: INDIVIDUAL-LEVEL INCOME/SOCIAL CLASS/PERCEIVED INEQUALITY

	OLS					ORDERED LOGIT				
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Income Rank	0.132***	0.180*	0.161***	0.142***	0.0540**	0.104***	0.137**	0.130***	0.109***	0.0440***
	(0.0157)	(0.0752)	(0.0177)	(0.0252)	(0.0173)	(0.0130)	(0.0609)	(0.0177)	(0.0193)	(0.0166)
Constant	6.688***	6.338***	5.237***	6.688***	6.741***					
	(0.172)	(0.760)	(0.228)	(0.285)	(0.251)					
Observations	54,406	10,367	22,938	9,965	11,136	54,406	10,367	22,938	9,965	11,136
R-squared	0.315	0.271	0.287	0.185	0.196					
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Perceived Social Class	0.372***	0.494***	0.432***	0.276**	0.216***	0.323***	0.394***	0.367***	0.236***	0.234***
	(0.0383)	(0.109)	(0.0481)	(0.105)	(0.0512)	(0.0325)	(0.0917)	(0.0479)	(0.0813)	(0.0539)
Constant	6.060***	5.531***	4.532***	6.358***	6.371***					
	(0.162)	(0.493)	(0.248)	(0.345)	(0.300)					
Observations	52,521	10,105	22,302	9,722	10,392	52,521	10,105	22,302	9,722	10,392
R-squared	0.327	0.296	0.302	0.189	0.200					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income (only for the perceived social class analysis), and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

	OLS					ORDERED LOGIT				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
Hard work does not bring success	-0.0427***	-0.0223	-0.0507***	-0.0401*	-0.0553***	-0.0383***	-0.0203*	-0.0422***	-0.0372**	-0.0605***
	(0.00566)	(0.0159)	(0.00737)	(0.0179)	(0.00901)	(0.00518)	(0.0118)	(0.00666)	(0.0166)	(0.00991)
Constant	6.858***	6.396***	5.400***	6.908***	7.026***					
	(0.175)	(0.730)	(0.237)	(0.288)	(0.281)					
Observations	50,230	10,143	19,316	9,803	10,968	50,230	10,143	19,316	9,803	10,968
R-squared	0.307	0.269	0.238	0.186	0.202					
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
Poor because of unfair society	-0.463***	-0.661***	-0.587***	-0.291***	-0.219***	-0.377***	-0.502***	-0.466***	-0.236***	-0.229***
	(0.0577)	(0.161)	(0.0997)	(0.0712)	(0.0419)	(0.0452)	(0.109)	(0.0816)	(0.0659)	(0.0422)
Constant	7.269***	7.372***	6.220***	7.319***	6.975***					
	(0.195)	(0.916)	(0.248)	(0.250)	(0.314)					
Observations	47,029	9,240	20,625	8,849	8,315	47,029	9,240	20,625	8,849	8,315
R-squared	0.317	0.285	0.298	0.187	0.193					
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
Little chance of escaping poverty	-0.454***	-0.627***	-0.542***	-0.366***	-0.266***	-0.383***	-0.464***	-0.448***	-0.324***	-0.270***
	(0.0552)	(0.159)	(0.100)	(0.0900)	(0.0335)	(0.0447)	(0.132)	(0.0801)	(0.0877)	(0.0346)
Constant	7.144***	7.347***	6.123***	7.249***	7.026***					
	(0.185)	(0.903)	(0.233)	(0.351)	(0.248)					
Observations	49,659	9,578	20,732	9,546	9,803	49,659	9,578	20,732	9,546	9,803
R-squared	0.315	0.284	0.284	0.184	0.191					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

	OLS					ORDERED LOGIT				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
Incomes should be made more equal	-0.0621***	-0.0534**	-0.0596***	-0.0796***	-0.0472***	-0.0537***	-0.0400**	-0.0504***	-0.0705***	-0.0454***
	(0.00843)	(0.0210)	(0.0154)	(0.0123)	(0.0103)	(0.00752)	(0.0176)	(0.0132)	(0.0114)	(0.0108)
Constant	7.055***	6.610***	5.520***	7.195***	7.028***					
	(0.179)	(0.821)	(0.252)	(0.220)	(0.230)					
Observations	52,819	9,865	22,178	9,813	10,963	52,819	9,865	22,178	9,813	10,963
R-squared	0.318	0.275	0.287	0.195	0.200					
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
People only rich at expense of others	-0.0692***	-0.0510*	-0.0621***	-0.0885***	-0.0721***	-0.0636***	-0.0429**	-0.0524***	-0.0832***	-0.0784***
	(0.00719)	(0.0230)	(0.0121)	(0.0115)	(0.00576)	(0.00694)	(0.0182)	(0.0105)	(0.0133)	(0.00795)
Constant	6.887***	6.637***	5.318***	7.055***	7.044***					
	(0.180)	(0.819)	(0.244)	(0.282)	(0.259)					
Observations	47,996	9,664	17,944	9,615	10,773	47,996	9,664	17,944	9,615	10,773
R-squared	0.311	0.276	0.221	0.192	0.202					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

WVS ALL WAVES (1-6): INDIVIDUAL-LEVEL INCOME/SOCIAL CLASS/PERCEIVED INEQUALITY

	OLS					ORDERED LOGIT				
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Income Rank	0.176***	0.237***	0.241***	0.157***	0.105***	0.146***	0.204***	0.193***	0.127***	0.101***
	(0.0123)	(0.0278)	(0.0178)	(0.0233)	(0.0142)	(0.0109)	(0.0278)	(0.0169)	(0.0214)	(0.0146)
Constant	5.464***	6.089***	4.723***	6.505***	7.596***					
	(0.208)	(0.281)	(0.117)	(0.135)	(0.150)					
Observations	250,589	37,182	81,185	65,660	66,562	250,589	37,182	81,185	65,660	66,562
R-squared	0.263	0.245	0.252	0.189	0.201					
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Perceived Social Class	0.260***	0.244***	0.315***	0.224***	0.224***	0.230***	0.197***	0.253***	0.198***	0.245***
	(0.0183)	(0.0560)	(0.0336)	(0.0242)	(0.0367)	(0.0160)	(0.0476)	(0.0301)	(0.0193)	(0.0372)
Constant	4.937***	5.483***	4.310***	5.812***	6.491***					
	(0.190)	(0.229)	(0.130)	(0.155)	(0.186)					
Observations	226,098	33,445	75,263	57,452	59,938	226,098	33,445	75,263	57,452	59,938
R-squared	0.272	0.257	0.249	0.194	0.205					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income (only for the perceived social class analysis), and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

	OLS					ORDERED LOGIT				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
Hard work does not bring success	-0.0382***	-0.0391***	-0.0292***	-0.0342***	-0.0555***	-0.0376***	-0.0361***	-0.0258***	-0.0321***	-0.0624***
	(0.00395)	(0.0125)	(0.00742)	(0.00760)	(0.00593)	(0.00380)	(0.0105)	(0.00604)	(0.00660)	(0.00707)
Constant	5.329***	8.008***	7.220***	6.560***	7.348***					
	(0.386)	(0.354)	(0.135)	(0.150)	(0.139)					
Observations	194,970	25,414	52,599	59,139	57,818	194,970	25,414	52,599	59,139	57,818
R-squared	0.266	0.246	0.270	0.195	0.206					
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
Poor because of unfair society	-0.463***	-0.661***	-0.587***	-0.291***	-0.219***	-0.377***	-0.502***	-0.466***	-0.236***	-0.229***
	(0.0577)	(0.161)	(0.0997)	(0.0712)	(0.0419)	(0.0452)	(0.109)	(0.0816)	(0.0659)	(0.0422)
Constant	7.269***	7.372***	6.220***	7.319***	6.975***					
	(0.195)	(0.916)	(0.248)	(0.250)	(0.314)					
Observations	47,029	9,240	20,625	8,849	8,315	47,029	9,240	20,625	8,849	8,315
R-squared	0.317	0.285	0.298	0.187	0.193					
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
Little chance of escaping poverty	-0.454***	-0.627***	-0.542***	-0.366***	-0.266***	-0.383***	-0.464***	-0.448***	-0.324***	-0.270***
	(0.0552)	(0.159)	(0.100)	(0.0900)	(0.0335)	(0.0447)	(0.132)	(0.0801)	(0.0877)	(0.0346)
Constant	7.144***	7.347***	6.123***	7.249***	7.026***					
	(0.185)	(0.903)	(0.233)	(0.351)	(0.248)					
Observations	49,659	9,578	20,732	9,546	9,803	49,659	9,578	20,732	9,546	9,803
R-squared	0.315	0.284	0.284	0.184	0.191					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

	OLS					ORDERED LOGIT				
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Incomes should be made more equal	-0.0444*** (0.00438)	-0.0367*** (0.00883)	-0.0527*** (0.00799)	-0.0416*** (0.00627)	-0.0408*** (0.00553)	-0.0399*** (0.00393)	-0.0299*** (0.00797)	-0.0446*** (0.00630)	-0.0379*** (0.00581)	-0.0423*** (0.00577)
Constant	5.541*** (0.252)	6.303*** (0.293)	5.132*** (0.122)	6.703*** (0.113)	7.097*** (0.144)					
Observations	243,415	35,760	78,923	64,307	64,425	243,415	35,760	78,923	64,307	64,425
R-squared	0.263	0.244	0.253	0.193	0.202					
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
People only rich at expense of others	-0.0528*** (0.00436)	-0.0458*** (0.0110)	-0.0601*** (0.00901)	-0.0532*** (0.00881)	-0.0573*** (0.00587)	-0.0530*** (0.00423)	-0.0429*** (0.0105)	-0.0526*** (0.00769)	-0.0531*** (0.00782)	-0.0667*** (0.00621)
Constant	5.517*** (0.386)	8.100*** (0.393)	7.402*** (0.133)	6.743*** (0.144)	7.290*** (0.148)					
Observations	189,655	24,473	50,469	57,980	56,733	189,655	24,473	50,469	57,980	56,733
R-squared	0.268	0.251	0.270	0.197	0.203					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

WVS WAVE 3: INDIVIDUAL-LEVEL PERCEIVED GOVERNMENT WELFARE EFFORT VARIABLES

	OLS					ORDERED LOGIT				
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
Govt doing enough/ too much for the poor	0.316*** (0.0551)	0.311* (0.150)	0.557*** (0.0970)	0.235* (0.116)	0.112** (0.0472)	0.254*** (0.0460)	0.249** (0.110)	0.452*** (0.0835)	0.167* (0.0981)	0.108** (0.0472)
Constant	6.578*** (0.180)	6.346*** (0.764)	5.091*** (0.242)	6.637*** (0.271)	6.775*** (0.300)					
Observations	49,823	9,637	21,026	9,531	9,629	49,823	9,637	21,026	9,531	9,629
R-squared	0.314	0.275	0.284	0.179	0.190					
	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC	(1) All	(2) LIC	(3) LMI	(4) UMI	(5) HIC
People should take more responsibility	0.0626*** (0.0104)	0.0573 (0.0313)	0.0595*** (0.0173)	0.0635** (0.0196)	0.0626*** (0.0140)	0.0562*** (0.00926)	0.0508* (0.0265)	0.0518*** (0.0148)	0.0523*** (0.0174)	0.0683*** (0.0143)
Constant	6.373*** (0.172)	6.113*** (0.670)	4.986*** (0.238)	6.430*** (0.358)	6.442*** (0.296)					
Observations	53,355	10,143	22,430	9,795	10,987	53,355	10,143	22,430	9,795	10,987
R-squared	0.319	0.273	0.289	0.190	0.203					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

WVS ALL WAVES: INDIVIDUAL-LEVEL PERCEIVED GOVERNMENT WELFARE EFFORT VARIABLES

	OLS					ORDERED LOGIT				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
Govt doing enough/ too much for the poor	0.316***	0.311*	0.557***	0.235*	0.112**	0.254***	0.249**	0.452***	0.167*	0.108**
	(0.0551)	(0.150)	(0.0970)	(0.116)	(0.0472)	(0.0460)	(0.110)	(0.0835)	(0.0981)	(0.0472)
Constant	6.578***	6.346***	5.091***	6.637***	6.775***					
	(0.180)	(0.764)	(0.242)	(0.271)	(0.300)					
Observations	49,823	9,637	21,026	9,531	9,629	49,823	9,637	21,026	9,531	9,629
R-squared	0.314	0.275	0.284	0.179	0.190					
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	All	LIC	LMI	UMI	HIC	All	LIC	LMI	UMI	HIC
People should take more responsibility	0.0453***	0.0433***	0.0505***	0.0357***	0.0420***	0.0396***	0.0371***	0.0407***	0.0306***	0.0442***
	(0.00422)	(0.0136)	(0.00651)	(0.00703)	(0.00689)	(0.00407)	(0.0120)	(0.00555)	(0.00588)	(0.00849)
Constant	5.025***	5.875***	4.521***	6.364***	6.676***					
	(0.250)	(0.275)	(0.121)	(0.143)	(0.160)					
Observations	244,993	36,180	79,570	64,573	64,670	244,993	36,180	79,570	64,573	64,670
R-squared	0.264	0.246	0.254	0.192	0.203					

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

Appendix 2.G

Note: The analysis is based on Wave 3 of the World Values Survey since the main independent variable data exists in this wave only.

OLS

ALL COUNTRIES								
	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	Not Satisfied	Satisfied
Poor because of unfair society	-0.440***	-0.392***	-0.448***	-0.381***	-0.484***	-0.370***	-0.440***	-0.326***
	(0.0629)	(0.0653)	(0.0532)	(0.0742)	0.0613	(0.0645)	(0.0692)	(0.0613)
Observations	27,577	16,183	23,560	17,912	23,452	21,158	29,913	13,473
R-squared	0.335	0.299	0.328	0.29	0.333	0.305	0.334	0.225
LIC								
	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	Not Satisfied	Satisfied
Poor because of unfair society	-0.754***	-0.516*	-0.650***	-0.568**	-0.800**	-0.459*	-0.760***	-0.400
	(0.163)	(0.203)	(0.136)	(0.219)	(0.201)	(0.196)	(0.123)	(0.216)
Observations	3,671	3,806	3,370	4,231	3,687	4,010	4,950	2,548
R-squared	0.318	0.239	0.337	0.233	0.309	0.233	0.289	0.155

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

LIC/LMI/UMI

	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	Not Satisfied	Satisfied
Poor because of unfair society	-0.510***	-0.435***	-0.510***	-0.440***	-0.525***	-0.440***	-0.490***	-0.388***
	(0.0752)	(0.0796)	(0.0637)	(0.0883)	(0.0734)	(0.0779)	(0.0829)	(0.0752)
Observations	22,332	13,305	18,239	15,050	19,301	17,112	25,294	9,957
R-squared	0.321	0.276	0.3	0.265	0.325	0.278	0.314	0.206

HIC

	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	Not Satisfied	Satisfied
Poor because of unfair society	-0.204**	-0.180**	-0.256***	-0.100	-0.300***	-0.124*	-0.219***	-0.144
	(0.0641)	(0.0741)	(0.0595)	(0.0632)	(0.0674)	(0.054)	(0.0395)	(0.106)
Observations	5,245	2,878	5,321	2,862	4,151	4,046	4,619	3,516
R-squared	0.196	0.185	0.19	0.197	0.201	0.173	0.202	0.161

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

ORDERED LOGIT

ALL COUNTRIES								
	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	Not Satisfied	Satisfied
Poor because of unfair society	-0.359***	-0.327***	-0.364***	-0.316***	-0.390***	-0.309***	-0.356***	-0.292***
	(0.0504)	(0.0506)	(0.0415)	(0.0594)	(0.0497)	(0.0512)	(0.0539)	(0.0514)
Observations	27,577	16,183	23,560	17,912	23,452	21,158	29,913	13,473
LIC								
	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	Not Satisfied	Satisfied
Poor because of unfair society	-0.588***	-0.388***	-0.498***	-0.447***	-0.623***	-0.344***	-0.559***	-0.344**
	(0.119)	(0.131)	(0.0978)	(0.152)	(0.157)	(0.121)	(0.0762)	(0.168)
Observations	3,671	3,806	3,370	4,231	3,687	4,010	4,950	2,548

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

LIC/LMI/UMI

	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	Not Satisfied	Satisfied
Poor because of unfair society	-0.402***	-0.349***	-0.399***	-0.352***	-0.409***	-0.353***	-0.389***	-0.321***
	(0.0599)	(0.0614)	(0.0494)	(0.0701)	(0.059)	(0.0602)	(0.0635)	(0.0614)
Observations	22,332	13,305	18,239	15,050	19,301	17,112	25,294	9,957

HIC

	Confidence in Parliament		Confidence in Government		Confidence in Justice System		Satisfaction with people in national office	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	Not Satisfied	Satisfied
Poor because of unfair society	-0.209***	-0.210***	-0.257***	-0.131***	-0.295***	-0.152**	-0.198***	-0.210**
	(0.0697)	(0.0511)	(0.0643)	(0.0493)	(0.0661)	(0.0619)	(0.0485)	(0.0992)
Observations	5,245	2,878	5,321	2,862	4,151	4,046	4,619	3,516

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

Note: The dependent variable is life satisfaction and the control variables are sex, age, education level, marital status, employment status, income, and health status. Country and time dummies are included. The robust standard errors are clustered at the country level and weights are introduced to account for country sample size variability.

Appendix 3.A – Description of Variables

Dependent Variable	Notes
Life satisfaction	Survey question: "In general, how satisfied or unsatisfied are you with your life overall?" *Household members aged 15+ *386 responses out of 100 968 were "do not know/no answer" These were imputed as missing.
Independent Variables	**Notes**
Received Any Assistance	Based on the survey question "Has this household received assistance (cash or other than cash), during the past 12 months?"
Received Rations	Based on question that asked if household received rations. *Rations items include wheat flour, rice, sugar, vegetable oil, vegetable fat, and infant formula.
Received Pension	Based on a question that asked if anyone in the household received a pension.
Received Social Protection Network transfer	Based on question that asked if anyone in the household received a transfer from the Social Protection Network.
Received Private Assistance	Based on question that asked if anyone in the household received income from any of the "private assistance" categories. *The private assistance category includes zakat as well as gifts, cash assistance, and in-kind aid from other families inside and outside of Iraq.
Received Capital Income	Based on question that asked if anyone in the household received income from any of the "capital income" categories. *The capital income category includes income from renting vacant and agricultural land; renting residential and non-residential buildings; renting machinery or equipment or means of transportation; agricultural land cooperative system; profits from shares or from cooperative companies; interests on bonds and trusts; and property rights and publications.
Control Variables	**Notes**
Gender	Gender of household members
Age	Age of household members
Marital Status	Based on survey question about marital status. The response options are "married," "never married," "divorced," "separated," and "widow." *Marital Status of all household members aged 12+
Health Status	Based on survey question: "Do you suffer from any medically diagnosed chronic illness?" the response options are "yes" and "no" *Health status of all household members

Education Status	Based on survey question: "Have you ever attended school?" The response options are "yes, in the past," "yes, currently attending," and "no, I did not attend previously." *Education status of household members aged 6+
Employment Status	Based on two survey questions that define unemployment in accordance with ILO criteria. The first question asks how many hours household members worked during the past week. And the second question is: "Are you looking for work/more work whatever is the type?" The response options to this second question are "yes" and "no" Unemployed is a person who worked 0 hours the past week and is looking for work. *Employment status of all household members aged 6+
Household Consumption Expenditure (person/month in thousand dinars)	Average consumption expenditure/month/household member
Log of Household Consumption Expenditure	Log of the above
Household Size	Household size

Appendix 3.B: Results (OLS)

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedAnyAssistance	-0.139***	-0.247***	-0.124***	0.0748***	-0.232***
	(0.0162)	(0.0493)	(0.0172)	(0.0257)	(0.0200)
ReceivedAnyAssistance*Quintile1	0.0228	0.154**	0.00679	-0.208**	0.121***
	(0.0219)	(0.0782)	(0.0227)	(0.0818)	(0.0252)
ReceivedAnyAssistance*Quintile2	0.0163	0.130**	-0.000481	0.0642	0.0845***
	(0.0200)	(0.0647)	(0.0210)	(0.0428)	(0.0228)
ReceivedAnyAssistance*Quintile3	0.0710***	0.0454	0.0730***	0.000317	0.129***
	(0.0191)	(0.0632)	(0.0199)	(0.0364)	(0.0218)
ReceivedAnyAssistance*Quintile4	0.0122	0.114**	-0.00378	-0.00406	0.0464**
	(0.0189)	(0.0535)	(0.0202)	(0.0332)	(0.0219)
Female	0.0127*	0.0246	0.0123	-0.00511	0.0150*
	(0.00770)	(0.0277)	(0.00808)	(0.0178)	(0.00847)
Age	0.00162***	0.00192*	0.00166***	0.00173**	0.00163***
	(0.000286)	(0.00107)	(0.000298)	(0.000675)	(0.000314)
Married	0.0291***	0.0649**	0.0212**	0.0546***	0.0209**
	(0.00848)	(0.0273)	(0.00922)	(0.0191)	(0.00943)
Educated	0.0919***	0.0990***	0.0899***	0.0366*	0.104***
	(0.0103)	(0.0350)	(0.0107)	(0.0212)	(0.0117)
Healthy	0.0537***	0.0471	0.0532***	0.0473**	0.0570***
	(0.0109)	(0.0331)	(0.0116)	(0.0224)	(0.0122)
Unemployed	-0.111***	-0.101**	-0.111***	-0.121***	-0.110***
	(0.0152)	(0.0413)	(0.0163)	(0.0319)	(0.0168)
Consumption Expenditure (log)	0.211***	0.258***	0.206***	0.122***	0.259***
	(0.0108)	(0.0358)	(0.0113)	(0.0221)	(0.0124)
Household size	0.0182***	0.0264***	0.0173***	0.00823***	0.0194***
	(0.000894)	(0.00333)	(0.000929)	(0.00274)	(0.000947)
Constant	2.153***	1.981***	2.176***	2.651***	1.415***
	(0.0636)	(0.210)	(0.0667)	(0.138)	(0.0692)
Observations	85,606	7,700	77,906	19,513	66,093
R-squared	0.156	0.185	0.154	0.074	0.138

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

Note: governorate dummies are included in the regression model but not presented in the table

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedRation	-0.0320	-0.260*	-0.0218	0.370***	-0.101**
	(0.0449)	(0.137)	(0.0464)	(0.123)	(0.0474)
ReceivedRation*Quintile1	0.0929***	0.0953	0.0925***	-0.0924	0.149***
	(0.0330)	(0.106)	(0.0347)	(0.0704)	(0.0390)
ReceivedRation*Quintile2	0.0701***	0.0473	0.0701***	-0.0273	0.107***
	(0.0249)	(0.0786)	(0.0262)	(0.0459)	(0.0292)
ReceivedRation*Quintile3	0.108***	-0.00604	0.121***	0.0207	0.136***
	(0.0201)	(0.0652)	(0.0212)	(0.0380)	(0.0235)
ReceivedRation*Quintile4	0.0734***	0.0790	0.0708***	0.0455	0.0840***
	(0.0159)	(0.0489)	(0.0169)	(0.0280)	(0.0188)
Female	0.0119	0.0220	0.0118	-0.00420	0.0143*
	(0.00773)	(0.0281)	(0.00810)	(0.0177)	(0.00853)
Age	0.00164***	0.00200*	0.00168***	0.00158**	0.00164***
	(0.000287)	(0.00108)	(0.000298)	(0.000672)	(0.000315)
Married	0.0300***	0.0636**	0.0210**	0.0587***	0.0219**
	(0.00852)	(0.0278)	(0.00926)	(0.0192)	(0.00948)
Educated	0.0910***	0.111***	0.0880***	0.0415*	0.104***
	(0.0104)	(0.0354)	(0.0108)	(0.0212)	(0.0118)
Healthy	0.0560***	0.0453	0.0553***	0.0443**	0.0594***
	(0.0110)	(0.0334)	(0.0116)	(0.0224)	(0.0123)
Unemployed	-0.114***	-0.108***	-0.114***	-0.113***	-0.115***
	(0.0152)	(0.0414)	(0.0163)	(0.0320)	(0.0168)
Consumption Expenditure (log)	0.261***	0.246***	0.262***	0.125***	0.306***
	(0.0215)	(0.0633)	(0.0228)	(0.0363)	(0.0262)
Household size	0.0189***	0.0273***	0.0178***	0.00643**	0.0201***
	(0.000906)	(0.00347)	(0.000939)	(0.00274)	(0.000961)
Constant	1.789***	2.122***	1.778***	2.314***	1.068***
	(0.127)	(0.395)	(0.134)	(0.248)	(0.151)
Observations	85,653	7,700	77,953	19,513	66,140
R-squared	0.152	0.176	0.151	0.075	0.130

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

Note: governorate dummies are included in the regression model but not presented in the table

| | (1) | (2) | (3) | (4) | (5) |
	All	FHH	MHH	Kurdish Region	Rest of Iraq
ReceivedPension	-0.000563	0.0120	-0.000724	0.0218	-0.00569
	(0.0212)	(0.0444)	(0.0243)	(0.0361)	(0.0258)
ReceivedPension*Quintile1	0.0580**	0.0442	0.0586*	-0.246**	0.0739**
	(0.0294)	(0.0670)	(0.0329)	(0.122)	(0.0333)
ReceivedPension*Quintile2	0.0359	0.0794	0.0172	-0.0467	0.0434
	(0.0268)	(0.0592)	(0.0300)	(0.0614)	(0.0306)
ReceivedPension*Quintile3	0.0585**	-0.161***	0.111***	-0.00946	0.0643**
	(0.0254)	(0.0606)	(0.0276)	(0.0578)	(0.0294)
ReceivedPension*Quintile4	0.0579**	0.0260	0.0615**	0.0674*	0.0510*
	(0.0225)	(0.0460)	(0.0260)	(0.0394)	(0.0272)
Female	0.00710	0.0241	0.00542	0.0264	0.00432
	(0.0108)	(0.0293)	(0.0117)	(0.0272)	(0.0117)
Age	0.00122***	0.00162	0.00105***	0.00245***	0.00102***
	(0.000355)	(0.00114)	(0.000373)	(0.000892)	(0.000386)
Married	0.0362***	0.0326	0.0268**	0.0835***	0.0265**
	(0.0111)	(0.0301)	(0.0121)	(0.0277)	(0.0121)
Educated	0.0865***	0.107***	0.0782***	0.0752**	0.0917***
	(0.0139)	(0.0386)	(0.0148)	(0.0324)	(0.0154)
Healthy	0.0291**	0.0594*	0.0181	0.0366	0.0290*
	(0.0143)	(0.0354)	(0.0156)	(0.0308)	(0.0159)
Unemployed	-0.0793***	-0.0894**	-0.0747***	-0.0652	-0.0844***
	(0.0213)	(0.0414)	(0.0246)	(0.0504)	(0.0232)
Consumption Expenditure (log)	0.207***	0.198***	0.209***	0.136***	0.218***
	(0.0155)	(0.0385)	(0.0170)	(0.0315)	(0.0175)
Household size	0.0157***	0.0261***	0.0142***	0.0125***	0.0160***
	(0.00112)	(0.00353)	(0.00118)	(0.00372)	(0.00118)
Constant	2.196***	2.216***	2.207***	2.529***	1.611***
	(0.0895)	(0.225)	(0.0977)	(0.191)	(0.0935)
Observations	40,924	6,730	34,194	8,493	32,431
R-squared	0.153	0.187	0.150	0.098	0.128

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

Note: governorate dummies are included in the regression model but not presented in the table

	(1)	(2)	(3)	(4)	(5)
	All	FHH	MHH	Kurdish Region	Rest of Iraq
Received_ Socprotnet	-0.134***	-0.394***	-0.0638*	-0.0710*	-0.175***
	(0.0373)	(0.112)	(0.0329)	(0.0398)	(0.0631)
Received_ Socprotnet *Quintile1	0.0824*	0.364***	0.00891	0.184**	0.122*
	(0.0446)	(0.126)	(0.0425)	(0.0765)	(0.0681)
Received_ Socprotnet *Quintile2	0.0737*	0.559***	-0.0393	-0.124*	0.121*
	(0.0427)	(0.120)	(0.0401)	(0.0746)	(0.0667)
Received_ Socprotnet *Quintile3	0.210***	0.260*	0.187***	0.202***	0.241***
	(0.0450)	(0.142)	(0.0412)	(0.0535)	(0.0692)
Received_ Socprotnet *Quintile4	0.134***	0.415***	0.0543	0.124**	0.151**
	(0.0475)	(0.128)	(0.0467)	(0.0547)	(0.0742)
Female	0.0119	0.0216	0.0119	-0.00471	0.0144*
	(0.00773)	(0.0279)	(0.00811)	(0.0178)	(0.00853)
Age	0.00163***	0.00195*	0.00167***	0.00158**	0.00162***
	(0.000287)	(0.00107)	(0.000299)	(0.000679)	(0.000316)
Married	0.0290***	0.0638**	0.0207**	0.0560***	0.0217**
	(0.00853)	(0.0279)	(0.00929)	(0.0191)	(0.00950)
Educated	0.0907***	0.100***	0.0885***	0.0385*	0.104***
	(0.0104)	(0.0352)	(0.0108)	(0.0212)	(0.0118)
Healthy	0.0560***	0.0509	0.0553***	0.0446**	0.0596***
	(0.0110)	(0.0332)	(0.0117)	(0.0225)	(0.0124)
Unemployed	-0.114***	-0.107***	-0.114***	-0.121***	-0.114***
	(0.0152)	(0.0411)	(0.0163)	(0.0320)	(0.0168)
Consumption Expenditure (log)	0.209***	0.222***	0.207***	0.133***	0.224***
	(0.00946)	(0.0286)	(0.0100)	(0.0196)	(0.0107)
Household size	0.0192***	0.0255***	0.0181***	0.00747***	0.0205***
	(0.000903)	(0.00345)	(0.000936)	(0.00277)	(0.000958)
Constant	2.090***	2.075***	2.106***	2.638***	1.484***
	(0.0574)	(0.175)	(0.0608)	(0.125)	(0.0590)
Observations	85,655	7,700	77,955	19,513	66,142
R-squared	0.152	0.181	0.150	0.072	0.129

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies are included in the regression model but not presented in the table

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedPrivateAssist	-0.0941***	-0.135***	-0.0874***	0.0285	-0.150***
	(0.0179)	(0.0499)	(0.0192)	(0.0260)	(0.0233)
ReceivedPrivateAssist*Quintile1	-0.0592**	0.0506	-0.0738***	-0.281***	0.00697
	(0.0260)	(0.0724)	(0.0280)	(0.0836)	(0.0305)
ReceivedPrivateAssist*Quintile2	-0.0600**	0.0729	-0.0775***	0.00606	-0.0232
	(0.0244)	(0.0672)	(0.0262)	(0.0438)	(0.0290)
ReceivedPrivateAssist*Quintile3	0.0536**	0.0212	0.0598***	-0.0278	0.0967***
	(0.0215)	(0.0590)	(0.0232)	(0.0412)	(0.0262)
ReceivedPrivateAssist*Quintile4	-0.0240	0.0697	-0.0427*	-0.0508	0.00201
	(0.0231)	(0.0573)	(0.0254)	(0.0366)	(0.0287)
Female	0.0142*	0.0294	0.0130	-0.00388	0.0169**
	(0.00772)	(0.0283)	(0.00809)	(0.0178)	(0.00851)
Age	0.00160***	0.00192*	0.00164***	0.00173**	0.00159***
	(0.000286)	(0.00108)	(0.000298)	(0.000672)	(0.000315)
Married	0.0288***	0.0653**	0.0224**	0.0532***	0.0213**
	(0.00850)	(0.0281)	(0.00922)	(0.0191)	(0.00947)
Educated	0.0919***	0.104***	0.0896***	0.0400*	0.104***
	(0.0104)	(0.0355)	(0.0108)	(0.0212)	(0.0117)
Healthy	0.0520***	0.0458	0.0516***	0.0450**	0.0548***
	(0.0110)	(0.0335)	(0.0116)	(0.0225)	(0.0123)
Unemployed	-0.110***	-0.102**	-0.111***	-0.124***	-0.109***
	(0.0151)	(0.0413)	(0.0163)	(0.0319)	(0.0168)
Consumption Expenditure (log)	0.192***	0.211***	0.191***	0.104***	0.217***
	(0.0101)	(0.0348)	(0.0106)	(0.0215)	(0.0114)
Household size	0.0176***	0.0245***	0.0168***	0.00739***	0.0187***
	(0.000886)	(0.00346)	(0.000919)	(0.00274)	(0.000939)
Constant	2.241***	2.177***	2.250***	2.798***	1.577***
	(0.0604)	(0.208)	(0.0632)	(0.135)	(0.0628)
Observations	85,655	7,700	77,955	19,513	66,142
R-squared	0.156	0.177	0.154	0.073	0.135

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

Note: governorate dummies are included in the regression model but not presented in the table

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedCapital	0.0812***	0.163***	0.0701***	0.0687**	0.0878***
	(0.0178)	(0.0531)	(0.0189)	(0.0290)	(0.0217)
ReceivedCapital*Quintile1	0.0324	-0.0830	0.0477*	-0.115	0.0380
	(0.0245)	(0.0817)	(0.0258)	(0.0720)	(0.0285)
ReceivedCapital*Quintile2	0.0238	-0.0739	0.0351*	-0.0249	0.0224
	(0.0195)	(0.0634)	(0.0206)	(0.0410)	(0.0227)
ReceivedCapital*Quintile3	0.0669***	-0.0864	0.0853***	0.0570*	0.0607***
	(0.0168)	(0.0536)	(0.0178)	(0.0342)	(0.0196)
ReceivedCapital*Quintile4	0.0522***	-0.0104	0.0597***	0.0775***	0.0377**
	(0.0146)	(0.0447)	(0.0155)	(0.0268)	(0.0173)
Female	0.0118	0.0239	0.0118	-0.00378	0.0143*
	(0.00771)	(0.0281)	(0.00809)	(0.0177)	(0.00851)
Age	0.00151***	0.00196*	0.00154***	0.00153**	0.00152***
	(0.000286)	(0.00108)	(0.000298)	(0.000669)	(0.000315)
Married	0.0323***	0.0597**	0.0237**	0.0598***	0.0241**
	(0.00850)	(0.0278)	(0.00926)	(0.0191)	(0.00946)
Educated	0.0921***	0.113***	0.0885***	0.0412*	0.106***
	(0.0104)	(0.0352)	(0.0108)	(0.0211)	(0.0118)
Healthy	0.0558***	0.0512	0.0550***	0.0443**	0.0597***
	(0.0109)	(0.0336)	(0.0116)	(0.0225)	(0.0123)
Unemployed	-0.112***	-0.115***	-0.111***	-0.119***	-0.112***
	(0.0151)	(0.0409)	(0.0163)	(0.0320)	(0.0167)
Consumption Expenditure (log)	0.213***	0.160***	0.220***	0.128***	0.228***
	(0.0154)	(0.0453)	(0.0165)	(0.0291)	(0.0184)
Household size	0.0173***	0.0269***	0.0161***	0.00550**	0.0185***
	(0.000905)	(0.00352)	(0.000934)	(0.00272)	(0.000962)
Constant	1.985***	2.253***	1.958***	2.600***	1.371***
	(0.0833)	(0.250)	(0.0886)	(0.172)	(0.0940)
Observations	85,655	7,700	77,955	19,513	66,142
R-squared	0.155	0.178	0.154	0.076	0.133

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

Note: governorate dummies are included in the regression model but not presented in the table

Appendix 3.C: Results (Ordered Logit)

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedAnyAssistance	-0.370***	-0.707***	-0.326***	0.281***	-0.668***
	(0.0461)	(0.137)	(0.0489)	(0.0723)	(0.0559)
ReceivedAnyAssistance*Quintile1	0.0277	0.510**	-0.0248	-0.694***	0.334***
	(0.0621)	(0.217)	(0.0649)	(0.218)	(0.0715)
ReceivedAnyAssistance*Quintile2	0.00970	0.400**	-0.0429	0.193	0.221***
	(0.0561)	(0.178)	(0.0592)	(0.127)	(0.0640)
ReceivedAnyAssistance*Quintile3	0.185***	0.176	0.185***	-0.0507	0.374***
	(0.0535)	(0.173)	(0.0563)	(0.106)	(0.0615)
ReceivedAnyAssistance*Quintile4	0.00610	0.317**	-0.0402	-0.0516	0.118*
	(0.0521)	(0.150)	(0.0557)	(0.0937)	(0.0604)
Female	0.0295	0.0456	0.0291	-0.0144	0.0370
	(0.0216)	(0.0786)	(0.0226)	(0.0499)	(0.0239)
Age	0.00442***	0.00582*	0.00444***	0.00502***	0.00448***
	(0.000803)	(0.00306)	(0.000837)	(0.00190)	(0.000887)
Married	0.0894***	0.159**	0.0714***	0.146***	0.0682***
	(0.0237)	(0.0776)	(0.0257)	(0.0534)	(0.0264)
Educated	0.250***	0.281***	0.243***	0.101*	0.285***
	(0.0288)	(0.0990)	(0.0301)	(0.0576)	(0.0328)
Healthy	0.158***	0.159*	0.154***	0.146**	0.167***
	(0.0301)	(0.0959)	(0.0318)	(0.0615)	(0.0340)
Unemployed	-0.285***	-0.272**	-0.283***	-0.311***	-0.282***
	(0.0402)	(0.113)	(0.0433)	(0.0801)	(0.0452)
Consumption Expenditure (log)	0.635***	0.769***	0.623***	0.316***	0.803***
	(0.0318)	(0.105)	(0.0334)	(0.0636)	(0.0368)
Household size	0.0534***	0.0715***	0.0512***	0.0201**	0.0585***
	(0.00261)	(0.00963)	(0.00271)	(0.00846)	(0.00282)
Constant cut1	-1.285***	-0.977	-1.332***	-2.421***	1.458***
	(0.184)	(0.617)	(0.193)	(0.403)	(0.202)
Constant cut2	0.246	0.529	0.205	-0.957**	2.998***
	(0.184)	(0.621)	(0.193)	(0.396)	(0.202)
Constant cut3	3.500***	3.843***	3.458***	1.705***	6.371***
	(0.186)	(0.623)	(0.195)	(0.394)	(0.206)
Observations	85,606	7,700	77,906	19,513	66,093

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies are included in the regression model but not presented in the table

	(1)	(2)	(3)	(4)	(5)
	All	FHH	MHH	Kurdish Region	Rest of Iraq
ReceivedRation	-0.221*	-0.926**	-0.186	0.794**	-0.405***
	(0.120)	(0.411)	(0.123)	(0.325)	(0.127)
ReceivedRation*Quintile1	0.256***	0.386	0.246**	-0.296	0.437***
	(0.0921)	(0.296)	(0.0970)	(0.194)	(0.106)
ReceivedRation*Quintile2	0.189***	0.192	0.184**	-0.102	0.308***
	(0.0691)	(0.217)	(0.0730)	(0.131)	(0.0795)
ReceivedRation*Quintile3	0.307***	0.0534	0.335***	0.0422	0.400***
	(0.0561)	(0.179)	(0.0592)	(0.108)	(0.0645)
ReceivedRation*Quintile4	0.210***	0.255*	0.201***	0.0996	0.252***
	(0.0444)	(0.136)	(0.0470)	(0.0785)	(0.0519)
Female	0.0272	0.0427	0.0276	-0.0100	0.0348
	(0.0216)	(0.0788)	(0.0226)	(0.0499)	(0.0240)
Age	0.00444***	0.00598*	0.00445***	0.00467**	0.00443***
	(0.000805)	(0.00308)	(0.000839)	(0.00190)	(0.000890)
Married	0.0905***	0.152*	0.0699***	0.156***	0.0703***
	(0.0237)	(0.0782)	(0.0258)	(0.0536)	(0.0265)
Educated	0.247***	0.309***	0.237***	0.117**	0.284***
	(0.0289)	(0.0987)	(0.0301)	(0.0579)	(0.0329)
Healthy	0.162***	0.157	0.158***	0.139**	0.171***
	(0.0302)	(0.0962)	(0.0318)	(0.0619)	(0.0341)
Unemployed	-0.294***	-0.294***	-0.292***	-0.298***	-0.297***
	(0.0402)	(0.111)	(0.0433)	(0.0808)	(0.0451)
Consumption Expenditure (log)	0.780***	0.761***	0.783***	0.311***	0.941***
	(0.0602)	(0.179)	(0.0640)	(0.106)	(0.0712)
Household size	0.0551***	0.0738***	0.0526***	0.0152*	0.0600***
	(0.00264)	(0.00996)	(0.00274)	(0.00844)	(0.00285)
Constant cut1	-0.346	-1.356	-0.307	-1.815**	2.390***
	(0.355)	(1.105)	(0.375)	(0.716)	(0.412)
Constant cut2	1.179***	0.138	1.225***	-0.349	3.920***
	(0.355)	(1.108)	(0.375)	(0.707)	(0.412)
Constant cut3	4.424***	3.430***	4.469***	2.310***	7.271***
	(0.356)	(1.106)	(0.376)	(0.705)	(0.414)
Observations	85,653	7,700	77,953	19,513	66,140

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies are included in the regression model but not presented in the table

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	(1)	(2)	(3)	(4)	(5)
	All	FHH	MHH	Kurdish Region	Rest of Iraq
ReceivedPension	-0.0140	-0.0191	-0.00413	0.0451	-0.0256
	(0.0619)	(0.130)	(0.0710)	(0.100)	(0.0747)
ReceivedPension*Quintile1	0.169*	0.128	0.168*	-0.730**	0.224**
	(0.0866)	(0.197)	(0.0975)	(0.339)	(0.0982)
ReceivedPension*Quintile2	0.117	0.275	0.0531	-0.129	0.141
	(0.0785)	(0.178)	(0.0882)	(0.176)	(0.0901)
ReceivedPension*Quintile3	0.188**	-0.389**	0.324***	0.0106	0.206**
	(0.0745)	(0.172)	(0.0830)	(0.173)	(0.0857)
ReceivedPension*Quintile4	0.139**	0.0470	0.149*	0.201*	0.109
	(0.0669)	(0.139)	(0.0771)	(0.117)	(0.0801)
Female	0.00976	0.0515	0.00683	0.0653	0.00204
	(0.0316)	(0.0848)	(0.0344)	(0.0768)	(0.0347)
Age	0.00379***	0.00475	0.00330***	0.00734***	0.00316***
	(0.00104)	(0.00337)	(0.00110)	(0.00251)	(0.00114)
Married	0.104***	0.0620	0.0823**	0.224***	0.0774**
	(0.0320)	(0.0870)	(0.0354)	(0.0772)	(0.0353)
Educated	0.247***	0.296***	0.224***	0.203**	0.265***
	(0.0401)	(0.110)	(0.0427)	(0.0885)	(0.0447)
Healthy	0.100**	0.196*	0.0680	0.152*	0.0932**
	(0.0418)	(0.105)	(0.0455)	(0.0894)	(0.0467)
Unemployed	-0.217***	-0.263**	-0.198***	-0.155	-0.236***
	(0.0595)	(0.118)	(0.0692)	(0.138)	(0.0654)
Consumption Expenditure (log)	0.655***	0.595***	0.671***	0.367***	0.712***
	(0.0450)	(0.113)	(0.0493)	(0.0935)	(0.0509)
Household size	0.0471***	0.0722***	0.0437***	0.0358***	0.0495***
	(0.00340)	(0.0104)	(0.00361)	(0.0123)	(0.00364)
Constant cut1	-1.338***	-1.829***	-1.294***	-2.006***	1.044***
	(0.255)	(0.658)	(0.277)	(0.576)	(0.272)
Constant cut2	0.206	-0.285	0.259	-0.528	2.592***
	(0.256)	(0.657)	(0.279)	(0.567)	(0.273)
Constant cut3	3.551***	3.084***	3.620***	2.116***	6.045***
	(0.260)	(0.660)	(0.284)	(0.563)	(0.279)
Observations	40,924	6,730	34,194	8,493	32,431

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies are included in the regression model but not presented in the table

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
Received_ Socprotnet	-0.380***	-1.112***	-0.219**	-0.207**	-0.463***
	(0.102)	(0.332)	(0.0912)	(0.0982)	(0.175)
Received_ Socprotnet *Quintile1	0.215*	1.046***	0.0395	0.367	0.290
	(0.122)	(0.370)	(0.117)	(0.245)	(0.189)
Received_ Socprotnet*Quintile2	0.173	1.594***	-0.116	-0.259	0.261
	(0.118)	(0.360)	(0.112)	(0.195)	(0.186)
Received_ Socprotnet*Quintile3	0.638***	0.761*	0.604***	0.616***	0.695***
	(0.124)	(0.401)	(0.116)	(0.156)	(0.193)
Received_ Socprotnet *Quintile4	0.419***	1.240***	0.222*	0.376***	0.439**
	(0.132)	(0.389)	(0.129)	(0.139)	(0.209)
Female	0.0272	0.0442	0.0277	-0.0108	0.0348
	(0.0216)	(0.0787)	(0.0226)	(0.0499)	(0.0240)
Age	0.00439***	0.00609**	0.00441***	0.00459**	0.00436***
	(0.000806)	(0.00307)	(0.000841)	(0.00192)	(0.000890)
Married	0.0897***	0.156**	0.0700***	0.151***	0.0716***
	(0.0237)	(0.0787)	(0.0259)	(0.0539)	(0.0265)
Educated	0.246***	0.284***	0.237***	0.113*	0.284***
	(0.0289)	(0.0987)	(0.0301)	(0.0579)	(0.0329)
Healthy	0.163***	0.173*	0.158***	0.140**	0.171***
	(0.0302)	(0.0960)	(0.0318)	(0.0619)	(0.0341)
Unemployed	-0.293***	-0.288***	-0.290***	-0.311***	-0.295***
	(0.0402)	(0.111)	(0.0432)	(0.0802)	(0.0450)
Consumption Expenditure (log)	0.639***	0.628***	0.639***	0.354***	0.699***
	(0.0267)	(0.0812)	(0.0283)	(0.0570)	(0.0301)
Household size	0.0558***	0.0694***	0.0532***	0.0177**	0.0610***
	(0.00263)	(0.0100)	(0.00273)	(0.00845)	(0.00284)
Constant cut1	-1.037***	-1.414***	-1.045***	-2.347***	1.273***
	(0.159)	(0.505)	(0.168)	(0.365)	(0.166)
Constant cut2	0.487***	0.0883	0.485***	-0.884**	2.801***
	(0.160)	(0.505)	(0.169)	(0.359)	(0.167)
Constant cut3	3.731***	3.391***	3.729***	1.771***	6.150***
	(0.163)	(0.511)	(0.172)	(0.357)	(0.171)
Observations	85,655	7,700	77,955	19,513	66,142

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies are included in the regression model but not presented in the table

	(1) All	(2) FHH	(3) MHH	(4) Kurdish Region	(5) Rest of Iraq
ReceivedPrivateAssist	-0.227***	-0.392***	-0.201***	0.125*	-0.399***
	(0.0505)	(0.138)	(0.0549)	(0.0726)	(0.0646)
ReceivedPrivateAssist*Quintile1	-0.187***	0.202	-0.236***	-0.815***	0.00765
	(0.0715)	(0.200)	(0.0773)	(0.222)	(0.0838)
ReceivedPrivateAssist*Quintile2	-0.195***	0.164	-0.244***	0.0424	-0.0878
	(0.0666)	(0.184)	(0.0719)	(0.128)	(0.0788)
ReceivedPrivateAssist*Quintile3	0.120**	0.0712	0.133**	-0.107	0.253***
	(0.0606)	(0.162)	(0.0659)	(0.121)	(0.0730)
ReceivedPrivateAssist*Quintile4	-0.0934	0.199	-0.152**	-0.178*	-0.00791
	(0.0640)	(0.160)	(0.0705)	(0.101)	(0.0783)
Female	0.0336	0.0637	0.0309	-0.00987	0.0422*
	(0.0216)	(0.0793)	(0.0227)	(0.0499)	(0.0240)
Age	0.00436***	0.00570*	0.00439***	0.00499***	0.00433***
	(0.000806)	(0.00309)	(0.000841)	(0.00189)	(0.000892)
Married	0.0878***	0.150*	0.0742***	0.143***	0.0683**
	(0.0237)	(0.0786)	(0.0258)	(0.0533)	(0.0265)
Educated	0.249***	0.289***	0.241***	0.112*	0.283***
	(0.0289)	(0.0986)	(0.0301)	(0.0576)	(0.0328)
Healthy	0.154***	0.161*	0.150***	0.142**	0.160***
	(0.0302)	(0.0967)	(0.0319)	(0.0617)	(0.0341)
Unemployed	-0.287***	-0.284**	-0.285***	-0.320***	-0.285***
	(0.0402)	(0.112)	(0.0432)	(0.0800)	(0.0451)
Consumption Expenditure (log)	0.590***	0.609***	0.590***	0.273***	0.680***
	(0.0288)	(0.0985)	(0.0302)	(0.0620)	(0.0326)
Household size	0.0515***	0.0660***	0.0497***	0.0181**	0.0561***
	(0.00259)	(0.00991)	(0.00269)	(0.00846)	(0.00279)
Constant cut1	-1.483***	-1.659***	-1.475***	-2.785***	1.010***
	(0.170)	(0.593)	(0.178)	(0.396)	(0.180)
Constant cut2	0.0472	-0.165	0.0619	-1.320***	2.546***
	(0.170)	(0.591)	(0.179)	(0.388)	(0.180)
Constant cut3	3.299***	3.130***	3.313***	1.337***	5.907***
	(0.173)	(0.597)	(0.181)	(0.387)	(0.184)
Observations	85,655	7,700	77,955	19,513	66,142

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies are included in the regression model but not presented in the table

	(1)	(2)	(3)	(4)	(5)
	All	FHH	MHH	Kurdish Region	Rest of Iraq
ReceivedCapital	0.238***	0.469***	0.206***	0.220***	0.242***
	(0.0496)	(0.146)	(0.0528)	(0.0817)	(0.0594)
ReceivedCapital*Quintile1	0.0724	-0.254	0.115	-0.396**	0.110
	(0.0682)	(0.225)	(0.0719)	(0.194)	(0.0785)
ReceivedCapital*Quintile2	0.0498	-0.227	0.0806	-0.103	0.0617
	(0.0545)	(0.176)	(0.0576)	(0.117)	(0.0628)
ReceivedCapital*Quintile3	0.174***	-0.263*	0.227***	0.120	0.173***
	(0.0475)	(0.149)	(0.0503)	(0.0979)	(0.0549)
ReceivedCapital*Quintile4	0.142***	-0.0555	0.166***	0.177**	0.113**
	(0.0412)	(0.127)	(0.0437)	(0.0752)	(0.0488)
Female	0.0267	0.0506	0.0270	-0.00783	0.0343
	(0.0216)	(0.0790)	(0.0226)	(0.0499)	(0.0240)
Age	0.00408***	0.00580*	0.00407***	0.00444**	0.00409***
	(0.000806)	(0.00308)	(0.000839)	(0.00189)	(0.000891)
Married	0.0971***	0.139*	0.0775***	0.163***	0.0759***
	(0.0237)	(0.0783)	(0.0258)	(0.0535)	(0.0265)
Educated	0.251***	0.317***	0.239***	0.119**	0.291***
	(0.0289)	(0.0980)	(0.0301)	(0.0578)	(0.0329)
Healthy	0.163***	0.175*	0.158***	0.137**	0.173***
	(0.0301)	(0.0969)	(0.0317)	(0.0619)	(0.0340)
Unemployed	-0.287***	-0.320***	-0.281***	-0.307***	-0.290***
	(0.0401)	(0.111)	(0.0431)	(0.0805)	(0.0449)
Consumption Expenditure (log)	0.641***	0.452***	0.666***	0.314***	0.715***
	(0.0425)	(0.128)	(0.0453)	(0.0844)	(0.0497)
Household size	0.0505***	0.0732***	0.0477***	0.0114	0.0555***
	(0.00264)	(0.0100)	(0.00273)	(0.00834)	(0.00285)
Constant cut1	-0.800***	-1.939***	-0.692***	-2.414***	1.602***
	(0.229)	(0.719)	(0.242)	(0.504)	(0.255)
Constant cut2	0.729***	-0.442	0.842***	-0.947*	3.135***
	(0.229)	(0.719)	(0.243)	(0.494)	(0.256)
Constant cut3	3.982***	2.855***	4.095***	1.717***	6.493***
	(0.231)	(0.719)	(0.245)	(0.493)	(0.258)
Observations	85,655	7,700	77,955	19,513	66,142

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Note: governorate dummies are included in the regression model but not presented in the table

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