The objective and subjective approach to happiness and well-being and its relationship to macroeconomics in some MENA (Middle East and North Africa) countries

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Abstract

This research uses psychological well-being data on thousands of people across several countries in the Middle East and North Africa (MENA) between the period of 2000 and 2013. It begins with data on the reported well-being levels of thousands of individuals in MENA and relates these data to the macroeconomic variables in each country. The macroeconomics variables to be analysed are the unemployment rate, GDP per capita and the inflation rate. With regards to the reported well-being levels, a random sample of people who live in some selected MENA countries were interviewed each year by the World Value Survey (WVS) and are asked many self-reported questions. Two kinds of questions are used in this thesis. The first is 'all things considered, how satisfied are you with your life as a whole?' where answers ranked from 1 being dissatisfied till 10 being satisfied. The second question is 'Taking all things together, would you say you are 1-not at all happy, 2-not very happy, 3-quite happy or 4-very happy'. Ordered probit equations are estimated in an attempt to relate the macroeconomics conditions with individual's happiness or satisfaction by measuring the real cost of unemployment on the population and measuring the effects of GDP changes in a country on the people living in that country. A further analysis to estimate the objective well-being situation in MENA countries and compare it or supplement it to the subjective happiness approach. Building on Sen's capability approach and taking into account factors such as life expectancy, inequality and corruption levels with the individual's happiness from self-reported surveys for the same set of countries in MENA. Two independent variables ~~which~~ are the equality opinion question and the financial satisfaction question from the WVS. The first question is: 'Incomes should be made more equal?', where 1 means you agree completely and 10 means you don't. The other question is: 'How satisfied are you with the financial situation of your household?, where '1' means you are completely dissatisfied on this scale, and '10' means you are completely satisfied. The main goal of this thesis is to arrive with a quality of life assessment of the situation in the MENA region by combining a subjective approach presented by self-reported surveys with an objective approach that includes many social indicators.

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Abbreviations

MENA: Middle East and North Africa

SWB: Subjective Well-Being

UN: United Nations

WB: World Bank

WVS: World Value Survey

GHQ General Health Questionnaire

GDP Gross domestic product

GNP Gross national product

EAW Economic aspects of welfare

HDI Human Development Index

UN United Nations Committee

UNDP United Nations Development Program

IHDI Inequality-adjusted Human development Index

GSOEP German Socio Economic Panel Study

EVS European Value Survey

ESS European Social Survey

NOS National Offices of Statistics

BHPS British Household Panel Survey

HILDA Household, Income and Labor Dynamics in Australia

SWLS Satisfaction with Life Scale

GCCGulf Cooperation Countries

WB World Bank

WDI World Development Indicator

UTIP University of Texas Income Project

FDI Foreign direct investment

SME Small and medium-sized enterprises

MNE Multinational enterprises

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Chapter 1: The Economics of well-being in some MENA countries

1.1 Introduction

Mainstream economic theory generally presupposes that higher income leads to higher levels of happiness or well-being. In economics textbooks, for example, it is generally presumed that total utility is raised by income. This has been quantitatively linked to assert a positive relationship between income and happiness through observing people's behaviour to infer utility, based upon the assumption that people's choices reveal their preferences.

The evidence suggests that higher income enriches people's happiness in developing countries with low GDP, but in rich countries, income has little or no effect on happiness (Frey and Stutzer, 2002). This resultis usually explained with the assertion that income raises utility or happiness up to a certain point. After that rising income will have little effect on the happiness level. In other words, when people are starving and struggling any increase in their income will make them happier but after a certain point when basic needs are met people start to be selective about their source of happiness and start to aspire more goals in their lives. The basic needs are food, shelter, clean water, sanitation, education and health care. They take these basic needs for granted and start looking for more goals in their lives. Therefore, the focus of policy makers under the influence of this economic tradition has been on raising people's income and GDP.

Another economic tradition exists, however, which champions a more qualitative appreciation of those metrics by which happiness can be evaluated and its causes identified and isolated. This 'happiness approach' listens to what people feel and say (Di Tella and MacCulloch, 2006) as opposed to inferring happiness from consumptive behaviour. This is a relatively new field of study, according to emerging literature (e.g. Frey and Stutzer, 2002 and Offer, 2005) GNP per capita is not a complete measure of people's quality of life. It is still, however, a parameter overwhelmingly focused upon by policy makers when public policy is made.

The argument here is that while GDP focuses on market production and final goods and services,

it neglects to foreground economic well-being or welfare. There are a range of conceptual and practical difficulties with its functioning: it captures all final goods and services without any indication of who it is consumed by; any environmental damage is not incorporated into GDP; it neglects the fact that prices may not exist for some goods and services; some products change over time or disappear completely, and there are quality changes in some areas due to technological change. Similarly much personal labour is not evaluated, such as housework or voluntary work, as it does not include the exchange of money. There are also multi-dimensional products that are hard to measure, such as medical services, and difficulties exist in collecting data for sales over the internet or at discount stores (Stiglitz, 2010). Excluding the non-market output would result in less-valued national accounts and some difficulties in international comparisons. An accurate well-being metric to complement the existing GDP measure is needed to assess the welfare or the quality of life in a particular country. However, Diener and Diener (1995) argued that the correlation between the wealth of nations and the social indicators (that will be used to assess the quality of life in this thesis in chapter six) are usually highly correlated which makes looking for other sources of indicators not very useful. In other words, if a country's GDP level is high it implies that there social indicators are on a higher level as well. However, the economic indicators (presented by GDP) are not the same as the social indicators (such as infant mortality, years of schooling, corruption, inequality and so on) and they could produce different recommendations for policy makers. In addition, social indicators and well-being subjective assessment could yield more information and insights than the solid numbers of GDP.

The search for a new metric by which to more qualitatively understand the state of a nation's economic well-being is nothing new. Economists since the 1960s have been looking for alternative measures to GDP and GNP after discovering the limitations of these measures for economic welfare. Some might argue that greater welfare is derived from services that are not included in the GNP. These measures are more useful in monitoring the cyclical changes in the economy as opposed to human welfare. Therefore, a higher level of GNP in a single country doesn't mean greater welfare in that country. As stated by Offer (2006, p.p.15-37) finding alternative measures to the National Accounts at the micro-level is essential. These view a society as a unitary body which, although useful in international comparisons of incomes, cannot provide an accurate measure of welfare in practice. A nation is not a single person and a higher

level of GNP might fail to deliver more welfare for its citizens across the board. The focus of raising GNP should, therefore, not be neglected as it is important at the early stages of development. However, after a while the utility that people get from a raised level of GNP diminishes and a need of a more valuable measure that take into account the welfare of the nation is urged.

Offer (2006) detailed three approaches to the alternative measurements. The first approach is the formation of extended accounts, which start with the core of the national accounts and extend to involve non-market goods and services. Both Robert Eisner (1988) and Milton Moss (1973) quote Noble Laureate Simon Kuznets when he stated that national accounts are limited and don't include all services such as home production; national accounts also don't distinguish between quality and quantity of growth, and that national accounts should be one only component of an expanded measure.

Einser (1988) by contrast, has argued that the importance of the extended accounts appeared to fill the gaps of the national accounts in terms of measuring economic activities related to welfare. By extension, Eisner (1988) also stressed the importance of measuring activities that contribute to welfare rather than measuring welfare itself, as a key metric for assessing factors which motivate welfare. He suggested that it is difficult to come up with an economic measure that captures all aspects of welfare but the extended accounts should focus on which activities should be considered as final products and which activities should be considered as intermediate products. Thus, in turn, demonstrates how certain actions contribute to welfare, and provides a means by which economists can isolate those greater 'happiness-causing' factors to assess their motivators. For example, government services such as police and education are measured in terms of their cost not their services to the population and their value to welfare.

Although the national accounts include some non-market activities, there are many non-market activities that contribute to welfare that is neglected such as the housework of a mother who cooks, cleans and babysits which is an activity that doesn't go through the market therefore it's not counted in national accounts however, it benefits the population.

The second approach espoused by Offer (1996) is to identify some social norms and evaluate people's satisfaction with these social indicators. This approach was adopted by the United Nations committee that identified a set of twelve domains and then came up with the Human Development Index (HDI) in the 1980s. The HDI was created to assess the development of a country using considerations in addition to economic growth, for example the health status by measuring life expectancy and infant mortality or education by measuring years of schooling and so on. Every year UNDP ranks countries based on their yearly HDI report. The latest version of HDI is called Inequality-adjusted Human development Index IHDI. The index added inequality adjustment to ensure that the average achievements in health, education and living standards are distributed among its population by 'discounting' each dimension's average value according to its level of inequality (Hdr.undp.org, 2015).

The third approach is a psychological one that aims to assess the mental state of people by surveys of reported subjective well-being such as the World Values Survey (WVS), the Gallup poll, and others. These survey metrics are based upon subjective self-assessment and there therefore difficult to apply to wider objective movements in a nation's economic performance. Similarly, it is difficult to link subjective trends with indicators and motivators, as occasionally respondents will not be in the best position to judge the specific factors which influence well-being. Offer, however, believes that well-being can't be measured cardinally by the availability of goods and services in the form of measuring the GDP (Offer, 2006, pp.15-37). This literature suggests that improvements in welfare cannot be readily measured by rates of economic growth.

Our understanding of happiness itself is also open to subjective interpretation, and academic perceptions of this qualitative term are also widely conflicted. In 1974 the American economist Richard Easterlin opened up the debate around the paradox of happiness - arguing that although people with higher incomes are more likely to report being happy, rising incomes do not lead to increases in subjective notions of well-being (Easterlin, 1974). Subsequently, an increasing number of economists claimed that utility should be measured in terms of happiness or pleasure. Easterlin believes that people should be the ones who state their level of happiness by making use of the responses from, for instance, a Gallup poll survey in which a direct question was asked 'in general, how happy would you say that you are-very happy, fairly happy and not very

happy?' The data collected on this question took the form of a self-evaluated subjective happiness approach (Frey and Stutzer, 2002). Some countries such as Bhutan and France started to measure the national happiness of their citizens formally in an attempt to construct a national happiness indicator. Kahneman et al (2004) suggested a national well-being account to measure and monitor any changes in the well-being of the citizens instead of focusing on maximizing the GDP of a country.

Happiness and income over time cannot, therefore, be explained by simple utility-based economic theory. Increasing income has not raised the happiness of individuals demonstrated in the above studies in the long term. We cannot focus on income at the expense of other, qualitative factors. The central question here appertains to how we accurately measure genuine improvements in people's well-being, especially in developing countries? The approaches discussed above outlined a critique, from the perspective of the recent 'happiness' literature, of simply looking at changes in incomes. A second approach to be considered attempts to evaluate well-being from the perspective of a range of objective factors. And that what will be covered in this thesis. A focus on combining the two approaches to evaluate the quality of life in some selected MENA countries.

As such, there are two broad, extant approaches to evaluating well-being. The first is the subjective, hedonic view, consisting of the traditional utilitarian view and a more recent version linked to measures of self-evaluated happiness. The second objective is a *Eudiamonia*-based view that pleasure or subjective happiness as only one component of well-being. As Aristotle said, wealth or income is not important in itself and it is not the ultimate goal; it is just useful for working towards a more virtuous life. Additionally, the means by which income was made is also essential to this notion of *Eudiamonia,* and the greater pursuit of personal 'happiness' and 'well-being' subsequently become terms of broad academic definitional debate.

One goal in the research below will be to integrate the subjective measures of happiness from the first approach with considerations emerging from a more objective approach to well-being. This thesis will attempt to undertake these two measures of well-being to assess the non-pecuniary

cost of an economic downturn in some selected MENA countries. It will try to link the effect of changes in macroeconomic conditions on the well-being of the citizens of MENA. There are many views about economic fluctuations. For example, Keynesian theory argues about the importance of government intervention – either by fiscal policy or monetary policy-in mitigating the effects of a recession. The real-business-cycle theorists, by contrast, view a recession as a temporary situation caused by a shock in productivity that will be followed by a boom, in the absence of government intervention.This thesis, however, focuses on the psychological individual costs of an economic downturn, using the context of several countries in the Middle East and North Africa (MENA).

1.2 Research Question

The effects of macroeconomic factors such as the inflation rate, the unemployment rate and the levels and movements in GDP are very important to people. They give them a sense of judgement of the *quality of life* they are experiencing in their country. These metrics would subsequently lead them to evaluate the success of their government's economic policies under the presumption that inflation and unemployment can be influenced or manipulated by policy makers, and that the GDP per capita level offers indications about the economic situation or future for a country. In most of the academic literature surrounding the notion of happiness assessment, variables such as gender, age, marital status, income group, and employment and education status are used as explanatory variables, rather than macroeconomics variables. For example in economics the levels of happiness were linked to gender, age or employment status, and there are few studies that links happiness to external macroeconomic variables.

In this thesis the effect of the macroeconomic conditions on subjective well-being at the individual level for several countries in Middle East and North Africa (MENA) will be estimated. Data on self-reported measures of well-being of thousands of individuals from MENA are compared with the personal characteristics of the respondents. From the World Value Survey, taking a random sample of the population of each country, individuals are asked 'taking all things together, would you say you are: 1-very happy, 2- quite happy, 3- not very happy, or 4- not at all happy. Another question is asked to the same sample is: 'all things considered, how satisfied are you with your life as a whole?' where answers ranked from 1 being dissatisfied till

10 being satisfied. The ordinal answers of these questions are used as the dependant variable in the happiness equation and regressed on the personal characteristics of the respondents. People are not asked their opinion of any of the macroeconomic variables - they are simply asked how happy or satisfied they are with their lives, and then this information is related to the macroeconomic fluctuations in the country they live in.

This thesis will also estimate the effect of income inequality in some MENA countries where data are available. As been stated in many studies, an increased inequality could decrease the macroeconomic performance of a country; chapter six will try to link the effect of the macroeconomic conditions and the inequality level on the individual happiness or satisfaction by taking the same above-mentioned approach and controlling for the inequality measured by the Gini coefficient along with other objective factors such as health, education and living standards. Finally, comparing the subjective measures to the objective measures of well-being. The objective of this thesis is to come up with a total evaluation of the well-being situation in MENA countries where data are available.

1.3 Research Objectives and Significance

In traditional national accounts (such as GDP per capita) measures of the non-material aspects of well-being are excluded from an assessment of economic performance, and therefore cannot explain the paradox of increased level of GDP with stationary happiness. It has been confirmed empirically that in some developed countries such as USA, UK and Japan people living in these countries are no happier today than fifty years ago, despite substantial increases in real income. This paradox, suggested by Easterlin (1974) should change how governments plan their policies and seek a different goal orientation for their citizens.

Focusing on happiness or analysing its significance and measurements in economics has led to a new direction that joins more than one field and indulges in different studies and literature in philosophy, psychology, sociology and economics. All of those efforts are important, first to help answer the question of how we can be happier and second to influence policy to move from a focus on maximizing GDP to maximizing the happiness of people.

Utilitarian philosopher Jeremy Bentham focused on maximizing happiness (his philosophy will

be discussed in detail in the next chapter), arguing that the best societies are those in which citizens are happiest. Furthermore, he argued that it is the objective of all the happiness studies in economics, as when people are happier they enjoy working and become more productive and healthier. By contrast, when people are not happy their health will be affected, as what has been demonstrated scientifically in the health literature and in the economic literature as in Graham (2008) and Gerdtham (2001). Moreover, crime rates and alcoholism increase with unhappiness as what have been reported in Layard (pp.35-38, 2005). The argument therefore notes that happiness and economic performance are intrinsically linked within the 21st century society. The causal nature of that link, and the relationship between both concepts of happiness and wealth, however, remains a key area of debate from scholars across the wide gamut of subjects invested in exploring this area of research.

Indeed, some might argue that people adapt to any new situation. Their argument is based on an adaptation theory that declares that if happiness is increased it has a short life time for people, and that the same thing goes to unhappiness: after a certain period of time people would go back to the same level of happiness they started with. Others might argue in defence of the aspiration theory that will be explained in detail in chapter two that people have better lives and better circumstances but they don't report being happier because their aspiration is higher and they are not satisfied with the simple things that used to satisfy them in the past. However, seeking happiness as the ultimate goal for policy makers should come along with scientific details about the exterior sources of happiness and misery and also the extent of their influence on people. That would give governments a clearer picture when creating regulations and laws.

One of the main objectives of this research is to assess the welfare of MENA countries by using the economics of happiness approach in including the non-pecuniary factors influencing well-being. Having this goal in mind the thesis will examine the psychological effect of cyclical downturns on individuals by collecting self-reported life satisfaction and happiness data. It will also estimate the effect of income inequality on individual's subjective well-being. Finally, it will estimate the objective measures of well-being and compare them to the subjective measures, providing a mixed-methodological data set from which a wider analysis of the phenomenon can be established to provide robust results and recommendations for best practice. These two measures that combine microeconomic date with macroeconomic data are important together to

explain the situation in MENA because data are not widely available so we need the objective approach to support the subjective one and give a better idea of the welfare status in MENA countries compared to other regions. The reason of choosing this region in particular because it is under-researched and there are deep important issues and specific characteristics to this area that needs to be explored by others outside the region.

1.4 Organisation of Thesis

The research has been divided into seven chapters. Chapter one introduces the topic and outlines the research strategy. Chapter two provides a detailed literature review of the various approaches to considering well-being and the different concepts of happiness, and it discusses the utility subject in details and in relation to happiness. Finally, it reviews the relation of the two concepts of happiness with work, unemployment, inflation, inequality and income.

From the second chapter, the research focuses on the extant research gap explored in the literature review. Two approaches of dealing with happiness are distinguished the first approach is the subjective one that asks people directly about their level of happiness or satisfaction, this approach will be practised in chapter five by evaluating individual's happiness or satisfaction levels in relation to the macroeconomic conditions in some MENA countries, and the second approach is an objective one that takes into account many circumstances to evaluate individual's level of well-being, and that will be investigated for some countries of MENA in chapter six, chapter four deals with the data and methodology that are used in the empirical models, chapter three deals with the institutional background and some political history of MENA countries as well as the economic development of the region, and finally chapter seven concludes with the discussions and policy implication and some possibilities of further extensions of the thesis. References and appendixes are given at the end of the thesis.

Chapter 2: Literature Review

2.1 Introduction

This chapter reviews the extant literature and historiography of our understanding of the term 'happiness' from the ancient Greek philosophers through to 21st century academic discourse. It is important to note that the words happiness, well-being and life satisfaction are interchangeably used by economists, as opposed to increasingly distinguishable definitions for all three among other social sciences. This thesis espouses the notion that well-being is related to an objective notion that is closer to the Aristotelian conception of 'first principles' of virtue, and considers happiness a stable feeling capturing and incorporating many aspects in life. Happiness in this thesis is also related to the subjective approach that is part the utilitarian conception of happiness preferred by theorists such as Jeremy Bentham, and notes as being one component of well-being. This notion of well-being here is a broader concept that could include both approaches, subjective and objective. The aim of this thesis is to identify mutual inclusivity between these two approaches in order to analyse the situation in MENA region to identify the problem and notify the policy makers, with clear and objectively verifiable results.

Furthermore, this chapter discusses the development of utility throughout the history of economics as a metric to evaluate the welfare of the people, and how it would be introduced in terms of its relation to happiness studies. This will evidence areas of theoretical similarity between the two approaches, and also evidence mutual exclusivity between theories. This study will also assess the scholarly development from cardinal utility to notions of 'ordinal utility'. Following Lionel Robbins' discovery that utility should explain the choices people make in observing their behaviour as mentioned in Bernard et al. 1999, the development of notions of providing a metric by which 'good utility' can be quantified will be outlined and investigated.

The critique of this approach is then established, noting that relying on people's choices or behaviour to infer utility doesn't take into account the fact that people don't always choose the best decisions for themselves. Additionally, this approach was not useful because people may not choose the best decisions to increase their satisfaction. This presents the respondents themselves as the only means to provide a subjective appreciation of levels of 'happiness'; as opposed to

objectively seeking truth through first principles and assessing behaviour against a universal standard of 'happiness'. This is an important observation when developing the motivation for the research methodology outlined later in the thesis.

This literature develops these theoretical analyses in sections 2.4, 2.5, 2.6 and 2.7, As opposed to asserting positive universal metrics of happiness, in these sections subjective and objective approaches to the notion of well-being are analysed from an economic perspective through activities such as work, income, unemployment, inflation and inequality. These sections show the relationship of each activity with happiness or well-being both empirically and theoretically. The motivation for this area of analysis is to establish a sound theoretical basis by which to examine notions of well-being through practical study. As evidenced in this chapter, a number of practical assessments here present less than rigorous conclusions owing to slanted research methods which assume objective principles of universal well-being, rather than taking a subjective, inductive approach to assess the principle from the respondents' perspectives.

One area where the subjective metrics of well-being assessment and objective, neoclassical notions of GDP input combine, is through the study of work. This is an important activity that contributes to happiness in addition to the obvious source of income, bringing it closer to the Aristotelian conception of happiness and virtue through. It is also suggested by many studies that unemployment negatively affects people more than inflation because of the non-pecuniary affects that make unemployed people feel isolated and lose their identity. This is also related to Aristotelian conception of happiness's relation to work in having a sense of self-worth and not losing purpose of life. The argument here is that inflation impacts people less than unemployment but it still causes a reduction in people's satisfaction. Furthermore, inequality in a country could be viewed differently by people depending on their circumstances or opinions about perceiving inequality. Some might identify inequality as an incentive to encourage people to work harder and some might view inequality as an injustice in society. However, in general inequality is a source of happiness reduction in people and to evaluate its effect accurately in a country, the level of mobility should be taken into account. This development highlights areas of common ground between the modern approaches to happiness studies through subjective

assessment, and neoclassical principles of economic measurements for happiness such as GDP and unemployment rates. This will become central later in the thesis for allying the two traditions of economic approaches to happiness.

In section 2.8 some measurement issues when dealing with self-reported surveys are considered and discussed in terms of the validity and reliability in relation to economic research. Finally section 2.9 presents previous empirical literature on the macroeconomics of happiness, however it is important to note that only few studies are available and they are mostly for developed countries. The final section will be related to chapter four which studies the macroeconomics of happiness in MENA in a similar way.

2.2 Happiness and Well-being in Practice: Assessing Underlying Socio-Economics Factors Impacting Development

Happiness is widely considered to be the basic goal of human existence. Thinking, analysing and identifying happiness has an ancient historiographical tradition, which begin in literature through Aristotle's question 'what makes people happy?' Philosophically speaking, there are two major conceptions of happiness. The first is the Aristotelian notion of *Eudaimonia* where subjective happiness is just one component of an objective overall well-being. The second is hedonistic focusing on what is good for us, a subjective happiness based on the pursuit of pleasure. This is a concept that focuses on the avoidance of pain and the seeking of pleasure, a doctrine that in the ancient world was identified with the Epicureans, has found new life in the modern world through the utilitarian thinking of Jeremy Bentham.

Initially it is essential to outline the Aristotelian notion of leading a virtuous life, and the relationship that *has* to modern discourses of happiness in practice. Aristotle was born in 341 BC and was a student of Plato, who himself studied under Socrates. This genealogy of Greek philosophical tradition is important to identify, not only where an evident line of thought can be traced from Socrates through to Aristotle, but also evidencing the developments of each generation of teaching through clear examples of development or disagreement. One principal area in which Aristotle disagreed with aspects of Plato's philosophy is concerning the ideal state or republic. Plato tried to reform society by getting rid of private property; he neglected the

family in order to create an ideal state in a way that doesn't accept human nature and impose isolation from the real world (Aristotle, 2012). On the other hand, Aristotle acknowledged that human nature has a selfish element and contained needs for family, love and friendship. He related these factors to happiness and actively acknowledged them.

Aristotle's work was focussed on answering four important philosophical questions; one of which was, 'what makes people happy?' This was addressed through his first book, Nicomachean Ethics. Here he tried to identify the factors that lead people to have a good life, suggesting a commonality between good and successful people possess distinct virtues or qualities that facilitate happiness.

This relates to a second key question for Aristotle's theoretical development: 'what are friends for?' He identified three kinds of friendship - that which you get temporary pleasure from, that which you get advantage from, and the real kind of friend who could complete you and teach you, and with whom you find the real state of happiness (Aristotle, 2012). This notion of friendship is an important value in Aristotle's approach, with a strong social component that is missing in his teacher Plato. Aristotle spent a substantial amount of time discussing Eudaimonia. Eudaimonia is a Greek word commonly translated as happiness - some observers prefer translating it as fulfilment or doing well, because happiness can be understood as pleasure or something temporary, and that was not the intended meaning of Eudaimonia for Aristotle. He believed that Eudaimonia is a stable feeling that does not fluctuate according to temporary situations. He also believed that happiness is not a simple issue. In his first book, the Nicomachean Ethics, Aristotle asked the question 'What is the good life for a man?' explaining that a man has to live actively in accordance with reason, which is appropriate to human nature, and must maintain excellence in all his activities. He developed this notion further by saying that happiness is made up of activity in accordance with ethical, intellectual and political excellence. In his opinion, to reach happiness, you have to possess all the intrinsic values to be complete and be involved in qualitatively different activities in life such as love and friendship. Therefore, Aristotle's version of happiness is not an emotional state. It is a virtue of acting to achieve balance and moderation in life (Aristotle, 1925).

Martha Nussbaum argues that Aristotle's view of happiness evidences that wealth is not the

ultimate goal or the main point in life; it is only important in helping reach Eudaimonia. Under this lens, the acquisition of wealth is an activity that is in accordance with the ethical, intellectual and political excellence involved in love and friendship. From Aristotle's perspective, friendship is a virtue and it is an aspect of Eudaimonia; however it is more important than wealth because wealth represents only a means to achieving a greater end; a virtuous life. In order for a human life to flourish it needs intrinsic and instrumental values. The individual needs to be involved in society, love, friendship and political participation. Aristotle sets out some general aspects of happiness that he thinks most people would agree on. For example, happiness is self-sufficient and nothing can be added to it to increase its value. Secondly, it is active because happiness is all about living well and doing well. Thirdly, it is generally available to everyone who wants it and makes an effort to obtain it. Finally, it is stable in the sense that it cannot be removed easily. (Nussbaum, 2004, p.p. 60-68).

One important point to note here, therefore, is that although Aristotle utilises and accepts the notion that pleasure is important as a measure of the selfish motive forces of human existence, it is not identical to happiness but it is likewise a virtue; an aspect of the flourishing and enrichment of human life by being active in society. What makes Aristotle's philosophy appealing is that it is linked to a view of human nature that has needs and values that don't involve a complete transformation in the norms of typical human existence, and don't involve living apart from society as espoused through the philosophies of Epicurus and Plato.

This furthermore illustrates one of the key loci of this thesis, the notion that capital only represents a means to an end of greater happiness, and indeed does not directly impact on the levels of happiness previously experienced by the individual. In that sense the Aristotelian philosophy could relate to employment in today's world, because one of the implications of Aristotle's approach is that employment is not simply about remuneration, but about integration into society and feelings of self-worth from contributing to the community. Therefore, unemployment has more profound implications for loss of well-being than in just loss of income. Removal of identity and removal from the society of work is therefore essential to incorporate as a greater metric assessing the levels of happiness and well-being among MENA countries.

This philosophical approach represents only one tradition regarding happiness and well-being in practice. The 18th century philosopher Jeremy Bentham builds on an ancient Epicurean tradition that defines happiness as 'pleasure'. Bentham's utilitarianism is a modern rendering of this ancient Epicureanism, a school of thought that existed in opposition to the *Eudaimonia* of Aristotle. According to Scarre (1994) Epicurus (341BC-270BC) believed that human beings should live pleasantly and avoid pain. This is based on the observation that pleasure is instinctive in human beings and from pleasure people began their life and return through the pursuit of it. This does not represent an antithesis of the Aristotelian pantheon of thought, however, as Epicurus does not reject all notions of other virtues. Indeed, he goes further and notes that regarding the two traditions as mutually exclusive is, therefore, misguided, and will only serve to limit the robust nature of the research results.

There is undeniably an opposition of thought here, however. The Epicurean school, for example, gave relatively little attention to the question of what made people 'good', focusing instead on happiness as the ultimate goal and the means by which an individual can reach it. This line of argument led to a number of revolutionary conclusions about happiness. First, they noted that friendship is more important than love and you need to spend more time with your friends to be happier. Second, find relaxation and calmness in yourself by meditating and spending time alone. Third, don't work for someone else - work for yourself even if you will get paid less or in a downgraded position. Fourth, don't let luxury mislead you: human beings don't know how to make themselves happy, although happiness is very simple.

A number of similarities can be clearly evidenced between the two traditions, therefore. As we can see, both Aristotle and Epicurus focused on friendship and indicating their view that social relations are important, for reaching happiness. in ancient terms, the roots of these two approaches to human life were (although dissimilar) not diametrically opposed, and evidenced some instances of mutual inclusivity, such as the importance of pursuing common virtues to lead a 'good' or 'pleasurable' life. The development of Epicurean thought through the utilitarianism of Jeremy Bentham, however, neglected these areas of commonality, proffering instead the highly individualistic aspects of Epicurean thought, and neglecting the social component that is clear in the Epicurus approach.

As Bentham (1879, p.p. 11-15) explained, the principle of utility offers people two choices: pain or pleasure. Furthermore, these become the only two factors which should be considered when making decisions. They should commend an action if it produces happiness, benefits, advantages or pleasure and avoid actions that generates pain, mischief or unhappiness; an action is said to have a positive utility when it supplements happiness more than it diminishes it. According to Bentham (1879, pp. 42-49) this is not merely limited to physical pleasure or pain. There are many kinds of pleasures such as the pleasure of sense, the pleasure of wealth, the pleasure of skill, the pleasure of power or the pleasure of relief. On the other hand there are many kinds of pains the pain of privation, the pain of piety, the pain of expectation or the pain of malevolence.

Bentham is the father of utilitarianism. This is a moral theory built on happiness that starts with hedonism and tries to generate more happiness for more people. It espouses that the right moral action is the action that maximizes happiness for the greatest number of people. When considering a particular action there are four elements that need to be checked in estimating the pleasure or the pain of a single action: its intensity, duration, certainty and propinquity. If the intensity is high, the duration is long enough, the certainty is confirmed and the action is happening soon, then this kind of action should be taken because it produces pleasure. In order to evaluate the type of an action someone is taking, two elements should be considered, the fecundity of an action in the sense of ensuring that it produces extra pleasure or not, and the purity of an action to make sure if it doesn't generate extra pain. Subsequently, for an action that affects a group of people, the element to be considered is the extent of an action and how much happiness it produces for the maximum amount of people. These calculations led to the utilitarian moral theory that focuses of maximizing happiness to the greatest amount of individuals. (Bentham, 1879 pp. 11-15)

This is a clear development from the perspective of Epicurus, who argues that to be happy, you have to live simply and concentrate on seeking pleasure and avoiding pain in the present life to reach 'Ataraxia' a peacefulness of the soul and the mind that leads to pleasure. Epicurus believed that reaching 'Ataraxia' and living a quiet life without high expectations would give human beings some protection from pain and suffering (Scarre, 1994). While the ends of Epicureanism and Utilitarianism are the same, therefore, the means by which Epicurus and Bentham offer for achieving these ends are markedly different. It is questionable how far this is due to the 18th

century world of Bentham as opposed to the ancient world of Epicurus; however it is important to evidence the development of the latter school of thought from the former, which acknowledging their shared genealogy. This is a similar tradition to that observed with the genealogy of teachings from Socrates to Aristotle.

This has an important bearing not only on our notions of happiness, but also in terms of identifying definitional problems of 'well-being'. According to O'Neill (2006) the hedonism of Epicurus emphasised that well-being means having the right subjective states at the current time, as from his point of view the values of different moments are separable. However, O'Neill explained that well-being is not just a sum of moment-by-moment subjective states and that well-being depends on other aspects of life such as freedom, achievement or developed relationships which could be measured by an objective state account of well-being that would allow other aspects of life to be measured. In that case moments of pleasure and pain are not valued in terms of their intensity, but rather in terms of their significance in the development of the overall situation. O'Neill thinks that one area that Aristotelians and Epicureans have in common is the differentiating between increased consumption and the improvement of the quality of life. In another way, the Aristotelian and Epicurean conceptions could help to explain the situation of the heightened GDP and low or stable levels of well-being (O'Neill, 2006).

In economic terms, Bentham's utilitarianism presents the return of Epicurus' hedonism. In Bentham's theory, he defines utility in terms of happiness and focused on relieving people from pain and suffering rather than offering an adequate explanation of happiness. His approach is more simplistic than that of Epicurus, which focuses on a conflagration of virtues to reach a state of heightened objective pleasure.According to Bentham, pleasure is a single sensation that matters only in quantity and duration. This is the opposite of Aristotle's viewpoint, as he focused on the quality of happiness that relates to the activity involved in it. Bentham did not discuss happiness or analyse it. This absence of focus has led to a number of areas of criticism, including from another utilitarian thinker: John Stuart Mill, In Mill's essay 'On Bentham' he said that Bentham had ignored Plato, Aristotle and the other philosophers' questions about the nature of happiness. This is because in Bentham's simple theory, all he was concerned with was pain and suffering. As a result of this simplicity and not having a clear answer or analysis about happiness, Bentham's theory did not help to develop any happiness or social utility explanation

(Nussbaum, 2004).

Nussbaum (2004), in criticizing Bentham from an Aristotelian perspective, said that a pleasure of Bentham's kind is not the perfect measure of people's quality of life for two reasons. The first reason appertains to evil pleasures. Some people become happier when behaving badly and harming society. And while this performs the function of utilitarianism at a personal level, this does nothing to aid the notion of objective happiness as a single measurable phenomenon. The second reason is the existence of some valuable activities are not based on promoting pleasure. Nussbaum used an example from Wordsworth's poem about a good warrior who sacrifices his life for a noble and ethical reason (Nussbaum, 2004). This reflects the utilitarianism theory presented above of maximizing the happiness of the large number of people even if it means sacrificing some people's happiness or causing harm to small number of people.

Furthermore, sometimes people indulge in activities that make them unhappy in order to make someone else happier; an example of this is a mother doing something to benefit her child that may not benefit her. From an Aristotelian point of view, motherhood - even if it's uncomfortable and could be painful sometimes - is an activity that is related to a virtue and feeling satisfied and happy for giving love and care to someone else and could bring back happiness or satisfaction to the mother in an unobvious way. This sort of virtue, pursuing someone else's happiness, or the greater happiness of the state as noted through the Wordsworth example above, has little place in a utilitarian world-view focussed on minimising personal suffering.

Indeed, according to Stevenson (2010) after subjectively measuring happiness, it turns out that mothers are less happy than women without children. Mothers accept this kind of unhappiness in order to make their children happy and they are happy to be unhappy. In my opinion, this is closer to Aristotle's view of happiness that it is not a simple temporary pleasure. It is a feeling of fulfilment and doing well overall, serving a greater confluence of virtues through achieving *Eudaimonia.*

Bentham, by contrast, appears to be reviving the ancient Epicurean view of pleasure, in a simplistic form suitable to the 18th century world in which he wrote and theorised. The primary similarity between Bentham and the Epicureans is that human beings naturally seek pleasure and

avoid pain, while the similarity between Aristotle and Epicurus is on their aim of human flourishing through the pursuit of virtue. In opposition to Aristotle's notion of *Eudaimonia,* however, Epicurus focused on securing some stable pleasures that could not be taken away from a person and settle with it to reach a state of 'Ataraxia' and have a peaceful life, free from pain and suffering. This could make a person withdrawn from an active public communication and political participation, which is the opposite of Aristotle ideal kind of life, furthering the virtues of the state through integration. It is this focus that incorporates the examples of Wordsworth and the paradigm of the mother, above.

Thus two approaches in the analysis of happiness are becoming increasingly distinct. On the one hand, the Aristotelian conception of life takes into account many different aspects of life in the pursuit and attainment of happiness and has a more social component. The second is more subjective in focus, relating to Bentham's utilitarian conception of happiness where happiness matters only in quantity and duration. Interestingly most welfare economists interested in the economics of happiness use the subjective-hedonistic approach, where happiness has content and is measured cardinally with numbers, and is closer to the Bentham utilitarian approach. This approach depends on people's own evaluation of their happiness and satisfaction such as the Richard Easterlin approach to measuring people's happiness.

Alternatively, a good example of the Aristotelian approach to happiness in the economics literature is Amartya Sen, who in his work focused on many areas of economic development. He suggested that poverty was linked to a lack of freedom. He also criticised utilitarians, because they rely only on utility and they exclude all non-utility information. They refer only to mental states of happiness, which are also important in Sen's approach, but are not used exclusively by him, making his view of well-being closer to the Aristotelian Eudaimonistic objective approach.

In his book 'Development as Freedom' Amartya Sen focused on development and how to achieve it by promoting economic, social and political freedom. He believed that any human being should have the freedom and ability to live a decent life rather than a miserable life resulting from different kinds of unfreedom. This includes economic un-freedom, in the form of poverty and the poverty trap, and social unfreedom - in the form of lack of access to health care and education. Sen's different kinds of freedom are essential for development. Sen (1999)

believes that having more wealth or more personal income can lead to more freedom in choosing the kind of life someone values or desires. This will make people happier since they have the freedom to choose the life they want or at least choose not to be poor, uneducated or unable to access the education and health systems due to financial constraints. Therefore, more income does not mean it is desirable for its own sake, but for the freedom it gives an individual to choose between different lives (Sen, 1999, pp.14-34).

The 'capabilities approach' written about by Sen and developed by Nussbaum to find given standards for measuring and assessing the quality of life of people is another example of the Aristotelian view of happiness as being a collection of many things taken together to improve the quality of life as a whole. This covers the whole scope of human well-being, in a 21st century context. It associates the economic, social, political and cultural dimensions of life, and is important in many fields such as welfare economics, social policy and politics. The capability approach also evaluates policies according to their impact on people's capabilities. It is concerned with whether people are healthy, have clean water, and have access to education and health systems or whether they take part in the political process. Other considerations are whether they have the freedom to participate in any community they choose to or practise any religion they desire (Clark, 2006).

Under this perspective, each person can be someone or do something. These 'doings and beings' in Sen's capability approach are called functioning. According to Nussbaum (1993, p.31), a person's life is a combination of a range of doings and beings that she calls functioning. It starts with basic matters such as, having good health, being able to eat and drink clean water and having access to the education system, and proceeds to more complex matters such as maintaining human dignity, participating in local communities and freedom of religious expression. Therefore, a person's capability is the freedom to choose any combination of these functionings. It is what people can do or be that leads to the quality they desire of their lives (Nussbaum and Sen, 1993, pp.31).

Sen (1992, pp 56-72) also explained that the freedom to achieve full functioning that is related to the individual's well-being may differ. Because 'the well-being aspect' of an individual and 'the agency aspect' of the same individual is different when a person realizes that the process of

achieving his or her goals and values in life may not lead directly to his or her own well-being. Therefore, agency achievements may differ than the well-being achievements. The capability approach therefore tries to remove the barriers in people's lives so that they have the freedom to choose their desired way of life. This is a philosophical approach that is concerned with people's happiness as well as income, expenditure, consumption and basic needs fulfilment.

Sen and Nussbaum in their writings tried to link their capability approach to the Aristotelian view of good human life that valued good activities in life rather than relying on a temporary mood of happiness as utilitarians do. They have also attempted to link this approach to the Aristotelian analysis of political participation and life in the sense of activity. By contrast, Bentham's utilitarian view can be seen to share a common ancestor with Epicurus' notion of the pursuit of pleasure. When considering these divergent schools of thought, however, it is important to establish that Aristotle and Epicurus were not mutually exclusive in their philosophies, but both noted the importance of virtues to happiness. Here we see this development through the capability approach to develop a practical application of this theory for social and personal good, evidencing the impact that unemployment has upon happiness.

2.3 Perceptions of Utility in Theory and Practice

The concept of utility is an important concept in economics, it was invested in order to conceptualise human welfare, with attempts then made by economists to measure it initially through notions of 'cardinal utility' and subsequently through 'ordinal utility'.

Earlier utilitarians measured utility in a cardinal manner, and was quantified in classical economics. For example, F.Y Edgeworth (1881) assumed that the utility function can be measured in a direct way by using the experience of utility, which is a cardinal measure of the pleasure the individuals derive from the commodity bundle. A key development was made by V. Pareto (1904), however, who stated that it can be difficult to establish cardinal utility function over goods. He thought that experiencing utility should be described by using ordinal utility because it is a choice between alternatives. Pareto did not think that cardinal utility could be measured by observing consumer behaviour; in the 1930s Lionel Robbins was the first to state that utility is immeasurableand it should only explain the choices individuals make between

various goods. Therefore, modern economists started using utility as an indicator of choice, without giving an exact number of how much a good A is preferred to a good B and to what extent. They proceed by observing consumer choices so that utility is dependent upon only tangible goods and services (Bernard et al. 1999).

Thus, since the 1930s, economists - Hicks (1934), Allen (1934) and Samuelson (1938), using the new welfare economics of that time, replaced the notion cardinal measurements of utility with the idea of an 'ordinal' utility that can only be used to explain individual choices between various goods. They reasoned that it is difficult to measure utility, and at the same time state accurately how much satisfaction a good yields. According to Sen, Robbins influenced the direction of welfare economics for many years by attacking those espousing a utilitarian approach for the lack of available information in interpersonal comparison of satisfaction between individuals with the same income level because the extra satisfaction from any increase in income would vary between individuals (Sen, 1985). As Powdthavee (2007) explained, measuring utility cardinally is unscientific, and modern economists have given up measurable utility in favour of the revealed preference theory. Recent developments in economic theory, however, argue that utility should be measured again in terms of happiness. According to Frey and Stutzer (2002) this measurement requires a comparison between welfare in a society and the consumption behaviour of individuals. In this sense, then, utility therefore depends only on tangible goods, and services or leisure and was inferred from behaviour. They distinguished two positions of utility, one that is based on observing an individual's choices or behaviour and is closer to the decision utility; and a subjective position that is captured by surveys in asking people directly about their level of satisfaction or happiness. This subjective position is closer to the experience utility and allows capturing happiness directly.

Indeed, Di Tella et al. (2003) made the assumption that self-reported surveys as a metric of happiness are closer to the experienced utility than to the decision utility of standard economic theory, which is invariably linked to the consumption of goods and services. This has interesting ramifications when it comes to quantifying utility in practice, and will be developed in the methodology.

Furthermore, Scitovsky (1972) believed that observing people's behaviour is not a good

approach, given that people do not necessarily know what is best for them. Additionally they tend to overvalue or under value things, be they material or personal. Furthermore, people do not learn from their previous mistakes or experiences and they can make bad choices for themselves (Scitovsky, 1972 pp. 5-11). This is due to the growing concerns that individuals may not always act rationally when choosing between various goods and services because they may not have the full information about choices and they may not choose the greatest amount of utility for themselves (Powdthavee, 2007). Therefore, from the perspective of assessing happiness as a quantitative metric, people do not desire or know what is good for them and couldn't be judged based on their choices as the utility concept required.

Sen (1985, p187) asked the question: 'Is well-being best seen as utility?' He thinks that this question is not easy to answer because in order to infer well-being using utilitarian methods it has to present a cardinal and interpersonally comparable view of utility. Furthermore, utility could be explained in three different ways: happiness, desire fulfilment or preference. The preference or ordinal utility method is more usable by economists in a numerical way representing a person's choice from different alternatives. Sen thinks that ordinal utility can hardly be extended to interpersonal comparison because people don't usually face the choice of becoming someone else when having to choose hypothetically. This has an interesting bearing on the subjective nature and validity of personal choices when considering survey results as an accurate metric of happiness quantification. Although people do not necessarily always provide the most accurate objective reflection, from Sen's perspective, ordinal utility notes that subjective assessment may be the only 'accurate' measurement available.

Indeed, Sen deliberates further with this line of argument. He notes that it is difficult to decide what is important and what is not from someone else's point of view, so that the best way to provide non-interpersonally-comparable ordinal valuation is Paul Samuelson's 'revealed preference approach'. Sen (1985) stated that in trying to identify well-being with happiness two problems arise. Firstly, in view of the fact that utilitarians use happiness as a mental state of mind, happiness could not represent well-being as it ignores other aspects of a person's well-being. For example if a starving person became happy from one kind of activity he performed such as praying that does not mean he is happy all the time or he is not suffering from starvation; it would misjudge his entire well-being level. Secondly, it could ignore other mental activities

such as excitement and stimulation which are relevant when calculating personal well-being. Furthermore, happiness is only an element of well-being that cannot derive a personal well-being by itself. Desire is also a mental state that cannot calculate well-being by itself, however it is also an important element in personal well-being. However, it differs from happiness in not being only concerned with the mental state of a person's desire in the state of the world but also with the objects and strength of this desire and comparing the desire of different people (Sen, 1984, p187). Desire can, therefore, be linked to an Epicurean tradition of pursuing pleasure at the cost of personal sacrifice, the position is necessarily subjective and personal.

In economic terms, Easterlin (2010), has noted that each individual has a utility or happiness function that depends on *pecuniary* and *non-pecuniary* domains. Each individual citizen has their own goals in life, a certain level of aspiration and a current level of attainment in each domain. Therefore, the happiness of an individual could be calculated from the differences between the individual's aspiration and attainment in each domain and that depends on how important is each domain to that individual's happiness. In neoclassical economic theory aspiration is not considered, while only attainments matter, usually through a capital-based metric. There has been a recent divergence in historiographical debate away from this binary perspective however, after discovering that more income doesn't mean more happiness, aspiration is now being analysed in economics terms, and not only in psychology. Easterlin, for example, distinguished two kinds of effect on well-being of aspiration. The first is the habit formation that the utility or happiness a person derives from set of goods or level of income is affected by the comparison of a person's own past experiences. In psychology theory this process of habit formation is known as hedonic adaptation.

The second effect noted by Easterlin is the interdependent preferences that emerge when the utility a person has from a given income or goods depend on the possessions of others. This term is used by psychologists as social comparison. Hedonic adaptation and the social comparison don't operate equally across all domains. For example family circumstances and health are important regardless of comparison of others or adaptation, while material goods needs rise with the presence of income adaptation or comparison with others. Easterlin suggested that people don't know how to choose the correct amount of time to spend between domains, so that people

tend to choose an unbalanced amount of time in the pursuit of pecuniary objectives that have short term influence, rather than non-pecuniary objectives that would have a long lasting effect on well-being. Therefore, Easterlin rejects depending on people to maximize their own well-being, as mainstream economists do when assuming that people are the best judges of their lives. For example, when people are making spending decisions for themselves they don't take into account the effect of hedonic adaptation and social comparison on their aspiration and they take their current level of aspiration as fixed. As such, they work harder to have more income, sacrificing family time or risking their health without realising that along with a rise in their income an increase in their aspiration level would appear because of hedonic adaptation and social comparison which would leave them at the same level of happiness (Easterlin, 2010).

2.4 Well-being and the Centrality of Work

Work is an important economic activity that both generates an individual's identity and makes them connected to the society in which they live. Satisfaction at work plays a big role in their lives, as noted by Frey and Stutzer (2002) who argue employment is a 'crucial part of any person's life'. For employed people the satisfaction of work is important to measure their happiness, and unemployment can make a person isolated and very unhappy. Furthermore Frey and Stutzer note that work is seen by most people as an essential activity in life. From an Aristotelian perspective, work is an activity that makes you feel self-worthiness in contributing to society and is seen as part of well-being. On the other hand, from the perspective of the Bentham school, which look primarily at notions of pleasure and pain, work is viewed as pain and a disutility that you should avoid or minimize if you can.

Spencer (2009) examined views of the work process from the mercantilists in the sixteenth century to the neo-classical economics of the twentieth century. The mercantilists' main objective was to have a positive surplus in trade to become a wealthy nation, which necessarily depends on lowering the cost of production. As labour can be seen as one of the primary costs of production, these mercantilists focused on the wages of the labour and made them as low as possible to minimize costs. They believed that the fear of poverty is the main incentive for people to work, which would maximize the supply of labour. And that was the basis for the

'utility of poverty' notion, which emphasises that to have a wealthy nation the people who labour should be poor. Furthermore, they reasoned that by nature people are opposed to work and think it is a painful activity and are too lazy to work - that is why they need to have a threat to keep working. This view neglected the workers' well-being and happiness and treated them as machines, fulfilling an almost automatic function at work. Later in the eighteenth century Adam Smith was one of the critics of the 'utility of poverty' in saying that the low standard of living for the workers reduced their incentives to work hard and destroyed their health. Although he believed that work was also a disutility and a source of trouble and discomfort, he also maintained that by increasing wages to compensate for giving up leisure time workers would make more effort to work and that productivity would increase. Smith was concerned with the happiness of the workers to create a happy society, along utilitarian lines, noting the profundity and frequency of pain from within the working classes. At the end of the eighteenth century the neoclassical economics also believed that work was a disutility, and that people don't enjoy work for its own sake. For them it is only a means to an end not an end in itself. People need work to meet their basic needs and they don't enjoy working. Classical economists focused on economic policies inducing labour to work harder (Spencer, 2009, pp. 8-46). This presents a necessarily blinkered view of work, based primarily on the ubiquity of low wages. Would, for example, those 18th century factory owners view their work as a disutility? There is certainly an argument in favour of utility of work being linked to financial remuneration for efforts, and this was the heart of Smith's philosophy.

In classical economics work is also perceived as a disutility, which is why it was ignored in measuring a country's wealth or welfare. In his book "The Joyless Economy" Scitovsky (1972) explained that the satisfaction of workers is not an economic good and does not go through the market. Therefore, it does not show up in GNP measurement. He believed that work is considered to be a great stimulator for people, especially when it is the right amount and challenging rather than tiring. (Scitovsky, 1972, pp. 89-105). Scitovsky was closer to the Aristotelian view of happiness and quality of life, noting rather the impact of an individual's efforts from the perspective of the state to which they were contributing.

In the nineteenth century the philosophical landscape was drastically altered by the writings of

Karl Marx. His philosophical, economic and political thoughts about work were focussed on work as being an important activity for people as human to fulfil their lives and reach self-actualisation. Marx defines work as: 'a process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature.' (Marx, 1976, p. 283). Nature is central to this debate, as the nature of work is not necessarily determined by existing status-quos, but comes self-perpetuating from the perspective of the individual.

Indeed, in 'Marx's Concept of Man' psychoanalyst Erich Fromm defended Marx's theory of socialism, noting that Marx did not assume that the main reason for a man to work is purely to gain in a material sense. By contrast, Marx illustrated the importance of work and how it should be enjoyable and essential to free man from the pressure of economic needs in order for him to be a real and full human being. He criticised economists and the factory system that focused on the goods and neglected the workers producing them (Fromm, 2004, pp. 23-50). The 18th century emphasis on the disutility of work, and the low wages associated with this tradition, can be evidenced as being directly linked to this rejection of the purely economic motive forces behind existence.

In Marx's Economic and Philosophical Manuscripts of 1844, he focused on the wages of labour. Here he noted how they depend on the market demand in a way that doesn't benefit labour, except when the economy is in a very good condition. In that situation workers would work longer hours – taking advantage of the increased demand - in order to have extra wages which would lead them to premature death. He thought that the goal of the economic system back then was the unhappiness of the workers: when the economy is poor and the demand for products falls the worker gets the lowest wages and some people suffer from unemployment and starvation. However, when demand exceeds supply and the economy is in the best position, workers have to overwork to satisfy the rise in demand, coveting more money which could sacrifice their happiness and freedom to have a good life. 'An increase in wages arouses in the worker the same desire to get rich as in the capitalist, but he can only satisfy this desire by sacrificing his mind and body' (Marx, 1844).

This formed the basis of Marx's analysis of the alienated labour. It is when work is separated from the workers and when workers don't have any control of what they do. Marx believed that the worker produces commodities that create capital which gives the capitalist more power to devalue the worker and that turned him or her into a cheaper commodity the more productive he or she becomes.

There are four key aspects of alienation for Marx. The first is the separation of the worker from the products of the worker. The product the workers produce becomes an alien object to them. The more products the workers produce the wealthier and powerful become the capitalist and poorer become the workers in their lives as human beings.

The second is the separation from the process of production. The workers here don't have any control over the process of production or the conditions in which they work. These realities will tend to make them less creative and would turn them into machines repeating the same work every day in the fastest way possible. Marx suggested that, with the end of capitalism, workers would become more active in the process of production and there would be a unification of mental and manual labour.

The third aspect of alienation is the separation from human potential. Since workers under capitalism don't act like human beings they are alienated from their human nature to be creative and free. They become machines or slaves to the object they produce. The workers here are just working to stay alive, making them closer to animals and denying them the importance of job satisfaction and creativity in the job.

The fourth aspect is the separation from other human beings. Human beings are social by nature. However, the class structure of society under capitalism makes the worker who produces the wealth alienated from the people taking advantage of this wealth and also alienated from each other because of the hierarchical work structure (Rattansi, 1982).

This theory demonstrates that Marx was more of an Aristotelian in genesis, focusing on a human being's full flourishing in life as a whole and not believing that short term pleasure can compensate for long lasting happiness, as Bentham seems to suggest. Chau (2003) mentioned

that utilitarians would assume that increased wages would provide for the workers' happiness or pleasure. They are not taking into account the workers' freedom. Marx criticised this intended happiness as not being intrinsic to human essence without the freedom that corresponds to Aristotle's Eudaimonia. Chau also thinks that work is considered to be both a moral and economic issue and Marx is the one who dealt with these issues together in building on philosophical concepts and criticizing capitalism for neglecting the workers' needs for a good life (Chau, 2003). I suggest a link between Marx and Aristotle, from observing that Marx's theory of alienation in capitalism has a philosophical basis in focusing on human flourishing in the context of work, and is thus linked to Aristotle's perspective on happiness. The demonstration of the utility between worker and work for greater satisfaction of both individual and state can certainly be evidenced in the framework of core virtues that lead towards an Aristotelian perspective of the virtuous life.

At the end of the nineteenth century the emphasis of neo-classical economists changed from the cost of production to notions of 'marginal utility.' As Spencer (2009) demonstrates there were two positions dominating this era. The first was associated with William Stanley Jevons and Alfred Marshall, where work was viewed as a disutility and focus was placed on the costs and benefits of the activity of work, so that workers would take into account their subjective feelings of pleasure and pain in deciding to supply the labour force or not. The second position was associated with the Austrian economists who suggested that work was neither utility nor disutility - they adopted a different approach in drawing the attention to opportunity cost of leisure time (Spencer, 2009, pp.69-93).

Under this economics of well-being, however, work is far from being a disutility as neo-classical orthodoxy has claimed. By contrast, work is seen as a direct source of happiness and self-realisation. In the basic needs hierarchy presented by Abraham Maslow, work is an important source of happiness and self-esteem. Maslow (1972) presented a five part listing of needs that has to be met in hierarchical order. It starts with the basic needs that are important for human beings to function such as food, water and breathing. Then after fully achieving the basic needs, human beings move to the second part of the hierarchy, which are safety needs. By feeling safe, in having a place to live or a job to pay for life essentials, people can move to the third part, the

social needs. Here the importance of family, friends and love life appears. The fourth part is the need for self-esteem and acceptance from others. People like to be praised and be part of a society and that would motivate them to be better people. The last part and the top of the pyramid is self-actualization and this is different from one person to another. In this position every human has goals to achieve in his or her life to reach self- realization and fulfilment. Self-actualization when fulfilled or when it is in the process of being fulfilled would bring ultimate happiness to the individual. Self-actualization is linked to a continuous desire to fulfil potentials in life.

Under this framework, active employment appears to be important for human happiness. Towards the top of the pyramid, it becomes obvious that you need work to meet the basic needs. However, work appeared to be a source of happiness rather than a means to an end in Maslow's hierarchy because people can achieve self-esteem and self-actualization from their work. Therefore work could be enjoyable and a source of happiness and not a disutility as the neoclassical theory has claimed (Maslow, 1972). Work is not an obstacle that reduces well-being, therefore, and as noted by Richard Reeves, it provides many opportunities for fulfilment such as creativity, learning and socialising and it gives the individual a purpose in life. Therefore, it is not healthy to eliminate work in order to make people happier. Work should be more enjoyable, with good qualities such as the work environment, work security, benefits, etc. (Griffiths and Reeves, 2009). In terms of historiographical development this is a key advancement in theory from the 19th century writings of Adam Smith and Karl Marx, where wages were kept artificially low to ensure the maintenance of an employee's dependence on low pay.

This speaks to a key aspect of the two traditions assessed by this literature review. From an Aristotelian perspective work is essential in reaching Eudaimonia and having a purpose in life even if you don't feel happy every day in your job. It is about the process of feeling happy from accomplishments and making changes in your life and other's lives. Alternatively the hedonic approach focuses on the current state of happiness about work and unemployment, for example, job satisfaction at the current time. However, people don't adapt very well to unemployment when individuals are asked in surveys about how happy they are with life, the evidence suggests that their answers correlate with their level of unemployment. A study using first eleven waves

of the West German sub-sample of the GSOEP for the period 1984-1994 on German panel data by Clark et al. shows that people who are unemployed report lower level of satisfaction compared to employed individuals and also people who had an experience of unemployment in the past reported lower satisfaction even when they are currently employed (Clark et al., 2001).

These results suggest that work is also an important aspect of happiness when taking the subjective approach in assessing a country's well-being. Therefore, subjectively unemployment has a negative effect on the happiness of the people experiencing it. This is an important realisation when assessing personal perspective of happiness on a subjective level, but can also provide some quantitative insights through unemployment figures to the overall satisfaction of a nation's citizens.

Objective and subjective approaches are therefore equally important when assessing how unemployment affects the quality of life. Objectively researchers should look at the factors accompanying unemployment such as health, suicides or crime rates, while also considering the effect of unemployment on an individual's life satisfaction, the subjective perspective. We need these two approaches to evaluate the quality of life and inform the policy makers of means by which work productivity can be improved.

Powdthavee (2007) believes that to effectively measure well-being we need to evaluate the objective aspect of human well-being as well as the subjective aspect. He also believes that the subjective approach in well-being is broader than just measuring ordinal utility that depends on a simple choice: it also includes experienced utility and expected utility. Therefore, when people are asked about their level of happiness, they are asked to include their past experience and their expectations of the future.

Although Powdthavee believes that the subjective approach in asking people directly what they think of their life to measure well-being is very important for policy makers, he also recognises some of the limitations of this approach. A key limitation he found is that correlation does not mean causation. For example if there is a positive correlation in an economy between income and happiness it does not mean that higher income caused higher happiness levels. It could be

that happier people have higher incomes. To be able to analyse the causal issues, he stated that it is more important to collect longitudinally happiness data than cross-section data (Powdthavee, 2007)

2.5 The Impact of Well-being and Income Level

A high level of GDP is considered to be a sign of a better material living standard in a country. As such, economic growth has been the most important goal of economic policy. Easterlin (1974) examined the relationship between GDP per capita and subjective happiness across countries and within countries over time. Taking advantage of the happiness data where people are asked directly if they are happy and using their responsesto Analyse time series data of the US and Japan, where average incomes in these countries had grown significantly, he discovered that raising the income of all does not raise the happiness of all citizens within that economy. He claimed that although people with higher incomes are more likely to report being happy, rising incomes do not lead to increases in subjective well-being. In other word, after an individual passed the poverty line any additional income yields little if any extra happiness. This is called The 'Easterlin Paradox'. The paradox shed the light on the known positive correlation that more income for individuals means more happiness for individuals. However, when income is raised for the whole society happiness doesn't increase. This is based on the relative income prospect. People compare themselves to others and that's why when income is raised for all the situation remains the same. Therefore, when testing for the whole society absolute income doesn't matter as much as relative income.

In explaining these findings Easterlin referenced Duesenberry's (1949) relative income hypothesis: where what matters is keeping up with others around you, and on average economic growth only makes you rich at the same rate as it does to the others. Blanchflower and Oswald (2004) confirmed the Easterlin paradox by studying the relationship of happiness and GDP in the US and Great Britain from 1972 till 1998. Layard (2005) also confirmed the existence of this relationship between happiness and GDP. Easterlin (1995) also suggested that raising incomes comes alongside a positive effect that would make it difficult to raise the well-being of individuals further: income growth is accompanied by a rise in material aspiration that has a negative effect on subjective well-being, which would reduce the positive effect of higher

income. Therefore, the GDP variable should be supplemented in assessing individual happiness by including the income group of every respondent.

Stevenson and Wolfers (2008) reassessed the 'Easterlin Paradox' using a greater number of countries and a wider series of data, utilising an almost ten-year series. They found evidence of a strong relationship between happiness and GDP and emphasized the importance of absolute income rather than a relative income outlined by Easterlin (1978). Furthermore, they denied the existence of the paradox of happiness in reflecting the importance of economic development for the people's well-being because, from their point of view, rich countries are happier than poor countries and rich people within countries are happier than poor people (Stevenson and Wolfers, 2010). In 2010 Easterlin replied to that critique by stating that they had established only the short term positive relationship and not the long term one. By contrast, Easterlin believed that their empirical study involved some ups and downs reflected in a business cycle. Furthermore, they picked up the increased level of happiness in a boom and the decreased level of happiness in a recession (Easterlin, 2010).

Additionally, however, Di Tella et al. (2003) found a strong correlation between GDP and happiness, especially among the people on the top category of happiness, who reported they are very satisfied with life and less among the people in the bottom category of happiness. While Inglehart and Klingemann (2000) found that people in poor countries have much lower levels of self-reported happiness. Therefore, well-being and income are highly related before the basic needs are met, but at higher levels of development the satisfaction is indifferent. As Frey and Stutzer (2002) argue higher income enriches people's happiness in developing countries with low GDP, but in rich countries, income has little or no effect on happiness. They also stated that the positive relationship between happiness and income may be produced by other factors such as human rights, health or democracy that come alongside with income. This evidences that happiness and income have a stronger correlation in poor countries than in rich countries, a stronger correlation than had been previously expected or espoused.

In the absence of quantifiable metrics which demonstrate a correlation between greater wealth and greater happiness, economists building on psychological research began to think of other

measures to apply to countries rather than GDP. This led to the notion of 'relative income', assessing income itself as a relative rather than absolute term. This definition is also important as it demonstrates that a greater income for everyone does not necessarily mean happiness will be increased for everyone. People always compare themselves to other people, for example neighbours, co-workers or relatives. For both men and women the fact that income does not produce happiness could be explained by aspiration and adaptation theory. Over time aspiration adjusts to higher income levels. As Easterlin (1995) stated in his paper, raising incomes comes alongside a positive effect that would make it difficult to raise the well-being of individuals further; income growth comes along with a rise in material aspiration which has a negative effect on subjective well-being that would reduce the positive effect of higher income (Easterlin, 1995).

Two psychologists, Brickman and Campbell (1971), charted the movement among economists away from GDP as a measurement of welfare through the use of Helson's (1964) adaptation theory. They used an automatic habituation model to demonstrate patterns of behaviour. Brickman and Campbell concluded that people adapt to any improved economic conditions by returning after a while to their natural level of well-being that is their starting point. They suggested that people are on a hedonic treadmill where each person has a set point of happiness and will return to it after any change in the person's circumstances (negative or positive). For example, a rise in income may provide extra happiness that will wear off after a while and the person will go back to the same level of satisfaction after adapting to the new level of income. On the contrary, people adapt to unpleasant situation after a while and go back to their same level of happiness they started with. According to them, happiness and unhappiness are short term reactions to people's circumstances where they return to neutral after a short period of time (Brickman and Campbell, 1971) independently of economic welfare and performance.

Adaptation theory is more flexible than others as it offers an explanation for the stagnant happiness level of people despite their increased income, which are difficult to evidence by utilising behavioural or GDP measures. It is equally difficult, however, to apply this theory accurately in practice, as it indicates wealth and welfare are independent agents.

In 1978, Brickman, Coates, and Janoff-Bulman offered initial empirical support for the adaptation theory. Brickman et al. (1978) compared a sample of lottery winners with a group of

paralysed accident victims and a sample of people who were neither winners nor victims. They concluded that the effect of an extreme pleasurable event or fortune would fade out in the short and long term. They explained that in the short term a contrasting effect would reduce the pleasure of some small events that have been more enjoyable in the past, while the longer view demonstrates the process of habituation will impact the pleasure received from the fortune. This would leave the winners and non-winners at the same level of happiness.

Similarly, this principle can be applied to the sample of victims. However, in the short term the contrast effect improves the impact of small pleasures compared to the accident. And in the long run the habituation process would reduce the impact of the accident, leading the victim to be not substantially less happy than those who can walk (Brickman et al., 1978). These arguments could prevent policy makers to issue policies based on the happiness research. However, happiness research proved as what will be discussed in chapter five and six that macroeconomic conditions and objective circumstances have a significant effect on people's happiness. Adaptation theory does, however, provide an important challenge to the assumptions behind neoclassical economic theory regarding the link between happiness and income. While these studies takes extreme cases to provide a perspective of a normalising trend, they do demonstrate however that circumstance can alter happiness in relation to income. A more detailed study is required taking less extreme examples into account in order to demonstrate how this trend plays out in practice.

This notion of neutralizing, or a movement towards a natural centrality has also been critiqued by Diener et al. (2006), who modified adaptation theory by stating that people's set points are positive in nature so they are not hedonically neutral and after any change in their circumstances they return back to be happy not neutral.They also explained that there are multiple happiness set points that can move in different directions. And there are individual differences in the rates of adaptation between people. They also added that happiness set points appear to vary across different events and circumstances (Diener et al., 2006).

The metrics by which happiness it-self is assessed are also subject to fierce academic debate. Studies about the set-point theory use cross-sectional studies to compare the subjective well-being of people who experienced life events (good or bad) to the SWB of people who have not, and compare them. They also use longitudinal studies to examine the adaptation of people after a

life event. However the previous level of SWB is not known in these kinds of studies.

According to Lucas et al (2004) these studies suffer from limitations in the sense that they focus on group-level rather than individual changes, as previously noted at a unifying national level with GDP. According to them, to provide an accurate test, one should use a large sample of longitudinal studies and examine them both the individual level and group level. Therefore in their study they examine long term adaptation by examining changes in SWB before, during and after an individual's experience of unemployment. They discovered that unemployment changes the set-point of individuals in a negative way. People were less satisfied for few years following the unemployment experience even if they are employed again. (Lucas et al, 2004). A study of a 2-year longitudinal research project on the effect of life events on subjective well-being (SWB) found that only life events during the previous three months influenced life satisfaction with a positive and negative affect (Suh et al, 1996). An individual's personality characteristics, such as whether someone is optimistic by nature or not, plays a strong role in determining individual levels of SWB (Diener and Lucas, 1999).

When discussing income and well-being reference values and relative utility should be taken into account. As mentioned in the introduction of this thesis, Brickman and Campbell (1971) suggested that people adapt to any condition whether it's positive or negative and return back after a while to their natural level of well-being. According to Georgellis et al (2008) there is non-linearity of hedonic adaptation towards reference points in job satisfaction. Because when fully employed people in the past hedonically adopted to unemployment that adaptation decreased with the span of unemployment.

2.6 The Impact of Unemployment on Well-being

Many individuals in society can benefit from a decrease in unemployment rates. The direct costs of unemployment affect the unemployed individual because of the obvious loss of income and psychological issues such as losing identity and feeling isolated. However, employed people can also feel threatened by the potential loss of their jobs and having to worry about their future. It also affects the well-being of the unemployed people's families, colleagues, neighbours, and others around them (Rätzel, 2009).

The definition recommended by the International Labour Office (ILO) in 1982 suggested that the adult population, aged 16 years and over, considered unemployed if they were not working and getting paid, currently available to work and seek work. People neither employed, nor unemployed are considered inactive and are excluded from the labour force.

To distinguish between the unemployed people who are looking for a job and can't find one and the unemployed but not actively looking for a job is controversial issue when defining unemployment. And it is different between countries or regions. Most countries distinguish the unemployed from the out of labour people by looking at their job search status or the collection of unemployment benefits. However, some people don't search for a job while needing one because they believe that there are no jobs available in the market.And some countries don't offer any unemployment benefits.

Indeed, Campbell et al. (1976) stated that unemployment affects subjective well-being negatively even when income is compensated. Furthermore unemployed people are the unhappiest in society, and cannot adapt to being unemployed (Campbell et al, 1976). Similarly, Oswald (2001) found that the unemployed are very unhappy across different periods, different countries, and even different measures of well-being. Frey and Stutzer (2002) studied unemployed people in Switzerland and find out that unemployment has a significant negative effect on unemployed people after holding income and other factors constant, and that this unhappiness is larger in individuals with higher education.

This relationship has been explored by a number of different academics from many fields, using a wide-range of quantitative metrics to draw their conclusions. For example, Winkelmann and Winkelmann (1997) used empirical analysis to determine why unemployed are so unhappy using a self-reported question from the German Socio-Economic Panel between 1984 and 1990 for about 10,000 male individuals aged between 20-64 with multiple measures of satisfaction and various socio-economic and demographic characteristics. In this study the aim was to figure out the satisfaction or dissatisfaction of unemployed individuals compared to employed individuals and individuals who are not in the labour force at all. They also wanted to measure the ratio of

the non-pecuniary and pecuniary cost of unemployment. They demonstrate that unemployment has a significant effect on the satisfaction of the people who are out of labour force as well as the unemployed.

The impact that this has upon the unemployed, however, is even higher. The results suggested that a low satisfaction level is correlated with unemployment and having a job to do is very important for the individual's satisfaction. In order to demonstrate the line of causation from unemployment to unhappiness the study found that employees who experienced unemployment in the past are less satisfied than regular employed individuals. It might be because they have insecure jobs and fear potential unemployment. However, the effect is small compared to the drop of satisfaction from actual unemployment. This also refuted the hypotheses that unemployed individuals are so unsatisfied because of their inherent low level of satisfaction. In conclusion, what made this study superior is that it shed light on the differences between non-participation and unemployment which would support the non-pecuniary side effect of unemployment (Winkelmann and Winkelmann, 1997).

The impact of this line of argument is wide. According to Edgell (pp 106-115, 2006), unemployment also leads to a reduction in the social activities. Unemployed people might feel ashamed of their situation and avoid people regardless of the free time in their hands. Therefore, the unemployed people tend to withdraw themselves from social interaction which could affect people's conviviality (Edgell, pp 106-115, 2006). In light of the findings of Winkelmann and Winkelmann (1997) therefore, a more detailed picture of the relationship between employment and satisfaction can be developed.

There are a number of societal factors which impact, and are impacted by, the relationship between satisfaction and unemployment. The research of Jahoda et al. (1972) has been the foundation of understanding the social effects of unemployment. According to this study, experiencing unemployment makes individuals lose the time structure of their daily routines, their social contact and sharing experiences with people out of the house, their sense of collective purpose and achievement, their self-esteem and identity, and finally unemployed individuals lose their usual regular patterns of activity. That would make unemployment not only important

economically but also important for all of life. It is the essence of human beings to connect with each other and without work people would feel empty and distant from others, factors that could ruin their lives (Jahoda et al, 1972).

There are two kinds of unemployment - short term that is usually defined as less than one year, and long term that is more than one year. According to Richard Layard, long term unemployment is an economic waste that we should worry about, since these unemployed people become unattractive to employers who exclude them when looking to hire new staff. To eliminate long term unemployment problems Layard suggested using a stick and a carrot approach in practice, and not only in principle as it has been used in the UK in the 1980s. Currently in the UK people are requested to register at the job centres as job seekers to qualify to claim their unemployment benefits. The job centres and the unemployment benefits office work together in making sure that people have to be actively looking for work to be eligible to claim benefits. Any failure to do this can result in losing the benefits for a set period of time. This is a very useful approach for the UK for lowering its unemployment rates whilst controlling inflation.

However, Layard thinks that the stick and the carrot approach has its disadvantages in making people unhappy with their jobs, given that they were forced to take any available job that might not suit their abilities or preferences just to maintain having an income. That is why unemployed people need active help in assisting them in their job search by advising and matching them with available jobs or training them to have new opportunities in different kinds of jobs (Layard, 2001). The potential offered by the first job from unemployment may not, therefore, be beneficial to the long term satisfaction of the individual.

Regarding the distribution of unemployment by duration, Ochsen and Welsch (2011) consider only the share of long-term unemployment, because re-employment chances decrease with the increased duration of unemployment. They also state that people's happiness does not appear to adjust to their unemployment status, in contrast to the adaptation observed in regard to other conditions such as income. People may be unhappy about unemployment even if they are not themselves unemployed because they may fear being unemployed one day. This is especially true when the duration of unemployment is very long; individuals may be worried about the

political stability of their country. They further explained that unemployment has two costs, a private cost for the individual and a public cost for the society they live in. The type of unemployment is also very important. For example, is it a certain number of people unemployed for a short period of time or a smaller number of persons unemployed for a longer period? They think that society is concerned with reducing the rate of long-term unemployment because what worries people more is the risk of becoming unemployed permanently (Ochsen and Welsch, 2011).

By contrast, however, Clark and Oswald (1994) note that when analysing data from the United Kingdom, evidence can be found in support of the adaptation hypothesis. They found that people who have experienced unemployment in the past are less psychologically impacted by their present unemployment. This demonstrates an adaptation where unemployment becomes the norm, diverging from the initial Aristotelian framework for neoclassical economic theory, and demonstrating a more utilitarian perspective. They used data from the first sweep of the new British Household Panel study in the 1990s by using mental well-being scores from a form of psychiatric evaluation known as the General Health Questionnaire. People are asked twelve questions and their answers are coded on a four-point scale running from 0 which correspond to 'agree strongly' to 4 which correspond to 'disagree strongly' and the assessment weights the answers in which high numbers correspond to low well-being. They found that highly educated people who are unemployed are less happy than people who are not as well educated.

There are a number of reasons for which this pattern may have developed. This might be explained, for example, by the assumption that the opportunity cost of lost income to highly educated unemployed people is higher than the less well educated unemployed. Another explanation is that 'less educated people' are more likely to know those who have been, or are, unemployed, so that it is less terrifying and less shameful for them. This could also be tested by looking at the employer's former income and comparing it to the current income or situation. For unemployed people who are less than 30 years old the mental distress is 2.69 compared to unemployed people between 30 and 49 years old which is 3.42 or older unemployed who are over 50 years old which is 2.93. With regard to unemployment duration, people who are unemployed for less than one year are less happy than people who are unemployed for more than

one year. 2.74 and 3.13 respectively. This can be explained by the theory that people tend to adapt to any new situation given time. Clark and Oswald believe that if people are voluntarily unemployed then the government should reduce the benefits that make people think they are better off being unemployed and reduce the revenue that goes to help the unemployed. However, if unemployment in a country is not voluntary, the government should intervene to minimise unemployment by creating new jobs (Clark and Oswald, 1994).

One perspective that may be able to shed light on this correlation can be found in macroeconomic discourse. Here macro-economists believe that unemployment has a natural equilibrium rate that it should always go back to after any shock in the economy. After the oil shock in the mid-1970s and the 1980s European unemployment remained high while unemployment in the US gradually fell back to its initial level. According to Layard (1999), this is a problem in Europe that needs to be explained and solved. Layard suggested that after the initial shock in Europe, long-term unemployment increased for many possible reasons. It could be that there were limited efforts by unemployed people to correct their situation because of the long duration of benefits in Europe, or because the unemployed were excluded from the job market for being less skilled than what is needed for the job market. He also had in mind the possibility that long term unemployed people are in the first place the worst employees and that is what made them unemployed for long time in the first place. All these explanations would leave vacancies unfilled due to the mismatch between the unemployed people and the employers who are looking for employees.

This persistent rate of unemployment, even though a recession is over and the causes of unemployment have been removed, is called the 'hysteresis effect in unemployment'. Knut Røed (1997) states that hysteresis could be explained in many ways, for example, it may be that search activity declines because people are less keen to find a job since they got used to the habit of not working, or working in the shadow economy while collecting the unemployment benefits. Furthermore, it might be that their attitude towards work has changed; they may become lazier or less talented, or because the social stigma is reduced with a high level of unemployment for the entire society compared to a situation with a low level of unemployment. In this explanation Røed presented a model by Vendrik (1993) in which current utility depends on the present work,

consumption and labour in addition to the psychological effects of these variables on individuals. Vendrik assumed in his model that due to habit formation to leisure time in the past the present marginal utility obtained from leisure is increased.

In contrast to the above model, Røed suggested that sometimes higher psychological effects of leisure in the past could reduce the present marginal utility of leisure because some people may get bored with sloth after a phase of unemployment, which would paradoxically motivate them even more to look for a job. Such a phenomenon is described as negative hysteresis, whereby a higher cyclical unemployment rate helps to decrease the long term equilibrium rate of unemployment.

Hysteresis also arises when firms tend to take the path of laying off current employers instead of hoarding them until the economy is back to normal. This is necessarily influenced by the hiring cost of new workers or the firing restrictions and unionisation in each country. Furthermore, wages don't fully adapt to changes in the level of human capital, because the optimal wage depends on the number of insiders and their past employment or unemployment experience and what suits their own interests, not the number of outsiders and their characteristics. A different set of considerations involve the difficulties that the long term unemployed have in maintaining their skill level: it can be difficult for them to match the skills that would be for the current job market, factors that might lower their incentive to search for work effectively, which could lead to a mismatch situation. That is called the depreciation of human capital, which may increase the hysteresis effect even further when the low-skilled workers are more affected than high-skilled workers (Røed, 1997).

There is also an important association between unemployment and health, or unhealthy behaviour, such as smoking and alcohol excess use that have been the purpose of many studies on the objective effect of unemployment on happiness in a similar way to Kessler et al.(1998), Matobe et al. (2003), Artazcoz et al. (2004) and Koziel et al. (2010). And there are some studies that relate being unemployed to mortality such as Martikainen and Valkonen (1996). And also relate it to stress, anxiety and depression such as Kubzansky (2000), Rozanski et al (1999) and Gallo et al. (2006).

For example, Gallo et al. (2006), analysed data from the US health and retirement survey in a ten years study frame assessed the risk of stroke with unemployed over 50 years of age. The results suggested that losing a job in late career caused substantial health consequences, especially considering the motivating factors evidenced above. In a relative matter Popovici and French (2013) assumed that unemployment causes excess alcohol consumption. In their study they examined the relationship between employment status and alcohol consumption and found a positive and significant association between job loss during the past year and average daily alcohol consumption.

Lucas et al. (2004) published a longitudinal study from the German Socio-Economic Panel Study (GSOEP), which concluded that unemployment had a lasting effect on individual's satisfaction even after they returned to employment, irrespective of health difficulties.

2.7 The Impact of Inflation on Well-being

In economic terms, an examination of inflation cannot be separated from discourse surrounding unemployment. This is particularly relevant as they are both major targets of policy-makers concerned with relative GDP and GNP. The macroeconomist, Arthur Okun, developed a measure known as the 'misery index' to discuss this relationship. The misery index adds the unemployment rate to the inflation rate to capture how increasing values of unemployment and inflation impact upon national welfare. The measure bears some information on how the economy is performing, however the impact that this has for assessing happiness and well-being is highly dubious. Nevertheless, when an economic cycle characterised by high inflation and low unemployment is seen as bad as a cycle characterised by low inflation and high unemployment. However, there are controversial theories on the relative cost of unemployment and inflation and which one affects a country' welfare more.

Indeed, when analysing the Eurobarometer survey data for a country-year panel covering twelve European countries from 1975-1991, Di Tella, MacCulloch and Oswald (2003) find that life satisfaction declines with unemployment and inflation, controlling for country and year fixed effects, and that people are indifferent between raising unemployment for a year by one

percentage point and raising inflation by 1.7 percentage points. While Wolfers, using the same survey, empirically tested a larger sample of Europeans (sixteen countries) from 1973-1998, he found that the trade-off between inflation and unemployment is closer to five to one, thereby concluding that people are much more affected by unemployment more than inflation (Wolfers, 2003). This contradictory evidence demonstrates the difficulties presented by neoclassical economic models in accurately representing the satisfaction-happiness discourse for employees in work.

Furthermore, Gandelman and Hernández-Murill (2009) used Gallup poll data that included many questions to target the subjective (past, present and future) well-being of individuals. They found that an individual's present and past assessments of personal well-being tend to be negatively affected by the country's inflation and unemployment levels. Both inflation and unemployment affect the expectation of present well-being relative to the future. From the perspective of the individual, therefore, these key facets of GDP have little bearing on the immediate lives of those citizens which contribute towards it.

On a related note, to test the effect of inflation by itself on people directly Shiller (1996) conducted a comparison study between people in Germany, USA and Brazil by asking people: 'why do they dislike inflation?' In general, people's major concern was that inflation would affect their living standards because their wages would not rise as fast as the price level during the process of inflation (Shiller, 1996). Easterly and Fischer (2001) examined the effect of inflation on poor people by taking the results of a global survey of 31,869 individuals in 38 countries, asking people directly what do they think about inflation. And by also looking at direct measures of inequality and poverty in various cross-country and cross-time samples. They found out that poor people find inflation more difficult to handle than rich people since the rich are better at protecting themselves from inflation. The relative income of the poor is reduced by inflation. And their well-being, share in national income and the change in real minimum wages is negatively correlated with inflation. A decline in poverty is also negatively correlated with inflation. In real terms, therefore, inflation may impact negatively upon society if it not in line with increases in wages. This paradigm can be evidenced in the classical economic thinking of the 19th century, which led to the resurgence of utilitarianism under Jeremy Bentham and the works of Karl Marx.

2.8 The Impact of Social Inequality on Perceptions of Well-being

The impact of inequality upon satisfaction cannot be underestimated, and this relationship has been an increased area of focus in recent academic discourse. As explained in Milanovic (2002) in inequality studies there are two main approaches. Firstly, there is an international line that uses GDP per capita to measure income rather than survey data. This approach uses the Theil Index of inequality and could decompose international inequality into regional components and assumes that the world is populated by representative individuals from all countries. The limitation here is that GDP is not considered a perfect measure of household's disposal income because it doesn't capture the household consumption and the real mean income for the population. GDP also includes some gains in its value that doesn't contribute to the welfare of the people.

The second major approach takes into account the income distributions within countries using the Gini coefficients of every country. However, this single inequality statistic cannot predict distributions efficiently because not all income distribution in each country follow the same outline. Milanovic empirically examined the inequality levels of 91 countries in the world using income distribution and household surveys in 1988 and 1993. He stated that the world income inequality is very high and is increasing between countries and within-country. The world income inequality between countries was a Gini of 62.8 in 1988 and increased up to a Gini of 66 in 1993. And he also found that the top one percent of the rich people around the world get income as much as the 57 percent of the bottom income earners in the world.

In linking income inequality and economic growth Kuznets (1955) stated that the movement from rural to urban areas increase inequality at the initial level, before decreasing the same in the later phases of development as a result of education improvements and better social policies. Kuznets's hypothesis is that inequality has an inverted U-shape (Kuznets, 1955). And that was confirmed by Nielsen and Alderson (1997) after analysing 16 OECD countries from 1967 till 1992. They stated that inequality first raised and then after certain level of development it declined. However, Kuznets only studied some developed countries in terms of their development or growth related to the sources of personal income distribution.

Ravallion and Chin (1997) also confirmed the Kuznets notion, they used household surveys for 67 developing countries from 1981 till 1994, they found out that over the whole sample a rise in economic growth or average living standards is correlated with increased inequality as confirmed by Kuznets. However, after excluding the countries in east Europe and central Asia (where there was a probability of inequality increase in any economic situation) the correlation between inequality and economic growth is not robust. Nevertheless, there remains an evident link between absolute poverty and a growth in living standards, which cannot be ignored.

To build upon this line of argument, Acar and Dogruel (2010) analysed panel data pay inequalities in the MENA region using the UTIP-UNIDO Wage Inequality Theil Measure. This is a global data set from the University of Texas Income Project (UTIP) that is based on the industrial pay-inequality measures for 167 countries from 1963-2008. And it has a total of 4054 observations based on the UNIDO Industrial Statistics (University of Texas, inequality project 2014). They evidenced that higher levels of GDP per capita will lead to higher inequality levels and an increased level of female labour participation would also increase inequality in MENA. While openness measured in terms of trade as a percentage of GDP would decrease inequality (Acar and Dogruel, 2010)

To this end, there are many causes of inequality that played roles at different times and to different magnitudes.A large extant body of literature has attempted to clarify the sources of inequality. It could be associated with different factors such as the level of female labour participation as in Thurow (1987) who stated that the increased number of female participation is one of the reasons behind inequality in wages. Average earnings for women tend to be lower than men and that's what contributes in making the gap wider between high income earners and low income earners. Nielsen and Alderson (1997) also found the same influence of female participation in raised inequality but left the interpretation open to more studies with more data. Inequality in this sense could also be associated with globalization as in Nielsen and Alderson (1997) who added direct investment outflow and labour force to the inequality model and found a positive effect on income inequality because it causes de-industrialization that would affect labour opportunities in the job market. To further this argument, O'Rourke (2001) has identified two influences of globalization on inequality, the within-country effect and the between-

countries effect. He finds that globalization effects depend on the country and the indicator of globalization used such as openness or direct investment. By contrast, the simplest cause of inequality could be distinguished as the market dynamic and the effect of supply and demand and scarcity. It could also be a result of some social factors such as discrimination and weak unions. Recently technology and globalization played a big role in inequality especially in polarization of labour force. Stiglitz (pp, 28-117, 2012) analysed the inequality in the US and focused on two causes of inequality, rent seeking and government policies. He mentioned that the after-tax income of the top one percent of income earners in the US increased 275 percent from 1979 till 2007 and the after-tax income of the bottom twenty percent income earners increased 18 percent only. Rent seeking as explained by Stiglitz is about increasing wealth - with the help of some government policies that benefit the top one percent of the population at the expense of the rest of the population - rather than creating wealth. Therefore, people on the top who are rent seekers have more power politically and they try to promote policies that benefit them to increase their wealth rather than benefiting the whole society. In the long run these actions will harm the stability of the economy by increasing inequality.

Indeed, Stiglitz presented an example of the harm of some government policies could lead, if taxes are lowered the government would have less funds to invest in education and in the long run there would be less educated and productive people to work in these corporation. This evidence that education could be provided as an example by which a workforce with increased inherent motivation could be evidenced.

Stiglitz (2012, pp.33-34) also explained the ineffectiveness of Adam Smith's theory in the inequality situation of the US. The theory is that the private pursuit of self-interest would lead to the well-being of all by an invisible hand. Stiglitz explained that in order for Smith's invisible hand theory to work the private returns and social benefits should be aligned and that was not the case in the US's recent recession. The bankers' incentive was focused on raising their private returns in terms of big bonuses at the expense of the rest of the society who lost heavily in the recession. Stiglitz explained further that the private returns and social benefits were not aligned because the competition in the market was not perfect and the government did not build the appropriate policies to align them. This has ramifications for the wider political right (pp.106-

117) who viewed inequality as an important factor to raise incentives by saying that the US is not a perfectly competitive economy and rent seekers manipulate the situation to their own benefit without taking into account the social returns to the country. Furthermore, exponents of this belief also argued that giving more money to those individuals at the top would increase growth and create more jobs. This was proven to be the case on two separate occasions, the first one after World War 2 and the second one in the 1990s that increased inequality slowed the economic growth, reduced social returns and reduced economic mobility in the US.

In terms of this research, the question is not so much about the extent to which inequality exists per se; but is more related to the impact that inequality has to happiness levels. To this end, people could see inequality as a form of injustice and that's what would reduce their happiness level. However, some might consider an increased level of inequality as more mobility and opportunities in their country. Some studies rely on self-reported surveys that measures individual's happiness or satisfaction: researchers use an equation to estimate the effect of inequality that is existing in the time and the country where the individual who answered the happiness question lives. One such study(Alesina et al., 2004) relates self-reported happiness to inequality levels founded that inequality effects subjective well-being negatively in Europe and in the U.S with some differences across groups. The negative effect is stronger in poor and leftists people in Europe but not in the United States of America.In other words, people who are considered poor and Left-Wingers in Europe and the rich people in the US become happier when inequality level is lower. And that could be assessed accurately to get more interpretation by measuring the level of social mobility. They further identified some differences in the individual's preferences. Alesina *et al.,* (2001) also in a previous paper reported that there is a large, negative and significant effect of inequality on happiness in Europe but not in the US They concluded that European prefer equal societies compared to the US and that U.S is a mobile society. The notion of the US as being a mobile society is a myth that has been proven and discussed by many economists such as Stiglitz (2012) who stated that there are no more mobility in the U.S than in its OECD counterparts.

Morawetz et al. 1997 paper was one of the first studies in relating inequality with happiness. The authors compared the self-reported happiness of people living in two small communities in one

city in Israel. These two communities were similar in all respects except for their income distribution. The result was that individuals living in the more equal community were happier than individuals who lives in the less equal community. Blanchflower and Oswald (2003) using the General Social Survey from 1976 till 1996 found evidence that inequality affects happiness negatively but in a small amount. After allowing personal characteristics in the regression they found that the effect is stronger among women, employed people and individuals under thirty years old.

In a panel study using data from the German Socio-economic (GSOEP) covering the years from 1985 to 1998, Schwarze and Harpfer (2007) tried to evaluate the degree of inequality aversion by linking life satisfaction data to inequality of the regional level in Germany before and after the government income distribution through tax and transfer policy. They found evidence that Germans are inequality averse, but that inequality reduction by the government does not increase satisfaction level further. And that inequality effect on the welfare situation of the population is still strong even after redistribution. They also found that the middle class income earners were affected negatively by government income redistribution. As such, this may be a result of an excess burden on the middle class people in the form of paying more taxes.

Graham and Pettinato (2002) examined subjective well-being in 17 Latin American countries and Russia and they discovered that relative income difference have important effects on how individuals assess their wellbeing. Those in the middle or lower of the income distribution are more likely to be dissatisfied than are the very poorest groups. Also, volatility in income flows can have negative effects on perceived wellbeing, even among upwardly mobile individuals (Graham and Pettinato, 2002).

From Sen's perspective there are many variables of equality, such as income, wealth, health or opportunity. People start their lives with different endowment in each variable, so they are different in their characteristics and circumstances. His argument is that inequality depends on the heterogeneity of the people because if they are all the same inequality wouldn't exist, for example some people might have equal amount of wealth but unequal level of happiness. Or some people would have equal personal characteristics but are living in different places therefore having unequal opportunities (Sen, pp.19-21, 1992).

2.9 Barriers to Accurate Well-being Measurement

The simplest and cheapest way to assess people's happiness in a country is by taking a large random sample of the population and asking them directly about their happiness level overall in life. This may or may not reflect an objective assertion of happiness, however an individuals' perspective must necessarily be included in any evaluation the effectiveness of a nation's well-being in practice. Individuals' feelings fluctuate depending on their moods or circumstances, and this may impact upon their relationship with work and practical assessment. However, the self-reported surveys approach assumes that people evaluate their whole life and come up with an answer that presents their average level of happiness. Some economists treat happiness as utility as in Wolfer (2003), who said that subjective feelings of happiness could be interpreted as utility directly and may help to predict people's behaviour. However, in order for these measures to offer valuable indications to policy makers it has to be valid and reliable.

There are some measurement issues to consider in the methodology of calculating happiness. Life satisfaction and happiness are two different concepts that are captured through large-scale surveys using a random sample of the population that ask questions that take many forms and offer different multiple choices answers such as the following:

- 'Taking all things together, would you say you are: 1-very happy, 2- quite happy, 3- not very happy, 4- not at all happy'(World Value Survey, 1981-2014)
- 'On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead?' (Eurobarometer, 1973-1998)
- 'Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?' (General Social Survey, 1972-1998)
- 'Have you recently been feeling reasonably happy, all things considered?'(British Household Panel Study, 1991-2000)
- 'Taking all things together, how satisfied are you with your life?'(World Gallup poll, MENA 2002-2011)
- 'Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that the top of the ladder represents the best possible life for you. On which step of

the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it, which step comes closest to the way you feel?' (World Gallup Poll, MENA 2005-2012) Most research using data from the GallupWorld Poll (which began in 2005) has been published in the *Gallup Management Journal.* Because of copyright issues, the use of this database has been very restricted.

- 'Taking all things together, how would you say things are these days—would you say you're very happy, fairly happy, or not too happy these days?' (Eurobarometer, 1975-1986)

Although these questions adopt different concepts of well-being, the responses to these questions are positively correlated and that proves the reliability of these measures. According to Di Tella et al (2003) life satisfaction and happiness in Europe had a correlation coefficient of 0.56 for the period 1975-1986. This correlation is high, but not remarkably so. Also, Blanchflower and Oswald (2004) found a correlation coefficient of 0.56 between happiness and satisfaction in British data for 1975–1992. In the first world happiness report 2012 the reliability of the happiness measures was proved to be high on the national level when using the Gallup poll ladder question. The correlation between each year in each country was very high between 0.88 and 0.995 because the individuals' differences would be averaged away. Also the correlation between happiness and life satisfaction in the European Social Survey questions was high between 0.92 and 0.98.

Regarding the validity of subjective well-being, the evidence suggests that there is a strong correlation between answers to self-reported questions of well-being and objective measures of personal well-being. For example the answers to the self-reported happiness questions were strongly correlated with smiling and laughing during an interview. And the level of happiness of the respondents is also correlated with happiness ratings made by others who are close to the respondents. Another measurement issue is whether the respondents were influenced by momentary modes at the time of completing the survey. Some evidence supports the notion that the temporary mode of an individual when answering any question affects the judgement of happiness and satisfaction he or she reports. However, researchers can get around that by using multi item subjective well-being measures to reflect both the current mode and the long term

judgement of one's life (Diener, 1984). Also Wolfers (2003) concluded in his paper the results of the validation studies of self-reported subjective happiness surveys. He also suggested that the answers to the self-reported questions correlate with both heart rate and electrical activity in the brain. And they also have relatively high test-retest correlations.

According to Argyle (2001), asking people about their happiness level should be supported by some objective social indicators such as average income, employment status, and years of education or longevity. This will help to compare cities or nations in assessing their quality of life or their well-being level. However, the problem with subjective measures is the probability of being affected by adaptation and aspiration effects (explained in the first chapter). According to Argyle (2001) happiness measures consists of satisfaction with life, positive effect and negative effect that could be measured by a single question and still be valid and stable over time. However these kinds of questions could be affected by certain biases such as moods. Different measures of self-reported well-being are highly correlated with each other and with some objective circumstances such as unemployment and divorce (Di Tella and MacCulloch, 2006). Therefore, the importance of the integration of the subjective and objective factors arise. People could be asked directly about their level of happiness and satisfaction and relate that to their objective circumstances and look for patterns or consistency. Another suggestion for not relying on subjective measures could be drawn from Kahneman et al. (2004) who based their argument on the inability of individuals to choose the rational choices for themselves to maximize their utility even when given opportunities. Therefore, according to their argument, relying on subjective measures to inform policy makers could be misleading. They suggested using weighted figures of the time allocated to each activity in life or domain such as work, leisure, family etc. by the subjective experiences in terms of emotional and actual hedonic experience in these life domains. According to them, using this approach could help monitoring the changes in well-being in a single country over time and making the comparison between countries' well-being possible.

With regards to the reliability of the subjective well-being across countries with different cultures, Diener and Tov (2007) argued that subjective well-being could be framed to fit each culture to enable societies to be evaluated in terms of their well-being according to their internal

criteria: if differences in cultures are not taken into account a country could be judged by the standards of others. They argue that it is possible to compare people across cultures due to the universal set of biological emotions across all human beings. Humans around the world recognize happiness, sadness, anger, disgust and fear. However, there are some emotions that appear only in some cultures and there are emotion's labelling differences in some cultures. The cross-cultural study of subjective well-being is important to indicate the quality of life in a society. Although cultural differences in subjective well-being could be associated to the differences between individuals, it could be argued that subjective well-being questions could indeed be interpreted as reflecting levels of well-being, because it allows the respondents to think about his or her life in terms of purposeful or meaningful and that could be completely different things depending on the culture or religion. Additionally, Krueger and Schkade (2008) confirm that the reliability of the subjective measures of happiness by testing a sample of 229 women and re-testing them again after two weeks. The test–retest correlations was found between 0.50–0.70.

Diener et al (1985) in establishing the measure of the satisfaction with life scale (SWLS) identified three components of subjective well-being, a positive effect, negative effect and life satisfaction. The first two components refer to the affective emotional aspects of the construct. And the third component is the cognitive judgemental aspects of life. According to them life satisfaction in SWLS is a judgement about one's current life compared to what he thought his life would be. That's why people should be asked directly to evaluate their lives rather than taking their specific satisfaction in each domain. For example some people would value health more than finance, or family relations more than income, so they would be asked to place their satisfaction in each domain by themselves and come up with a single answer to evaluate their lives.

Finally, Pavot and Diener (1993), in reviewing the SWLS, state that normative data are presented for the scale and the data are found to be as valid as the scales of the various types of evaluations in subjective well-being. They conclude that SWLS is sensitive to detect any changes in life satisfaction.

2.10 Empirical Literature and the Macro-Economics of Happiness

Studies on happiness and life satisfaction according to Frey and Stutzer (2002) could be categorised in three sections. The first section is related to individuals' personality and socio-demographic influences on happiness that uses a psychological approach such as Wilson (1967), Diener (1984), Diener et al. (1999) and Myers (2000). The individuals' personality factors are dealing with optimism, self-esteem, personal control and so on. And the socio-demographic factors such as age, gender, marital status, and so forth. The second section deals with the economic effects on happiness which are income, employment and inflation that was covered in articles by Clark and Oswald (1994, 1996), Easterlin (1974, 1995, 2010), Stevenson & Wolfers (2008) among many others. The third section is related to the political effects on happiness and deals with institutional factors in a similar way to governance and population's well-being as carried out in Bjornskov, (2006) Veenhoven (1993, 2004) Helliwell (2006) and others.

Studies that consider socio-demographic and individual's factors study the effects of age, gender, marital status, education level, employment status, health status and the income level of the respondents in the sample under study. The data are used to help researchers in analysing the determinants of happiness and life satisfaction and are collected using surveys in a similar way of the World Value Survey (WVS), the European Value Survey (EVS), the European Social Survey (ESS), Gallup and National Offices of Statistics.

Since the present study is mainly concerned with the macroeconomic determinants of happiness and life satisfaction, in which a large literature is available, the socio-economic and socio-demographic factors that are considered in the econometric model of the present study in chapter four will be reviewed. The socio-demographic factors that are being analysed are age, gender, marital status, education level, emplo yment status, income category and number of children.

Starting with age as a socio-demographic and personal factor, Clark and Oswald (2006), Di Tella et al (2003) and a study by Blanchflower and Oswald (2008) using data on 500,000 Americans and West Europeans and also from developing countries and Eastern Europeans. They all found that age is "U-shaped" over a life time, which means that young and old are happy but those in the middle age are less. Furthermore, the levels of their happiness and life satisfaction decrease up to the 40s, then, increase again. Also, they found that the "U-shape" is more apparent in men

than women. Clark and Oswald (1994, 1996) and Clark (2002) found that individuals are more satisfied with their lives in their early twenties and at a later age. However, they are less satisfied with their lives in middle age starting from their 30s and reach the 50s; Frijters and Beatton (2008) found that age is associated with happiness and life satisfaction by showing a statistical significance and shows a non-linear U-shaped relation. However, there might be a correlation between age and other socio-demographic and personal factors in a similar way to that of income, marital status, employment status and so on.

Genderis also considered as a factor that determines happiness and life satisfaction. Empirical evidence finds that women are to some extent happier and more satisfied than men, as found in Frey and Stutzer (2002), Clark and Oswald (1994) and Blanchflower, Malesevic and Golem (2010) and Oswald (2004). However, according to Myers (2000) there is no gender gap in happiness between men and women. Stevenson and Wolfers (2009) found that happiness is greater for men than woman in industrialized countries compared to what it was in the 1970s. Hayo and Siefert (2003) analysed the subjective economic well-being for some east European countries and didn't find any gender effects on economic well-being.

With regards to the effect of marital status, Clark and Oswald (2002) espouse that married individuals are found to be happier and more satisfied than those who never married, separated, widowed and divorced. They provide a monetary value of the effect of being married on happiness and life satisfaction, and found that it is equivalent to an extra £70.000 per year. In contrast, being widowed, a loss-value of £170,000 is evaluated due to the loss of happiness. Moreover, Guven, Senik and Stichnoth (2012) using three longitudinal surveys GSOEP, BHPS and HILDA suggested that married women are slightly happier than men and if they are less happy than their spouses it could affect their marriage stability. According to Blanchflower and Oswald (2004) Clark and Oswald (2002) Reported well-being is greatest among married people. Stack and Eshleman (1998) analysed 17 industrialized countries controlling for socio-demographic variables. They found that married people are much happier than singles even after controlling for the financial influence of being married.

In addition, the number of children also affects the levels of self-reported happiness and life satisfaction. The effect varies depending on the marital status and the household's level of

income. In Haller and Hadler (2006) the number of children produces positive and significant results on life satisfaction not happiness. According to Angeles (2009) the effect of the number of children is dependent on the individuals' characteristics. Angeles (2009) found a positive and increasing in the number of children relationship, therefore married people are happier, the larger the number of children they have. However, the effect of an increased number of children on other marital statuses such as divorced, separated, never married or widowed was found to be large and negative but not significant. The important of the impact of children within a relationship, and their relevance to economic performance and objective notions of happiness is therefore highly present within debate.

Additionally, a number of empirical results need to be considered regarding the nature of employment. Empirical evidence, in this case, shows that full-time workers are more happy and satisfied with their lives than the rest of the labour force (Clark and Oswald (1994), Oswald (1997), Winkelmann and Winkelmann (1998), Stutzer (2001), Clark et al. (2001), Ravallion and Lokshin (2001), Lucas et al. (2004), Clark (2005, 2006) and Georgellis et al. (2008). They also find that there is a significant effect of being unemployed on the levels of happiness and life satisfaction of an individual due to its consequences on social status, self-esteem in addition to the loss of income. Also, past unemployment experience matters to people as found in Clark et al. (2001) and this might have a lower effect when it becomes socially acceptable as mentioned by Clark (2006).

Regarding the education level, Blanchflower and Oswald (2004) find the greatest well-being among the highly educated. Education and well-being could be linked to the individual's aspiration level and expectation. Clark and Oswald (1994) found that highly educated people who are unemployed are less happy than people who are not as well educated.

2.11 Conclusion

As evidenced by the literature review above, a number of existing forces can be witnessed from the detailed examination of academic discourse. For example, it is clear that human beings are social in their nature. They prefer to be married, have friendships and doing something purposeful in their lives. They need to have a sense of fulfilment to value their lives and that what generates happiness for most people. As such unemployment in most happiness economic

literature, can be found to have a huge negative impact on happiness and this impact is more than inflation and it is proved even when the income is controlled for. At the same time human being are adaptable creatures and can forget easily. They adapt to any new situation either good or bad.

This chapter has reviewed the two different concepts of happiness or well-being. The main differences between these two traditions are that the Aristotelian conception of life is related to an objective approach to happiness that looks at many factors affecting happiness and looks at happiness as fulfilment, while Bentham's philosophy and the utilitarian conception of happiness, foregrounds the subjective influences and focuses on seeking pleasure and avoiding pain.

The primary aim of this thesis, therefore, is to assess the average level of the Arab population by relating their answers of the self-reported surveys to their objective circumstances. The next chapters will deal with these two approaches separately and then relate them together to assess the whole situation in MENA. Most of the happiness/economic literature is on the developed countries. This thesis will focus on the Middle East and will contribute to the happiness literature in covering developing countries with relatively high natural resources. This literature review also covers the inequality relationship to happiness in different developed countries. People are different and start their lives differently and have different endowments therefore inequality exists but that doesn't mean that people like it and it doesn't mean they have to accept it. They need to feel that they have equal opportunities in health, education or freedom. Increased inequality obviously reduces the well-being level of the citizens.

In order to further this research, this literature review has outlined a number of factors which can directly impact upon both neoclassical and utilitarian notions of happiness. For example, income influences the level of well-being only at low level of development after a certain level of development when all the basic needs are met income have less influence on individuals well-being. And what explain the stagnant level of individuals' happiness in a country with the increased level of GDP are the adaptation theory and the aspiration theory. People adapt to any new situation weather it's bad or good and go back to their same level of happiness after a certain period of time. Also when people get higher incomes or better jobs their aspiration gets higher as well making it impossible to be happier. On the other hand, unemployment affects well-being hugely and negatively even in rich countries and besides the loss of income and that

is related to Aristotelian notion that people need to feel self-worth and not be isolated from their society. By implementing these philosophical approaches through a rigorous practical methodology, this thesis will expound the extent to which these Aristotelian notions are true in the case of respondents from MENA countries.

Finally it reviewed some of the empirical literature on the macroeconomic of happiness in the sense of to what extent could macroeconomics conditions such as GDP, unemployment and inflation could affect people's happiness. Because the present study is mainly in relation with the macroeconomic determinants of happiness and life satisfaction, in which a large literature is available, only studies on the socio-economic and socio-demographic factors that are considered in the econometric model of the present study are reviewed. The socio demographic factors that are being analysed in the econometric model in this thesis are age, gender, marital status, education level, employment status, income category and number of children.

Chapter 3: The Middle East and North Africa (MENA)

3.1 Introduction

The focus of this study is to assess a cross section of the developing world to provide a wide sample of experiences and contexts from which well-being and happiness metrics can be developed in a more robust manner. In this chapter, the MENA countries are considered and their role within the study outlined and developed.

Initially it is important to note that while the MENA sample presents a wide variety of nation states, the grouping of these is geographically arbitrary. MENA countries could not, and should not, be discussed as a single group, as there are some fundamental differences between the countries. Primarily, they can be divided into two broad groups. The first of these contains the oil rich countries (Bahrain, Kuwait, Libya, Oman, Qatar, Saudi Arabia and the United Arab Emirates); while the second contains the rest of those oil poor nations. Another means of classification can be made through the World Bank's Atlas method. This estimates the size of economies in terms of gross national income (GNI) in US dollars, and uses this measure to classify countries in low, middle and high-income categories. In terms of the MENA countries, the Gulf cooperation countries (GCC) - which are Bahrain, Oman, Qatar, Saudi Arabia and United Arab of Emirates -are grouped under the high income economies, while Algeria Iraq, Jordan, Lebanon, Libya and Tunisia are classified under the upper middle income economies. The lower middle income economies include: Egypt, Morocco, Yemen, Palestine, Syria and Sudan.

The geographical classification of the MENA group is also controversial. There is an active debate as to whether Turkey, Israel and Iran should be included in the MENA group of nations. In this research Turkey and Israel will be excluded due to their economic situation and political differences. Furthermore, Iran is included in some of the analysis in this thesis, although Iran is not considered an Arabic country but it faces similar economic situation and have similar institutions. Turkey and Israel are geographically part of the region but both countries have a political and economic history that is distinct from countries in the MENA group, while, by contrast, Iran has a common religious and historical background and in many ways a comparable history of economic development to the MENA group of countries. For the purposes of this

study therefore, Iran's common heritage with a number of the oil rich countries provides enough classification for its inclusions.

In terms of common economic driving forces, the majority of the income growth in MENA has been driven by oil and oil related revenues. This is either directly as in oil rich countries, by exporting oil or indirectly, through services from the oil poor countries to the oil rich countries or from remittances from the workers in the oil rich countries. Since the early 1970s development and growth can be evidenced within these nations in line with increased oil prices. The demand of development plans and investment projects has increased in the area and the demand of all kind of labour was high. Oil countries that were mostly the Gulf Cooperation Council countries (GCC) that includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. These countries couldn't cover their large demand for labour because of their small and young population which made them depend on other countries for employment. A mixed economy is therefore present across MENA states, with the very low wages in the poor countries contrasted with the dramatic increases in wages in the oil rich countries, resulted in labour migration to the oil countries. The migration of labour from the oil poor countries to the oil rich countries affected the sending country in the form of low productivity in agriculture (Richards and Waterbury, 1999, pp. 377-399). Following the collapse of the oil industry in the 1980s and 1990s, growth rates declined in the whole MENA region because oil poor countries depended for job growth on oil rich countries.

Another means that may be considered important in distinguishing the area of study may be seen through the shared primary religion across the region. Furthermore, the League of Arab States, (a voluntary organization founded in 1945 to promote strengthen ties among the member states), provides another metric coordinating policies, and promoting common interests for the wider Muslim religion. Over time, it has played an increasingly relevant role in policy-making and as a diplomatic actor including twenty two countries from the Middle East and North Africa who have the Arabic language as the main common aspect between them.However,The Arab countries vary in terms of economic and social development. After the discovery ofoil reserves began in the 1960s, Gulf countries have recorded remarkable progress in GDP per capita, education and health. This phenomenon is noted later in Chapter six through tables 6.1, 6.2 and

6.3, which demonstrate countries withlow and then relatively high human development compared to the OECD countries.

3.2 Historic-Political Overview of MENA States

In this section a brief history of the political background of MENA countries will be reviewed. The region faces a number of on-going conflicts, particularly struggles against the perceived economic encroachment of western states such as the US, and this has made the collation of results from across the region increasingly difficult. When examining the political history of MENA countries, one key modern development can be evidenced in 1948 with the creation of the Israeli state. This had a wide impact on governments from across the region. Contemporary Egypt was ruled by Jamal Abdunnasir, who adopted 'Arab Nationalism', and existed in conflict with Hassan Al-Banna who was the founder of the Muslim Brotherhood movement, founded in 1928. Abdunnasir's objective was to fight Israel to free Palestine and destroy the brotherhood movements. As a popular politician back then, he encouraged the movement of nations from monarchies to presidential democracies, influencing (for example) the coups d'état in the Kingdom of Yemen Moharer (2007). Those countries across the MENA region that maintained their monarchies naturally feared Abdunnasir's influence and acted to neutralise his popularity and policies. One example of this trend is Saudi Arabia, ruled by King Faisal at that time, who was staunchly against the Arab Nationalism movement, and focused instead on Islamic nationalism. Saudi Arabia back then had a number of Egyptian employees in the country as teachers, engineers, doctors, etc. They were systematically replaced by Egyptians from the brotherhood movement and they adopted them and gave them Saudi nationalities. All of these efforts by the Saudi government was to protect the monarchy and avoid democracy that was made popular by Abdunnasir at that time (Nehme, 1994). Ochsenwald (1981) also mentioned that some MENA countries in general and Saudi Arabia in particular are based in Islamic roots that controlled and influenced their political decisions.

Both political parties (the Arab nationalism and the Islamic movements), however, were using the Palestine and Israel conflict as an excuse to take increasing amounts of power. It was the issue that all Arab states agreed upon and were eager to resolve. In fact every president or king of the Middle East took advantage of the Palestine issue to show off his power and take over.

One of the major events at that time as mentioned in(Evron, 1973)is the 1967 six days war that was the third war the Arabs involved in since the beginning of the Israel-Palestine conflict in 1948.In 1967 Syria, Jordan and Egypt joined their army with some logistic help from Algeria, Lebanon, Iraq, Kuwait and Saudi Arabia. This war started after the Israeli attack on the Egyptian air force bases at Sinai Peninsula. It resulted in a defeat and the domination of Israel on what was left of the Palestine cities. Beside the material losses the war also left a psychological pain and disappointment on Arab people in the region. The minister of defence resigned and Jamal Abdunnasir tried to resign as well. And that was a big turning point for the whole MENA region that changed a lot of people's believes and trust. After four years they entered an attrition war with Israel in Siena. After that, Abdunnasir tried to plan a retrieve of the Sinai Peninsula and the Golan Heights that was occupied by Israel. In 6th October 1973 (after the death of Abdunnasir) the Egyptian and Syrian army joined in a surprise attack. The war resulted in the success of achieving the Arabian strategic goals and in a peace treaty. These conflicts were discussed lately by The General's Son (2012). He added that one of the reasons that encouraged the Israeli army to enter the war is that they knew that the Arab's army was not ready for a war. It was their chance to take over the rest of the parts in Palestine.

Within the MENA region, there was three wars, the Iran-Iraq war. This war lasted 8 years from 1980 - 1988. It cost around two hundred million US dollars, and had an obvious impact on the development level of the region. Followed by the Iraq-Kuwait war in 1991 that ended by the US military intervention to free Kuwait with the financial support of all the GCC countries (Evron, 1973). The last war within the region was by the military occupation of Iraq by the USA in 2006. Table 3.1 lists most of the wars in the MENA region in the recent history.

Table 3.1: List of Wars in some MENA countries

Country	Years of wars	Rival Countries	Name of the War
Algeria	1954-1962	France	Algerian war of independence
Bahrain	1991/2014 /2015	Iraq/Islamic State/Yemen	Gulf war/intervention against ISIS/Decisive storm

Egypt	1948/1951 /1956	Israel/UK/Israel-UK-France	First Arab-Israeli war/Anglo-Egyptian war/Suez Crisis
	1962/1967 /1967-1970	Saudi Arabia/ Israel/Israel/	North Yemen Civil War/ Six-days war/War of Attrition
	1973/ 1977/1991	Israel/Libya/Iraq	6th October war/ Libyan-Egyption war/Gulf War
Iran	1980- 1988/2011/2014	Iraq/Syria/Iraq	Iran-Iraq War/ Syrian Civil War/Iranian Intervention in Iraq
Iraq	1948/ 1961/1967	Israel/ Kurdistan/ Israel	First Arab-Israeli war/First Kurdish-Iraqi War/ Six-days war
	1973/1974 /1980-1988	Israel/Kurdistan/ Iran	6th October war/ Second Kurdish-Iraqi War/ Iran-Iraq War
	1991/1995	GCC countries-UK-USA-France-Canada/Kurdistan-USA	Gulf war / Iraqi-Kurdish Civil war/
	2003-2011	USA-UK-Australia-Poland-Denemark	Iraq War
Jordan	1948/1967 /1970	Israel/Israel/PLO-Syria	First Arab-Israeli War/ Six-days war/Black September
	1973/2011 /2014	Israel/Libya/ Islamic State	6th October War/Libyan Civil War/Intervention against ISIS
Kuwait	1967/1973 /1991	Israel/Israel/ Iraq	Six-days war/ 6th October war/ Gulf War
Lebanon	1948/1967 /1975-1990	Israel/Israel/civil parties	First Arab-Israeli war/ Six-days war/Lebanese Civil war
Libya	1977/2011 /2014	Egypt/NATO-Jordan-Qatar-Sweden-UAE/Civil parties-Islamic State	Libyan-Egyptian war/First Libyan Civil war/ Second Libyan Civil war

Morocco	1975-1991	Mauritania	Western Sahara Conflict
Oman	1991	Iraq	Gulf War
Palestine	1948/1967 /1976-1970	Israel/Israel/Israel	First Arab-Israeli war/ Six-days war/ War of Attrition
	1970/1987 -1993/2000-2005/2009	Jordan/Israel/Israel/israel	Black September/ First Intifada/ Second Intifada/Gaza War
Qatar	1991/ 2011/ 2014/ 2015	Iraq/ Libya/Islamic state/ Yemen	Gulf War/ Libyan civil war/Intervention against ISIS/Decisive storm
Saudi Arabia	1948/1962 /1973	Israel/Yemen-Egypt/Israel	First Arab-Israeli War/ North Yemen civil war/ 6th October war
	1979/1991 /2014/2015	Ikhwan/Iraq/ Islmic state/ Yemen	Grand mosque seizure/ Gulf war/ intervention against ISIS/ Decisive storm
Syria	1948/1961 /1967	Israel/Kurdistan/ Israel	First Arab-Israeli war/First kurdish-Iraqi War/ Six-days war
	1970/ 1973/1991/2011	Jordan/Israel/Iraq/Civil	Black September/ 6th October war/ Gulf War/ Syrian Civil war
UAE	1991/2011 /2014/2014/ 2015	Iraq/Libya/ Civil parties-Islamic State/ Islamic state/ Yemen	Gulf War/First Libyan civil war/Second Libyan civil war/Intervention against ISIS/ Decisive storm
Yemen	1962/ 1972/2015	Saudi Arabia/civil/Arab countries	North Yemen Civil War/Yemenite war of 1972/ Decisive storm

Source: armed conflict database (https://acd.iiss.org/)
Note: PLO = Palestine Liberation Organization
GCC = Gulf Cooperation Countries
NATO = North Atlantic Treaty Organization

As it's shown from the above table the region faced many conflicts and wars and most of the countries in the MENA region devoted a high percentage of their GDP expenditure to military

spending.

Writing about politics in the MENA region could not be complete without understanding the culture and the religion in the area. Religion and politics are highly related in the Middle East. In Halliday (pp11-16, 2003), when trying to describe the international politics in the Middle East, it is stated that MENA is an area that is difficult to analyse and can't be compared to any region of the world. He added that the only way to be able to analyse the social and political development in the area of the Middle East is through understanding Islam, the dominant religion in the area. Islam influences the behaviour of the citizens of MENA towards democracy and other political behaviour.

3.3 Key Institutions and Regulations

The MENA region between the 9th and 10 century was an advanced economy in terms of innovation, technology, education and trade. However, around the 18th century the region emerged as relativelyunderdeveloped economically. This backwards movement has been explored by theorists such as Kuran (2004) who explained the role of Middle East's Islamic regulations in the underdevelopment in the economic situation. This is interesting because Islam was one of the reasons that ensured the MENA region nations were so forward thinking in the 9th and 10th centuries and also the creation of a global empire with one language and shared values and ethics. However, around the 18th century Middle East economically fell behind Europe due to the inability of MENA region nations to adopt important institutions or to improve their current institution and regulation in order to adapt to a developing world economy and some researchers have blamed Islam religion on this backward movement.However, many other countries or nations around the world that were not Muslim also failed in developing their economy and improving their institutions.

Kuran (2011, pp. 279-292) believes the shortcomings of the institutions and regulations concerning property rights and the regulation of enterprises in MENA are a key factor in this trend. For example, he criticised the weak regulations in partnerships' termination rules or the lack of entity shielding that discourages successful partnership to continue succeeding. A simple partnership at that time – suitable for the small scale trades- hindered the development of those

SMEs into larger, multi-national corporations as the economy became increasingly global around the 19th century, as it played an important role in generating sustained economic growth by lasting for longer time and offering more protection to investors.

Another example is the 'Waqf' system in Islamic rules 'sharia'. This is a form of Islamic trust to fund mosques or schools forever and it is usually controlled by one person (the creator). The waqf system in the Middle East did not develop into corporations, but stagnated under single ownership. Kuran's main argument is that all these Islamic institutions such as inheritance system, waqf, partnership and so on are related to each other and not isolated which makes it difficult to transform or develop any single institution without the others. However, if the history of Muslim world is analysed, waqf has played important role in the economic and social set up of the Muslim countries and prepared to mobilize and accumulate capital. Safavid Persian Empire, Mughal Empire and Ottoman Empire are examples of the contribution of waqf system in the development of these empires. Waqf system has served the poor and had been a source of circulation of wealth in Muslim countries in the past (Orbay, 2006).

Waqf has been a channel and a vehicle for poverty elimination by offering support to under-privileged and poor. The key function of waqf was to support social units. In the Ottoman Empire, the welfare, education and health systems received a great financial support by waqf (Sait and Lim, 2006). It is also argued by Kuran (2011) that waqfhas contributed to the underdevelopment of the MENA region. According to him, waqf is an unincorporated trust that is based on Sharia' and has contributed to making the waqf properties inflexible and unproductive. Consequently, it has contributed to the lack of development in Muslim countries. Indeed, the argument of Kuran (2011) is valid, as waqf system has never been in the focus of the government for evolving it to suit and meet the changing needs of world economy. Waqf need to be developed continuously for the purpose of establishing an appropriate and balance arrangement between the founder of the waqf and Islamic state to make it productive for the societal and economic development. The above arguments, however, can be summed by concluding that Waqf and Islamic institutions are not the problems and they have played vital role in the development of the Muslim countries in the past; however, this system should be developed to deliver the today's needs of the business world.

The argument that Islam actively presents the development of a globally integrated economy based upon developed MNEs from humble SME routes within MENA region countries, has provoked fierce academic debate. Chaudhry (1997), for example, presents case study of two countries, Saudi Arabia and Yemen, starting from the early 20th century (after the collapse of the Ottoman Empire) until the oil boom in the period between 1973 and 1983, the recession in the period of 1984-1990 andthe period after the Gulf War(1991-1997). This study indicates that both countries were similar in terms of political and economic background. They were both non-colonial and were economically isolated. Although Saudi Arabia was more politically stable than Yemen and dependant on the international oil prices, after the oil discovery they started to be interdependent; with an increasing number of Yemeni immigrants, working in Saudi Arabia and sending remittance back to Yemen. According to Chaudhry (1997) the oil boom period helped to build fundamental institutions in the economy of Saudi Arabia that was affected during the recession and also encouraged the government of Saudi Arabia to increase military spending and the financial support to the private sector as well as more spending on welfare programs. On the other side during the recession period the country cut back on supporting the private sector financially but continue spending on military. This had an impact on Yemen remittances that dropped 60%. This economic situation had a huge impact on Yemen's political situation as well.

The Islamic institutions and regulations that helped the Middle East to flourish and develop in the previous century failed to continue this support in modern life and became an obstacle to modernization. The region needs to develop compatible regulations and institutions to the other developed economies and take advantage of different business practises that could be used in different industries such as stock markets, cooperation, joint stock markets, standardized accounting. Examples such as that of Yemeni immigrants in Saudi Arabia above demonstrate how unevenly resources are distributed across the region. This oil-lottery has had a profound impact on the sustainability of economic growth for the whole region. Adams and Page (2003), after studying some MENA countries in a cross-country regression, suggested that extreme poverty is limited in MENA because of remittances from the oil rich countries at the oil boom period from 1970s till 1980s and also from the emigrants of the Maghreb area who send money back to their family.

This has led to a number of different resurgent movements towards developing the MENA region countries to bring them in line with the 21st century global economy. Campante et al.(2012) analysed the reasons behind the Arab spring in MENA, for example. They linked it to the improved education (in terms of literacy rate and years of schooling) and the weak employment opportunities. When more people are educated and aware of their rights and of the political situation and if they don't have any economic chance to have some income the opportunity cost of joining any political move to change their undesired situation will be very low. In other word, the young, educated unemployed people don't have anything to lose to protest and participate in any political instability in their countries.

It is argued that Islam and Islamic regulations are obstacles in the way of economic development (Islam, 2005; Jreisat, 1999). Many of the previous studies have argued that Islam religion has held the innovation and economic development. According to Jabbra and Jabbra (2005), the education in Muslim countries has been based on curricula which have religious foundations. Hai and Nawi (2007) argue that religious scholars are responsible for holding jurisdiction in a many aspects of educational, social, legal and economic matters. Jreisat (1999) suggests that Muslim scholars took conservative positions against any reforms efforts. However, it can be seen from the arguments of both Hai and Nawi and Jresat that it is not Islam that has held back the economic development; rather if there has been any resistance to the economic development, it can be attributed to the religious authorities; they lacked vision, misinterpreted and did not act on Islamic principles. It is well documented that greed, oppression, favouritism and corruption are in abundance in Muslim countries including Saudi Arabia. According to Hai and Nawi (2007), these mal-practices have been at the forefront of the lack of development in Arab and other Muslim countries. While, Islam strictly forbids corruption, favouritism and all such unjust practices. These issues had arisen and felt across the world, as the core principles, teachings and values of Islam has been glossed over in these countries. The suitable remedy is to reinstate, reinvigorate and rediscover the values, teachings and structures that contributed to the development of Muslim countries in the past (Jreisat, 1999). On the contrary, Europe has progressed because, amongst other things, Europe has focused on the eradication of these social issues.

Taking Saudi Arabia's education sector as an example of the influence of the mis-interpretation of Islam vision to slow down the education progress, Abdullah (pp30-52, 2004) mentioned that Saudi government was established with the huge support of the Salafist call group. Consequently, this group played a big role in managing the country. They have the right to manage and intervene in any institution in the country without seeking an approval of a higher authority. They acquired their influence on most of the sectors in Saudi except the foreign policy and economic decisions which was under the control of the King. The government of Saudi Arabia which was ruled centrally by the king needed this group to control their kingdom. The Salafist group tried and succeeded to influence the citizens in the Wahhabism thinking by totally controlling the education sector in the country. Abdullah (pp207-222, 2004) mentioned that the education sector in Saudi started in 1927 with a modest budget under the influence of the religious people who controlled the content of what will be taught and impose their limited and narrow minded thinking that was against science and foreign languages. They were protective to subtract anything to the students that was not mentioned in the Quraan. In 1954 the government established an education institution under the name of the ministry of Education with a higher budget and teachers from the Arabian neighbouring countries that was not controlled by the Salafist group because of the country needs of educated workers and the pressure from the job market. Meanwhile, the Salafist group couldn't offer what the ministry of education offered without having enough staff that hold the same way of thinking. However, they started working very hard to take back the education sector and they finally did in 1976 when they established a religious based education from primary until university level. That import a continuous influence from the religious group and literal interpretation of Islamic principles from the Quran.

Other than these social issues facing Muslim countries, government has been lethargic in improving the business and economic aspects of the Shari'a law. Kuran (2011) have discussed in detail the inadequacies of the regulations and institutions in MENA region countries. Kuran (2011), for instance, criticised the weak regulations relevant to the partnership in business. The concept of partnership did not develop to suit the changing business world scenarios in the current era. Thus, it is the sluggish attitude and lack of interest of the rulers in the MENA region that intuitions and regulations did not evolve to meet the demands of this era. That is, it is not

Islam that has held the economic development. In essence, weak commercial infrastructure have held the region back and prevented it from importing industrial revolution from the west.

3.4 Barriers to Economic Development

The proportion of youth in the population of MENA region presents a unique challenge for economic development. Kronfol (2011) reports that one in every five people in the region is in the age group 15-24 years. Dealing with this demographic is a challenge because this is where transition from childhood to adulthood takes place; and presents a key state in encouraging entrepreneurial behaviour. The transition takes place in a number of biological, economic and social events take place such as entry into job market, education, marriage and so on (Kronfol, 2011). However, despite being rich in oil resources and the presence of improvements in education and health sectors in the region, the economic, social and political set up in the country has not developed to meet the changing needs of the huge population of youth.

One major hindrance to the development of this generation is a lack of quality education. As noted Noland and Pack (2007), despite the fact that number of universities and technical educational institutions have increased in the region, the quality of education is not increasing in relation to international standards. As a result there are an increasing number of unemployed people from within this demographic, which in turn increases the burden on the economy of the region. These deficiencies in education can be seen in the form of weak management, shortage of skills in teachers, lack of appropriate material, overall infrastructure and so on. Curricula are based on memorisation of particular books and reproducing the material in the examination. The structure of the institutions is based on unilateralism, coercion and domination; presenting a relatively inflexible picture. In essence, the educational institutions are not fulfilling the requirements of skills needed for the youth and the development of an economy (Assaad, 2007).

To examine this problem further, on average more than 25% of the MENA region youth are unemployed. However, the range of unemployment is different in different countries. Unemployment is lowest in the UAE which is just over 6% and the highest in Jordan which is almost 39% (Assaad, 2007). This has predicated a movement of vast numbers of young people from the country to increasing urbanisation in search of work, better education, and improved

living standards. Subsequently, this is placingexcessive pressure on the MENA region governments to improve the overall economic structure in the region (Kronfol, 2011).

This does not mean, however, that all states across the MENA region are faced with the same problem, or are performing equally poorly in relation to international development. For example, the human development index ranked Bahrain, Kuwait, Libya, Oman, Qatar, Saudi Arabia and the United Arab Emirates as high human development countries and the rest of the MENA countries as medium human development countries. MENA countries invested high proportion of their GDP towards education and health and as a result they had lowered the mortality infant rate and increased the years of schooling significantly (UNDP, 2003). Furthermore in the 21st century, the MENA region has the second highest population growth statistics in the world after sub-Saharan Africa (WB, WDI). It also has the highest unemployment rate in the world. According to the Arab Labour Organization, the ALO, the average rate of unemployment in MENA in 2005 was 14.4% of the labour force. (ALO, 2008).

Comparative analysis has been conducted by theorists such as Noland and Pack (2007), who have presented the basic data of some MENA countries with comparisons to other economies. The authors utilise a number of research practices, both theoretical and empirical, that seek to locate the reason for the low rate of growth in the region in its Islamic practices. The conclusions indicate that religion has not been a prime factor in the region's lack of development. Noland and Pack (2007) note 'it is difficult to see how something as slowly evolving as religious practices or adherence could be the primary driver of economic performance'. While this is, of course, true, religion and religious beliefs manifested in cultural practices could trigger forces that dampen growth across the region. They summarized the MENA challenges in two points: initially, the MENA states must deal with a growing number of youth population entering the job market. Secondly, they must also compete with global economies and on a global scale. Most of MENA countries lack a strong relation with the global economies in the form of low levels of FDI and low levels of developed international markets to attract foreign investments. The region faces huge competition in dealing with the global economies especially in manufacturing china is a big rival or in services where Philippines and India are big rivals (2007, p.11).

Although religion alone couldn't explain the underdevelopment in the economics of the region it

could be part of the causes of happiness to the citizens as what will be illustrated in the coming chapters.

3.4.1 Prohibition of Interest and Lack of Adequate Banking System

Prohibition of the interest is also argued to be a key hindrance for the development of the financial system and economy. This is creating issue of liquidity. Liquidity management becomes harder under Sharia' law because of relatively fewer members on the money market limited or inadequate practical money market instruments (Elbadawi, 2005). Due to prohibition of interest, traditional liquidity tools are forbidden. Moreover, contract standardization is lacking and there is deficiency of instrument for hedging against the volatility in commodity markets and currency. The inadequate legal framework, lack of expertise at industry and supervisory levels seem to further weaken the financial system of the MENA region countries.

Another issue that banking sector is facing in the MENA region is that similar to traditional banking, Islamic banks are progressively funding long-term assets with short-term funding. This is adding to the issues of liquidity for the banking sector in the region.

Furthermore, another challenge facing the banking system in the region is that Islamic banking system lack homogeneity. Some banks are using better and refined risk-management mechanism and have relied on a large number of diversified sources. Other banks are involved in less-complex activities as far as liquidity and risk management are concerned. These inefficiencies are having negative effects on the economy of the region. In turn, due to the slowness in the economic growth in the region, inflation is rising, financial system struggling and unemployment is mounting (World Bank, 2014). It is also important to note that not all banks in the region are Islamic.

In Islam 'Riba' which is interest or usury is prohibited and 'Gharar' which is speculation and gambling is also prohibited. On the other hand 'Zakat' is one of the main pillars of Islam and is highly encouraged. Zakat is an Arabic term that refers to the compulsory payment on the wealth of rich people to be paid to the poor. Based on these Islamic principles, Metwally (1997) clarified the fundamental differences between conventional banks and Islamic banks. He stated that while Islamic banks have interest-free transactions (either by receiving interest or paying it)

it is an essential principle in conventional banking. Also the speculation or gambling that happens in conventional banks are prohibited in Islamic banks. In addition to that, Islamic banks have to establish a 'zakat' fund and pay the religious payment to poor people on any profits earned and that should be paid on top of the taxes imposed by the government. On the other hand, conventional banks pay only the corporate business taxes. Finally, Islamic banks faces some restriction in investing in activities that involves prohibited products such as alcohol, illegal drugs or gambling. These restrictions on Islamic banks activities and the extra tax they pay that is called 'zakat' imposesome constraints on the profitability of the Islamic banks compared to the conventional banks. Also, as mentioned in the previous section (3.3) the influence of the religious group especially in Saudi Arabia makes the eligibility of the conventional banking system in some MENA countries less recognized by the government institutions such as the ministry of Justice and Judiciary in Saudi Arabia that doesn't recognize any banking transaction such as mortgage or loans. And that's what makes the banking system seems underdeveloped compared to the world although it is developed by its various services.

3.4.2 Public Administration and Bureaucracy

Inefficient bureaucracy is another factor that is discouraging the investment and impeding the economic development of the country (Jabbra and Jabbra, 2005). For starting a business or launching a new innovative product or service is faced with many challenges relevant to bureaucracy (Noland and Pack, 2007). For example, for starting a business, the individual or a group has to complete a large number of documents and applications and submit in different ministries and departments. The processes are slow and thus, to start the proceedings on the applications require seeking favours from different patronage networks (Kaboolian, 1998). Then, depending on the nature and size of the business, complications may increase and may require more favours.

The inefficient bureaucracy is the result of the ineffective public administration. Over the past few decades, public administration has been theorised and practiced differently as compared to the past. In 1980s and 1990s, perhaps, 'new public management' was amongst the popular models of public administration (Khan, 2006). However, after particularly 9/11, a different public administration approach, Digital Era Governance, has emerged. New public management

emphasized the employee empowerment to improve the service quality (Jriesat, 1999; Kaboolian, 1998).

The aim of new public management is the deregulation for the purpose of bringing improvement in administration (Bastow et al., 2006). The purpose is also to enhance competition by breaking the bureaucratic structures into small parts that compete with each other for enhanced productivity and resources (Bastow et al., 2006). The proponents of new public management favour neo-liberal market dynamics. However, after 9/11, Bastow et al. (2006) argue that the newest model emphasises cyber security. Thus, public administration in countries need to consider both these theoretical developments in order to improve the public administration. This is particularly important to focus on deregulation in order to overcome bureaucratic inefficiencies as well as enhance their focus on cyber security. This would enhance the investment opportunities in the MENA region.

Researchers have argued that Arab countries need administrative reforms in order to improve administration and develop economy (Jreisat, 1999). This suggests that there is a relation between public administration and economic growth. 'Links between economic growth and administrative reform are universally acknowledged' (Jreisat, 1999, p.20). Jreisat (1999) further suggests that professional public service and competent decision making are prerequisites for the economic development, productivity of the businesses and modernisation.

3.4.3 The Taxation System

The rate of taxes affects the investors' behaviour and economic growth. Reduction in tax rates usually encourages the investors to invest and have positive effects on the economy because lower taxes enhance after tax rewards for investments, savings and work (Gravelle, 2014). The higher rewards induce better work efforts and thus, enhances the productivity of the businesses. Moreover, saving and money on investment increase. Another positive impact of reduced tax rates is that they decrease the worth of current tax distortions and encourage a productivity-enhancing change in the economic activity composition away from the present tax-favoured sectors like housing and health (Gravelle, 2014). Seen in this way, many countries in the MENA region such as Saudi Arabia possess encouraging effects on the investors. However, in countries

such as Saudi Arabia, there are no income taxes on individuals; however, there is 'Zakat' on Saudi investors and tax obligations on foreigner investors. These taxes may discourage the need to work, save and invest. Moreover, no taxes means increasing labour supply through substitution effect (Gravelle, 2014). Moreover, the lack of taxes has negative effects on the economy, as it reduces government revenues and there is likelihood to increase budget deficit.

This can result in borrowing and consequently, national saving and capital stock reduce. Many countries in the MENA region are oil-exporting economies and these are faced with the long term issues due to reliance on oil. Increasing oil supply from other countries in the world and the rising reliance of world energy from alternative energy sources are putting pressure to reduce the oil prices in the international market (IMF, 2014). The result has been decline in the revenues of the oil exporting countries of the region. Consequently, a downward trend in the fiscal surplus and budget deficits have been witnessed in these oil exporting countries. In such a case lack of taxes may increase the downward pressure on the economy and oil exporting MENA region countries may face increased reliance on borrowing to meet the budget deficit. Moreover, the lack of motivation to work and save money further increase the issues of rising unemployment in the youth of the region (Jabbra and Jabbra, 2005). The result is the unemployment of the youth and increasing burden on the economy of the region.

3.5 Economic Development in Oil-Rich MENA Countries and the Dangers of Dutch-Disease

Economic growth had fluctuated in the recent years in the Middle East area. 2013-14 has evidenced slow growth from across the MENA region. There are a range of different reasons that have contributed to this trend, including a challenging external environment, regional tensions, and the lack of economic and structural reforms. The slow pace of growth has resulted in rising inflation across the region, while unemployment rates remain unaddressed (World Bank, 2014). The long overdue structural, policy and political reforms have been reported as a solution to the slow political instability, slow economic growth and vicious circle of the unemployment and inflation (Elbadawi, 2005).The World Bank (2014) reports that seven countries in the MENA region, including Libya, Yemen, Jordan, Lebanon, Iran, Tunisia and Egypt are the most vulnerable countries. Subsidies from the government and increases in the

wages of the public sector employees is putting pressure on the economy of the region.

As such, oil-exporting economies are faced with the long term issues due to a reliance of the entire nation's economy on the oil export. Increasing oil supply from other countries in the world and the rising reliance of world energy from alternative energy sources are putting pressure to reduce the oil prices in the international market (IMF, 2014). The result has been decline in the revenues of the oil exporting countries of the region. Consequently, a downward trend in the fiscal surplus have been witnessed in these oil exporting countries.

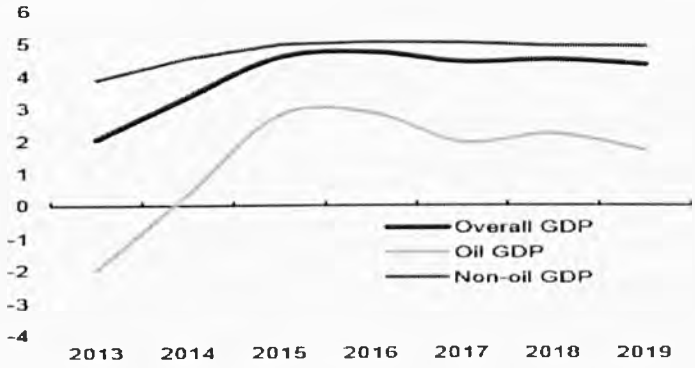

Figure (1): GDP growth forecast (IMF, 20140

The above figure (1) shows that the overall GDP is expected to decline in the future. The similar downward trend is expected for Oil GDP and non-oil GDP in the MENA region. The expected decline is due to the already mentioned factors mainly lack of structural, economic and political reforms in the region.

Oil prices have remained uncertain and declined in the past few years as well as shown in the following figure (2).

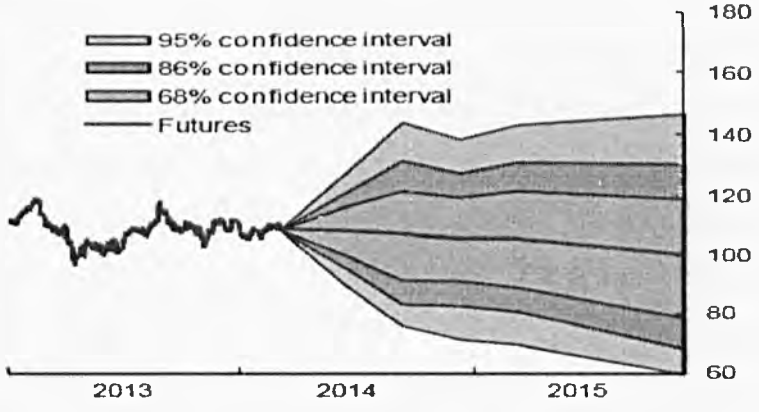

Figure (2): Confidence Intervals for Forecast Oil prices

As evidenced previously in this chapter, this downward trend in oil prices is a particularly worrying sign for the oil exporting countries in the MENA region. The revival of these economies does not seem possible without aforementioned reforms focused on diversifying their economies so that they challenge on a global scale.

The over-reliance of oil in certain economies from within the MENA region has resulted in a phenomenon known as the 'Dutch Disease'. After the MENA region countries gained full independence from the foreign occupation and worked under the national sovereignty, oil producing economies relied hugely on, took advantage of, the oil and its increasing demand in the international market. After taking over from foreign rule, the MENA region countries took control of their oil resources and the price of the oil and consequently, the revenues started surging. Saudi Arabia offers a good example of this phenomenon. In 1980, as noted by Owen and Pamuk (1998), the crude oil revenue of Saudi Arabia mounted to $104.2 billion from a mere $10.4 million in 1946. This heavy reliance blinded the governments from focusing on the other sectors of the industry (Dahi and Demir, 2008). Acceding to Sachs and Warner (2001), this phenomenon has had a destructive impact on the other sectors and led to the lack of growth of the other sectors and economic diversification. The non-oil industrial sectors are facing the destructive effects of the *Dutch disease* in the current era too.

The control over oil prices and huge revenues from oil resources enabled the oil exporting MENA region countries to appreciate domestic currency. As a result, foreign exchange inflows related to huge oil exports developed an environment that was not suitable for the domestic industry development and discouraged investment, local and foreign, in the other sectors (Hirata et al., 2004). Thus, oil exports did not remain as beneficial and competitive as they could have been if balance on oil prices, revenues and currency value had been taken care.

Moreover, the government have spent on huge construction projects and this hasresulted in discouraging the manufacturing activity in the MENA region. As reported by World Bank, (2004), the repatriation ofon oil revenues and the resulting Dutch disease in misalignment in the form of fixed or pegged exchange rates that MENA countries adopted; Turkey has been an exception. Nabli and Veganzones-Varoudakis (2002) noted that the real exchange in the region faced an over-evaluation of over 20% between early 1970s and 1999. Thus, dependence on oil

revenues and the resulting Dutch disease caused the countries in the MENA region to lose their competitiveness, lack of development of the non-oil sectors and deficiencies in economic diversification and growth.

3.6 The Import Substitution Industrialisation Strategy (ISI)

Regardless of the diversity in the economic performance, resource endowments and state structures, all the countries in the region shared a common feature and that is the dominant role in the development of the region by the public sector (Dahi and Demir, 2008). The majority of the countries tried the traditional sequence for the development by adopting an ISI strategy along with reforms in land. These experiments can be witnessed in Turkey 1980, Egypt 1967 and 1974. Then later on these countries endeavoured to replace the traditional model with an open positioning of the countries in the world economy by downsizing the state role and making liberalisation reforms (Dahi and Demir, 2008).

The first ISI endeavour in the MENA countries can be seen in Turkey in 1934. This was implemented through a five year plan that emphasised the formation of state enterprise in steel, iron, cement, chemicals, paper, glass and ceramic, minerals, primary commodities and textiles (Kuran, 2004). The Turkish model provides guidance for the other countries in the region, and many of the region countries followed the model (Richards and Waterbury, 1996). In the oil rich economies of the region, the huge rents from the oil sources allowed these countries to initiate and in massive ISI projects. Consequently, capital intensive industries faced proliferation and produced protected final and intermediate goods for the local markets. Nevertheless, the credit access and tariff protection were usually offered as a wholesale and no performance measuresand technological upgrade were required and performed. One of the main feature of the ISI era was that the accumulation process largely relied on politics instead of market dynamics. ISI caused increased coalition between business community and state bureaucracy, as most of the economic rents were dependent on the intermediary products, subsidised by the government (Kuran, 2004). The banking and financial sector development remained sluggish given the lack of an effective system for offering credit to the private sector (Dahi and Demir, 2008). Moreover, the bank favoured the political distribution of the credit. In short, the ISI strategy has impeded the

development of the economies in the region.

3.7 Conclusion

The situation in MENA has improved in absolute terms, but not as a whole region and compared to other regions around the world. This is difficult owing to the wide range of economic circumstances within the region. Furthermore, the differing stages of development at which oil-rich and oil-poor nations within the region find themselves impacts on the development of wider nations in the area. The movement of labour away from poorer rural areas to richer urban ones, and from poorer nations to richer ones, evidences a trend which has resulted in a number of nations depending on their booming oil industries at the expense of other areas of the economy. This has hindered sustainable growth and limited development at a regional level.

MENA countries are facing big challenges- in spite of the huge natural resources they have- with a growing young population who are educated and unemployed. Furthermore, as evidenced in Chapter 2, educated unemployed individuals are less satisfied than non-educated unemployed individuals. The underdevelopment of the whole region has been the centre of many studies and grabbed the media attention for years. The increased oil prices in the 1970s had helped the oil countries and non-oil countries in spending more in health and education. However, the region depends heavily on international oil prices and that what raised the region's GDP volatility. The long overdue structural, policy and political reforms have been reported as a solution to the slow political instability, slow economic growth and vicious circle of the unemployment and inflation (Elbadawi, 2005).

In essence, this chapter brings to the fore different anomalies and inefficiencies in different practices in MENA region that are impeding the economic development. These include under-developed Islamic regulations such as Waqf and inheritance system. Interest is prohibited in Islam banking and these countries are not able to develop alternative banking system to the level of the traditional banking. Money market instruments are limited in the Islamic system. No income taxes mean that the countries in the region are facing a pressure for revenues and reducing budget surpluses or overcome budget deficits. The issues of corruption, favouritism and all other unjust practices are amongst the key impediments in the way of economic development

of the region. The bureaucracy is inefficient and this is partly the result of the unproductive public administration. Some MENA countries have not followed the principles of public administration in the changing world. In order to enhance the productivity and develop economies, the MENA region countries need administrative reforms to meet the challenges of the new business world and enhance the economic growth opportunities.

To conclude, the MENA region faced many wars and political conflicts that influenced the budget of most of the governments. The region also suffers from institutional limitations that held it back from competing in the global economy. The Waqf system that did not develop into corporations, the simple partnership that did not develop to meet the needs of the global markets and the prohibition of the interest that affected liquidity are some examples of the shortages of improved institutions and regulations. Bureaucracy also held the region back in attracting foreign investments and affected the level of corruption in the region. Also the huge dependency on oil revenues and the limited diversification in investments led to Dutch disease not only to the oil-exporting countries but to the whole region. It has been argued by a number of researchers that Islam religion had held the region back in economic development. However, it is the underdeveloped regulations that were once helpful but could not be compatible to the other developed economies in the global market. It has been argued also that Islam religion is not responsible for the recent economic underdevelopment, rather it could be attributed to the religious authorities who lacked vision, misinterpreted Islamic rules from the Quran and did not act on Islamic principles. And these religious authorities have power to influence governments in most of the countries in the region.

Chapter 4: Data and Methodology

4.1 Introduction

As evidenced in the literature review of Chapter two, important theoretical implications are clear in our practical notions of 'happiness' and 'well-being'. While the former is related to a subjective approach, focussed on self-reported surveys, the latter is related to the objective approach that takes into account the living standard and the situation as a whole in one single country. The primary focus of this study is to evaluate the situation in Middle East and North Africa (MENA) states, utilising a mixed-methodological approach to elucidate further the evident trends in both of these areas.

Having discussed in chapter two the relationship between well-being and different macroeconomic concepts such as inflation, unemployment, income and inequality, this chapter will outline a robust research methodology to demonstrate a thesis that both empirically assesses an overview of national, as well as detailing an individual's subjective, well-being.

The different perceptions of happiness and well-being evidenced in Chapter 2 require a robust academic research methodology that can assess both objective and subjective trends. While on the one hand national data will be considered and inductively developed to indicate trends in well-being; subjective, bottom-up qualitative research will be conducted to appreciate respondents' perceptions of happiness ratings, in order to better understand the agents which impact happiness both positively and negatively. As such, the methodology that will be used in chapter five estimates the effect of the macroeconomic conditions on subjective well-being at the individual level for several countries in the MENA region. The macroeconomic conditions considered are the unemployment rate, GDP per capita and the inflation rate. Chapter five will focus on the impact of these larger, national trends, upon the subjective happiness of the selected MENA citizens. Additionally, a methodology will be developed specifically for Chapter six, to examine the objective variables that could affect happiness or life satisfaction such as: health, education and living standards. A qualitative research approach will assess a happiness-metric that is conducted bottom-up. These methodologies will subsequently be analysed and collated together to present a robust mixed-methodological set of conclusions.

4.2 Quantifying Well-being in Practice

In most economic literature well-being, happiness and satisfaction generally are used interchangeably. As noted in Chapter 2, however, these titles are reductive and do not take into account a number of subjective factors which impact upon each. Taking a purely economic perspective on well-being based upon GDP and unemployment rates is outdated and, as has been established, leads to an inaccurate view of well-being.

4.2.1 Quantifying Subjective Metrics of Well-being

A number of methodologies have been adopted in order to assess the key question within this thesis: focussing on personal well-being within MENA states and its relationship to neoclassical economic theory. In order to outline this approach adequately, this methodology will assess a number of different approaches to the key research question initially, and then subsequently assess the key demographic factors which impact upon the results.

One way of approaching subjective happiness assessment is through the cross-country study of subjective well-being, outlining quality of life within a wider society. This can be taken to mean a religious area (such as MENA) but also geographic, social and cultural contexts can be used as primary means of demarcating a specific region or data set. Andrew and Whithey (1976) came up with a single question that could measure two aspects affecting satisfaction. The question is: 'how do you feel about your life as a whole?' from 'delighted' to 'terrible' with a seven point scale. Another version of this question was asked by Campbell et al. (1976) which is 'how satisfied are you with your life as a whole these days?' These kinds of questions allow the respondents to think about their lives as a whole and evaluate it without focusing on their current moods or emotions or focusing on only one aspect of their life such as work satisfaction or relationships. And that could be argued against the belief of the limitation of the subjective measures of well-being that it could not bring back valuable outcomes if people are facing personal events that made them extremely happy or extremely sad. And that would not be valuable when assessing the whole situation.

When testing for happiness and satisfaction subjectively in the form of a single question, therefore, a number of variables have to be considered. This thesis will therefore asses the

demographic details of income category, employment status, gender, age, marital status, number of children and education level because these variables are available for the MENA countries in the WVS questionnaires and related to happiness and life satisfaction. The data for these variables are collected using a number of questionnaires, which are reviewed and outlined in Tables 3.1 and 3.1b. These metrics are based upon a Likert scale of assessment, where happiness in relation to the given factor is ranked by the respondent on a scale of 1-4, with 1 = very happy and 4= very unhappy. This has been chosen as a metric for both ease of analysis, and also ease of comprehension on the part of the respondent. This will ensure that all questions are clearly understood and that the results presented are an accurate representation of a respondent's subjective reflection.

Another example of the subjective measures of well-being is the Gallup- Healthway global well-being index. This index is a subjective self-assessment about five domains of life; purposeful, social, financial, community and physical. People are asked to assess their life in each domain by choosing between thriving, struggling or suffering (Gallup Healthway, 2014). These models have developed into a detailed area of extant academic research, with data sets focussing on subtly different approaches to this key question. The author believes that the easier this question can become, the more robust the results of the data set will be. The outline of the assessed approaches to the key questionnaire is here produced below in Table 4.1:

Table 4.1 Questions asked in the Questionnaire

Questions	Very Happy	Quite Happy	Not Very Happy	Very Unhappy	Sources / Sample Period
Taking all things together, would you say you are:	1	2	3	4	WVS: 1981-2014
On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead?'	1	2	3	4	Eurobarometer, 1973-1998
Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?'	1	2	3	4	General Social Survey, 1972-1998
Have you recently been feeling reasonably happy, all things considered?	1	2	3	4	British Household Panel Study, 1991-2000
Taking all things together, how satisfied are you with your life?'	1	2	3	4	World Gallup poll, MENA 2002-2011
Taking all things together, how would you say things are these days—would you say you're very happy, fairly happy, or not too happy these days?'	1	2	3	4	Eurobarometer, 1975-1986
Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Which step comes closest to the way you feel?'	1	2	3	4	World Gallup Poll, MENA 2005-2012

Sources: Inglehart, R : World Values Survey and European Values Surveys, 1999-2001

Almost the same question is asked repeatedly in the above review of these types of questions. However, there are some differences in forming the question. Theses question are asked annually to a different group or people every year and are selected randomly.

This central question presents only one aspect of this research, however. Subjective happiness data usually comes from social surveys asking large samples of people about their overall level of happiness or satisfaction. It is essential, therefore, along with this key question to gather demographic information on the respondent such as age, gender and so on. This allows the happiness metric to be placed within a wider context of personal circumstance, and from these collated circumstances an appreciation of the motive forces and impact of happiness upon productivity can be evidenced. This assessment is key to the wider research hypotheses, and can impact upon the economic reasoning and behaviour of the individual respondent. It is worth mentioning here that there is an important demographic factor which is the father income that is

not included in this thesis due to the lack of data availability. The father income is important in analysing unemployment especially in an area like the Middle East where families are expected to help each other financially.

These demographic factors that are used in this analysis are outlined here below:

4.2.1.1 Age

The age ranges of the respondents of the life satisfaction question or the happiness level question are taken into account. The age variable in this thesis is converted into a dummy to take into account the U-shaped as what have been used in Clark and Oswald (2006), Di Tella et al (2003).

4.2.1.2 Gender

People who answered the happiness or life satisfaction questions had to state their gender and the WVS team made sure that the sample is not biased towards any specific gender.Therefore, weights were computed to modify the distribution of males and females, according to their distribution in the population. In the regression models gender was entered as a dummy variable with the reference category set to 'male'.

4.2.1.3 Marital Status

The respondents to the life satisfaction and happiness questions have to state their current marital status at the time they are answering the questions. They have to choose between: married, divorced, and living together as married, separated, single and widowed. In the regression model dummy variables were used for different categories of marital status, with the reference category set to 'married'.

4.2.1.4 Education Level

The respondents' education level at the time of answering the life satisfaction and happiness questions are taken into account. Respondents have to choose between: complete primary school, complete secondary school: technical/vocational type, complete secondary school: University preparatory type, incomplete primary school, incomplete secondary school: technical/vocational

type, incomplete secondary school: University preparatory type, no formal education, some university level education without degree or university level education with degree. In the regression models dummy variables were used for different categories of education level, with the omitted reference category set to 'no formal education'.

4.2.1.5 Income Level

People who answered the WVS questions are supposed to choose which income group they belong to. The three income categories are: 1- the lowest income group 2- the medium income group 3- the highest income group. In the regression models dummy variables were used for income category, with the omitted reference category set to 1 (lowest income group).

4.2.1.6 Employment Status

Respondents' employment status is taken into account. People will have to choose their current level of employment when answering the WVS questions. They can choose between: full time employed, housewife, other, part time employed, retired, self-employed, student or unemployed. In the regression models dummy variables were used for each of these different employment categories, with the omitted reference category set to 'full time employed'.

4.2.1.7 Number of Children

People would be asked to state the number of children they have when answering the WVS questions. This variable was entered into the model without any transformations applied.

4.2.2 Quantifying Objective Metrics of Well-being

The objective measures of well-being take a broader approach to evaluate the level of well-being of people at a national level. It looks here at aspects effecting the living standards, education and health, rather than assessing the demographic details of individuals and assessing how they impact upon subjective happiness. It is important here to consider the United Nations attempt in the human development reports, as a framework for further analysis.

In the education domain, for example, there are a number of key important indicators. These include the literacy rate, years of schooling or the number of graduates. Furthermore, in the health section the indicators are the mortality rate, the life expectancy or infant mortality. Living standards takes into account many aspects such as inequality, poverty, corruption, GDP growth, political freedom or leisure activities. In chapter six the objective measures will be reviewed and analysed choosing the variables depending on the availability of data in the MENA countries. This study will ascertain those sub-categories which are central to developing robust hypotheses for well-being metrics, and from that detailed methodology outline detailed results. Since the questionnaire is constructed on annual basis, the macro variables on the other side are also constructed annually including the inflation rate. These are outlined here below:

4.2.2.1 GDP per capita

GDP per capita, and the change in GDP per capita, as measured in 2005 US dollars, was obtained from the World Bank for every country-year combination in the WVS data. These data will be used to evaluate the correlation between the level of happiness and satisfaction and any changes in GDP per capita. Because the coefficient in the final model is small, the GDP per capita, and change in GDP per capita variables were divided by a thousand which has the effect of increasing the coefficient size by 1000 and makes the coefficients easier to read from the tables. Choosing GDP per capita to measure the income or the financial situation of the people under study is consistent with Easterlin (1974, 1995 and 2010), Clark and Senik (2011) and Di Tella *et al.*, (2003). The GDP per capita values in the data ranged from $4484 to $127236 (these values were divided by 1000 in the regression models).

4.2.2.2 The Unemployment Rate

People are not asked in the WVS about their opinions or feelings with regard to the unemployment rate. The level of the unemployment rate for the whole country will be correlated with the level of happiness and satisfaction of the people living in that country. The unemployment rate (as a percentage) is taken from the WB and its effect on people's level of happiness and satisfaction is measured. Unemployment rates in the data ranged from 0.4% (Qatar in 2010) to 28.7%.

4.2.2.3 The Inflation Rate

The inflation rate for each country is also takenfrom the WB. It will be used to measure the effect of any change in the inflation rate to individual's level of happiness or satisfaction without asking people about inflation directly. Inflation rates in the data ranged from 0.06% (Morocco in 2011) to 26.4%.

4.2.2.4 Corruption Level

Corruption data was obtained from the Transparency International webpage (https://www.transparency.org). Transparency International maintains the "corruption perceptions index", which is a measure of perceived levels of government corruption in various countries. Higher values for the index indicate lower levels of corruption. The index is formed by aggregating numerous datasets from sources such as the World Bank, the World Economic Forum, Freedom House, and the World Justice Project. However, the data are only available separately for each year, and there are inconsistencies evident between years. This meant that considerable work was required to alter the form of presentation for accurate analysis. Much of the data had to be copied and pasted directly from the webpage, and some variables had to be renamed in order to make them consistent across years. After fixing up some country names and other small typos in the data, consistent country codes were added to the dataset for each year, and these datasets were then merged together. Finally this data was then merged with the World Values survey data and World Bank Development Indicators. This data merging was performed using R (a statistical programming language), and subsequently exported as a .dta file for analysis with STATA.

4.3 The Quantitative Empirical Research Methodology

The second half of the research methodology therefore requires a detailed empirical quantitative model to process these national trends and facilitate objective results. The model utilised in this research is the ordered probit model which is outlined here below. This model was usedspecifically instead of the logit model because the dependant variables has more than one outcome and the logit model is usually used when the dependant variable is binary.

The ordered probit model calculates the probability of a respondent having a happiness or life satisfaction level at most j for each j (i.e. Prob(level<j). The coefficients of the independent variables are held fixed across the different levels, while the constant coefficient is allowed to vary across levels:

$$Pr(y < j) = \Phi(\alpha_j - \beta_1 x_1 - \beta_2 x_2 - \cdots - \beta_k x_k)$$

where:

Pr(y<j) = probability that happiness/life satisfaction level is less than j

Φ = cumulative distribution function for a normal distribution

α_j= constant coefficient for level j

$\beta_1 \ldots \beta_k$= coefficients of independent variables (fixed for all j)

$x_1 \ldots x_k$ = independent variables

This model is used because the dependent variable of interest is an ordered variable. Some challenges are present because of the parallel lines assumption: the model assumes that the βi's (coefficient of independent variable) are the same for all the levels, i.e. the effect of the independent variables on the dependent variables is the same for all levels. Therefore, the effect on a change in the level of GDP per capita has the same effect when moving from one happiness level to another. This assumption can be checked using a likelihood ratio test.

The covariance matrix to calculate the standard error and tell if the coefficient is significant or not of the model coefficients is estimated using the following formula:

$$\hat{var}(\beta) = \left(\sum_{i=1}^{n} \frac{\phi(x_i\beta)^2 x_i' x_i}{\Phi(x_i\beta)[1 - \Phi(x_i\beta)]} \right)^{-1}$$

From this estimated covariance matrix the standard errors of the model coefficients can be calculated (as the square roots of the diagonal elements). The significance of a model coefficient, say β, can then be tested by comparing β/s.e.(β) with a standard normal distribution.

Potential problems with data are that the income levels of Saudi Arabia, Qatar and Kuwait are

much higher than for other countries in this study. And also some countries have data for more than one year and some countries have data for two or three years. For example Saudi Arabia is tested for only 2003 in the pooled panel study. Table 4.2 shows the year for each country and the wave.

To test the overall significance of the models a Chi-squared test of the change in -2*(log-likelihood) of the model compared with the null model (i.e. the model without any independent variables) was performed. If the change in log-likelihood is significant then the model is significantly better than the null model, and may be useful. The ordered probit model assumes that the coefficients of the independent variables are constant across different levels of the dependent variable (though the constant coefficient may vary). This is called the parallel lines or proportional odds assumption. In order to test this assumption a likelihood ratio test is performed comparing the ordered probit model with a more general model where all coefficients are allowed to vary across levels. If this test is significant then this indicates that the proportional odds assumption does not hold and a more general model may be required (e.g. a multinomial model).

To test the model fit and how accurate are the predictions, the McFadden's R-squared value was used.

The McFadden's R-squared statistic is:

$$R^2 = 1 - \frac{\log(L_M)}{\log(L_0)}$$

Where L_M is the likelihood of the estimated model, and L_0 is the likelihood of the null model (with a constant coefficient, but no independent variables).

The McFadden's R-squared value is between 0 & 1 with larger numbers indicating better fit. A value of 0 for McFadden's R-squared indicates that the model is not better than the null-model, and a value of 1 indicates that the model fits the data perfectly.

In the equation, happiness and life satisfaction are used as dependent variables. The responses to

the questions mentioned earlier such as whether you consider yourself happy or not are recorded on a scale varying from 1 to 4 where 4 marks not at all happy and 1 indicates very happy. Similarly, the response is recorded on a scale from one to ten for life satisfaction, where 10 mean that the respondent is completely satisfied and 1 is completely dissatisfied. Due to the ordinal nature of the data, the study uses an ordered probit model, which was first developed by Moulton (1986)[1]. The empirical model of life satisfaction and happiness could be represented for each variable by:

$$\log(odds_{jict}) = \alpha_j - \gamma \times GDP_{ct} - \lambda \times Infl_{ct} - \delta \times Unemp_{ct} - \sum_k \beta_k \times Personal_{kict} - \varepsilon_c - \nu_t \quad (4.1)$$

Wherej indicates the happiness or life-satisfaction level, i indicates the individual, c indicates the country and t indicates the year. Then for a given country c, and year t, y_{ict} is the happiness or life-satisfaction level for individual i, GDP_{ct}, $Infl_{ct}$, and $Unemp_{ct}$ are the gross domestic product per capita, the inflation rate and the unemployment rate, and is the fixed country effects to account for country specific cultural and institutional influences common to all countries.. $Personal_{kict}$ is the k^{th} personal characteristic of the i^{th} respondent in country c and year t, this includes income category–(low, medium or high), gender, marital status, education level, employment status, age, age^2 , and number of children.

The reference category for personal employment status is 'full time employed', for income category it is 'low', for marital status it is 'single', and for country it is 'Saudi Arabia'.Using the same approach in chapter five, chapter six will estimate the effect of inequality measured by the Gini coefficient, life expectancy and corruption level in a country on the subjective well-being at the individual level for several countries in MENA. The inequality data and life expectancy are collected from the WDI of the WB and data on corruption are collected from the Transparency Index. This model will support the validity of the subjective approach in measuring happiness in a sense of testing it objectively and that will be explained in details in chapter six.

It will also add as an independent variable the equality opinion question and the financial satisfaction question from the WVS waves 4, 5 and 6. The first question is: 'Now I'd like you to

[1] The model used in the present econometric analysis is in line with Di Tella, R., MacCulloch, R.J. and Oswald, A.J., (2003)

tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. (Code one number for each issue): Incomes should be made more equal'. The other question is: 'How satisfied are you with the financial situation of your household? If '1' means you are completely dissatisfied on this scale, and '10' means you are completely satisfied, where would you put your satisfaction with your household's financial situation?'. This regression will be tested twice. The first one would include the personal demographics of the respondents and the second won't include it to test the robustness of the results.

Table 4.2: Historiography of Previous Studies in MENA Countries

Country	Variables	Duration of Observations	Data Sources
Algeria	Happiness and life satisfaction	2002, 2014	WVS, wave4 and 6
Egypt	Happiness and life satisfaction	2001,2008,2012	WVS, wave 4,5 and 6
Iran	Happiness and life satisfaction	2000, 2005	WVS, wave 4 and 5
Iraq	Happiness and life satisfaction	2004, 2006, 2013	WVS, wave 4,5 and 6
Jordan	Happiness and life satisfaction	2001, 2007, 2014	WVS, wave 4,5 and 6
Kuwait	Happiness and life satisfaction	2013	WVS, wave 6
Lebanon	Happiness and life satisfaction	2013	WVS, wave 6
Libya	Happiness and life satisfaction	2013	WVS, wave 6
Morocco	Happiness and life satisfaction	2001, 2007, 2011	WVS, wave 4,5 and 6
Palestine	Happiness and life satisfaction	2013	WVS, wave 6
Qatar	Happiness and life satisfaction	2010	WVS, wave 6
Saudi Arabia	Happiness and life satisfaction	2003	WVS, wave 4
Yemen	Happiness and life satisfaction	2013	WVS, wave 6

4.3.1 Independent Variables

Chapter five will estimate the effect of the macroeconomic conditions on subjective well-being at the individual level for several countries in the Middle East and North Africa (MENA). These are conditions which directly impact the model outlined above, and variables for which include: the unemployment rate, GDP per capita and the inflation rate.

These macroeconomic data are collected from the World Development Indicators (WDI) of the World Bank (WB) for the following countries: Algeria, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Palestine, Qatar, Saudi Arabia, Tunisia and Yemen. Data on self-reported measures of well-being of thousands of individuals from several MENA countries are used and regressed on the personal characteristics of the respondents. The data used are of a pooled cross-sectional survey nature taken from the World Value Survey dataset (WVS), which is compilation of national surveys on values and norms on a wide variety of topics constructed by a network of social scientists. The surveys have been carried out since 1981. The WVS covers a total of six waves. The first wave was from 1981 to 1984, the second from 1989 to 1993, the third from 1994 to 1999, the fourth from 1999 to 2004, the fifth from 2005 to 2009 and the sixth wave and most recent was from 2010 to 2014. To the best of my knowledge the data mentioned above have been used in a PhD thesis about happiness in MENA by Djiar (2011) and in a conference paper about the subjective well-being and the MENA region by Thorpe *et al.*, (2010).

From the WVS wave 4, 5 and 6, taking a random sample of the population of each country, people were asked 'taking all things together, would you say you are: 1-not at all happy, 2- not very happy, 3- quite happy, 4- very happy. The ordinal answers to these questions are used as the dependant variable in the happiness equation and regressed on the personal characteristics of the respondents. Another question asked is: 'all things considered, how satisfied are you with your life as a whole'; the rating starts from 1 which is dissatisfied till 10 which is fully satisfied. In the original data set the codes for happiness were: 1- very happy, 2- quite happy, 3- not very happy, 4- not at all happy. The numbering of the happiness answers was reversed in this thesis in order to make them consistent with the life satisfaction variable. These surveys report the answers of 33522 individuals living in MENA. People are not asked in the surveys about their opinion of any of the macroeconomic variables - they are simply asked about how happy or satisfied they

are with their lives, and then relate that to the macroeconomic fluctuations in the country they live in between the period of 2000 and 2013.

WVS surveys are face to face interviews and required to cover all residents (not only citizens) between the ages of 18 and 85, inclusive. The questionnaire must be translated into all languages spoken by at least 15 percent of the population. If the sample tended to be biased to a particular gender, by being over represented, weights would be computed to modify the distribution of males and females, according to their distribution in the population. Table 3.2 shows all the countries of MENA involved in the analysis and which wave and year were used for each country.

A panel approach with country and year dummies and also different lengths of lag in the GDP variable would provide a good testing ground However, as noted in Chapter Four, the model used will be an ordered probit model (without country or year fixed effects)that tests the same variables again with country fixed effects. After running the regression without country or time fixed effect, the results assessed through this methodological examination were robust and significant After adding the country fixed effect to the happiness model, the coefficient of GDP per capita becomes negative and that will be explained in details in chapter five. The next model in chapter five will also attempt to relate the macroeconomics conditions with individual's happiness or satisfaction by measuring the real cost of unemployment on the population and measuring the effects of GDP changes in a country on the people living in that country it will estimate the differences in happiness levels between unemployed and employed people, and also the difference in the effect of GDP per capita, the unemployment rate and the inflation rate between these two groups. This can be achieved by performing separate analysis for these two groups and comparing them, while dropping the rest of the respondents who are not employed of unemployed such as retired or students. This will give us a better idea of the real cost of unemployment.

4.4 Summary of Mixed-Methodological Variables

The variables of interest have therefore been categorized into two groups. The first group is about the personal characteristics of the individuals answering the happiness question including:

gender, age, marital status, education level, income level, employment status and number of children. And the second group is about the macroeconomic factors affecting the individual's happiness, including GDP per capita, the inflation rate and the unemployment rate. All the data on the micro variables are converted into dummy variables except the age variable for which a quadratic term is added to account for the U-shaped relationship between happiness or life satisfaction and age variable.

The macroeconomic indicators are measured on a country basis (with just one measurement per country and year), whereas the personal characteristics are measured on an individual basis of the happiness and life satisfaction respondents. Therefore, in order to deal with the two sets of unbalanced observations in the data, the macroeconomic indicators for a given country and year will be repeated for each individual within the same country and year. This ensured that no data were lost.

Although desirable, it is not possible to treat the data as panel data since there is no variable that can be used as a panel variable: we cannot use 'year' since there are multiple units per country-year (the different individuals), and we cannot use individual ID, since these change from one year to the next and we can't follow the same individuals every year because these kind of data are not available for MENA countries. We can include dummy variables to take account of fixed effects for countries and years, but we lose degrees of freedom by doing this. If both country and year dummy variables are included then many of the models could not be estimated due to multi-colinearity problems with the macroeconomic variables. Therefore, in this thesis the year dummy variables will be dropped and just control for country fixed effects by including appropriate dummy variables for each country in MENA.

Chapter 5: The Macroeconomics of Happiness in MENA States

5.1 Introduction

After discussing the reliability and validity of happiness research in chapter two and four and distinguishing two kinds of approaches or methods to measure well-being. This chapter assesses the satisfaction metrics coded from the questionnaire research conducted across MENA countries. This provides a subjective approach to the analysis of the psychological costs of economic fluctuation in a country, but is also informed by how a range of demographic factors impacts on these psychological outcomes. The aim of this chapter is to provide a measure for the impact of macroeconomics variables in a country on the happiness or satisfaction of the people living in it. It begins with data on the reported well-being levels of thousands of individuals in the Middle East and North Africa (MENA) and relates these data to the macroeconomic variables in each country. The macroeconomics variables to be analysed in this study are: the unemployment rate, GDP per capita and the inflation rate.

Initially it is important to note that from the data collects, happiness data behaves in a predictable way and demonstrates a commonality of structure between each of the MENA states assessed. It is also evident from the research that macroeconomic variables have significant and statistically robust effects on reported well-being.

This chapter estimates the real cost of economic fluctuations by evaluating the effect of GDP on people's reported happiness, taking into account the relative income hypothesis and adaptation theory effects (explained more in section 5.3) by testing the effect of GDP per capita. Subsequently, the researcher has tested the impact of GDP per capita change to consider the differences between the absolute income hypothesis, relative income hypothesis and the adaptation theory (these concepts were explained in chapter two). The effects of the unemployment rate, GDP per capita and the inflation rate are also evaluated by extracting the unemployed and the employed individuals from the sample and comparing their level of life satisfaction.

These subjective empirical research have been analysed by economists in many developed countries and some developing countries. This thesis will be the first to analyse the MENA

situation through this extant approach. A general view of the situation in MENA countries is reviewed in the data description section below showing a similar pattern in the microeconomics, following which the empirical model and presented and its findings are coded and analysed.

5.2 Descriptive Statistics

In table 5.1a raw life satisfaction data are presented. Life satisfaction was measured on a 10-point scale, in which a result of 1 indicates the respondent is completely dissatisfied with life, and 10 indicates a state of perfect satisfaction. . When measuring all respondents, 50.94% scored results between 5 and 8, demonstrating that the majority of people are either satisfied or above average. Focusing on unemployed individuals only the respondents yielding scores of 1-4 are far above the average. This demonstrates that a larger proportion of unemployed individuals were found to be dissatisfied with their life as compared with the entire sample.

By contrast, married respondents were found to be more likely to be satisfied with their current life, while divorced respondents were more likely to be dissatisfied. Results were found to be similar to some extent when comparing both male and female respondents, with both sexes indicating that they are more likely to be satisfied with their life than dissatisfied. However, females are slightly more satisfied than males and slightly less dissatisfied than males, with male averages of 1-4 higher and females yielding higher results for results 6-10 inclusive.

Table5.1a: Life Satisfaction in MENA 2000-2013

Life Satisfaction	All	Unemployed	Married	Divorced	Male	Female
Completely Dissatisfied	7.27	10.9	7.04	8.54	7.81	6.8
2	7.57	9.4	8	6.7	7.9	7.3
3	6.43	. 8	6.5	8.13	6.8	6.12
4	7.38	8.1	7.21	11.3	7.4	7.4
Neutral	16.95	16.9	17	16.7	17	16.9
Neutral	11.50	10.9	11.34	13	11.22	11.8
7	12.01	10.9	11.9	9	11.9	12.14
8	10.81	8.9	10.6	10.42	10.73	10.9
9	9.83	8.01	10.23	8.75	9.70	10
Completely satisfied	10.25	8.42	10.33	7.71	9.7	10.8
Total	100	100	100	100	100	100

Source: own calculation from WVS (2001-2008)

Note: all numbers are expressed as a percentage of respondents within each column

In table 5.1b income was divided into three categories. Among individuals in the lowest income category, respondents are more dissatisfied. While respondents among the highest income category are being more likely to indicate that they are satisfied with their current life than dissatisfied. This is evidenced most clearly in the complete dissatisfaction scores of income category 1 averaging 12.56%, compared to 5.25% of category 2 and a further reduced 3.52% of the highest income bracket. The correlation is true at the other end of the scale too, with 30.78% (nearly 1/3) of all income category 3 respondents yielding results of a 9-10. In other words, as people in MENA get richer they get more satisfied with their general life.

Table5.1 b Life Satisfaction in MENA 2000-2013

Satisfaction	All	Income category 1 (lowest)	Income category 2	Income category 3 (highest)
Completely Dissatisfied	7.27	12.56	5.26	3.52
2	7.57	9.80	5.73	8.61
3	6.43	10	5.70	2.90
4	7.38	8.97	8.19	3.49
5	16.95	17.06	20.30	9.91
6	11.50	9.05	14.03	9.91
7	12.01	8.84	12.92	14.90
8	10.81	7.56	10.65	16
9	9.83	7.88	8.50	15.76
Completely satisfied	10.25	8.48	8.71	15.02
Total	100	100	100	100

Source: own calculation from WVS (2001-2008)

Note: all numbers are expressed as a percentage of respondents within each column

Table 5.2 a Happiness in MENA 2000-2013

Reported Happiness	All	Unemployed	Married	Divorced	Male	Female
Not-at-all-happy	6.79	9.13	6.71	9.83	7.3	6.35
Not very happy	17.82	24.52 .	17.1	25.31	19.4	16.4
Quite happy	56.89	51	57.31	53	55.2	58.44
Very happy	18.50	15.4	18.9	12	18.2	18.9
Total	100	100	100	100	100	100

Source: own calculation from WVS (2001-2008)

Note: all numbers are expressed as a percentage of respondents within each column

Table 5.2a provides a cross-tabulation of happiness data in MENA that were categorised in a four-point scale, where 1 is 'not at all happy', 2 is 'not very happy', 3 is 'quite happy' and 4 is 'very happy'. The majority of respondents indicated that they are 'quite happy'. Among unemployed respondents only, individuals were moderately more likely to indicate that they were 'not very happy' or 'not at all happy' as compared with the full sample. Interestingly, this is even true of the mean sample of those respondents who are 'quite happy', with unemployed respondents yielding a score that was 5.89% below the average mean, with the 'not at all happy' metric demonstrated an increase on the average of 3%.

When focusing on married respondents only, results were nearly identical to those found for the entire sample. With regard to divorced respondents; respondents were more likely to indicate that they were 'not very happy' or 'not at all happy'. Females are more likely to indicate that they were happy as compared with male respondents, and these finding of females being happier than males is in consistence with all similar literature in the developed and developing countries. It was assumed that females would be less happy in an area that has not achieved gender equality and women's rights. Which indicates that more detailed research should be inducted in these issues in the future. Results found with regard to the lower two income categories were similar to some extent, with the majority of respondents still indicating that they are 'quite happy', while with regard to the highest income category, respondents were more likely to indicate that they are 'very happy' and less likely to indicate that they are 'not at all happy' as compared with these first two income categories.

Table 5.2 b Happiness in MENA 2000-2013

Reported Happiness	All%	Income category 1 (lowest)%	Income category 2 %	Income category 3 (highest)%
not at all happy	6.79	9.63	6.26	3.68
Not very happy	17.82	22.14	18.28	10.67
quite happy	56.89	54.33	58.54	57.48
Very happy	18.50	13.90	16.92	28.17
Total	100	100	100	100

Source: own calculation from WVS (2001-2008)

Note: all numbers are expressed as a percentage of respondents within each column

Table 5.1a and b and 5.2a and b evidence that individuals in MENA countries have almost the same microeconomics pattern in the data. The same personal characteristics seem to influence the reported happiness or life satisfaction at the same level across countries. Furthermore, people in MENA are happier when they are married, employed and possess high level of income.

Table 5.3 Summary Statistics, MENA Countries

	Obs	Mean	Std. Dev
Reported Life Satisfaction	33336	5.864891	2.670458
Feeling of Happiness	33040	2.870975	.7862234
GDP per Capita	27394	16142.32	23819.19
Inflation Rate	27394	10.54612	8.702949
Unemployment Rate	27394	13.25417	6.752417

Source: own calculation from WVS (2001-2008)

Table 5.3 reports summary statistics from two sources namely, WVS and WB, consisting of the number of observations, the mean and standard deviation, for the following variables: reported life satisfaction, feeling of happiness GDP per capita, the inflation rate, and the unemployment rate. The means of the life satisfaction and happiness are in different range because of the differences in numbering. Life satisfaction ranges from 1 till 10 while happiness has only 4 categories. The Standard deviation of the inflation rate is higher than the unemployment rate and

has more variation. The standard deviation of the GDP is very high relative to the mean which shows a lot of variations between the countries in MENA. The descriptive statistics in the first two rows of table 5.3 are calculated from WVS and the last three rows have been computed from the WDI of WB.

Table 5.4: Correlation Coefficients, MENA Countries

	Life Satisfaction	Happiness	GDP	change in GDP	Inflation	Unemployment
Reported life Satisfaction	1					
Feeling of Happiness	0.4168	1				
GDP per Capita	0.1919	0.1873	1			
change in GDP	0.0905	0.0498	0.7297	1		
Inflation Rate	0.0019	-0.1449	0.0529	0.2509	1	
Unemployment Rate	-0.1687	-0.2210	-0.4229	0.1695	0.1626	1

Note: * indicates significance at 5%.

Table 5.4 reports the results of the correlation coefficients between the measures of life satisfaction, happiness, GDP per capita, the change in GDP per capita, the inflation rate and the unemployment rate. The unemployment rate is negatively correlated with life satisfaction and happiness and inflation is negatively correlated only with happiness, not life satisfaction. The majority of the correlations were found to be weak, with positive as well as negative correlations being found.

5.3 Empirical Model Specification

The hypothesis to be tested in this chapter is whether macroeconomic fluctuation affects respondents' level of happiness or satisfaction and the size of this effect. When testing the GDP level or the GDP change in a country and how it affects the subjective happiness of the people living in those countries two things are considered. The first is the relative income hypothesis versus the absolute income hypothesis and the second is adaptation theory (as explained in

details in chapter 2). In regards to the relative income hypothesis, people might care less about their absolute level of income than how it fits compared to others. For that reason a regression in the model is estimated that controls for the income category to which respondents belong to in addition to the average income per capita in the country they live in.

With regard to the adaptation theory, Easterlin (1974) pointed out that happiness data are un-trended over time. That could be explained in many ways. People might adapt to the new level of GDP and raise their aspirations, so that they remain at the same level of happiness no matter how much GDP has increased. Or it might be that GDP buys extra happiness for people but other factors have been worsened and that is what offsets the benefits from extra real income. Therefore, as explained in the methodology chapter, this model will test the effect using fixed effect approach with country dummies and also different lengths of lag in the GDP variable. Another model would estimate the difference in happiness or satisfaction levels between unemployed and employed people, and also the difference in the effect of GDP, the unemployment rate and the inflation rate between these two groups. This can be achieved by performing separate analysis for these two groups and comparing them, and it will give us a better idea of the real cost of unemployment. This chapter will estimate four models in total but with some extensions on each model.

These models are all based upon the dependent and independent variables outlined in chapter 4. As noted in section 4.2; these variables are numerous and can be assessed through the differing data sets to create robust conclusions. The models used for assessing these manifold variables are outlined here below.

1. The first model as in table 5.6a evaluates the effect of GDP per capita along with the other macroeconomic variables (the unemployment rate and Inflation) on happiness and satisfaction separately at the individual level from 2000 till 2013 using wave 4, 5 and 6 from the WVS.

2. The second model also in table 5.6a will estimate only GDP per capita and the change in the GDP level on happiness and satisfaction levels for the same individuals. The first two models

will be extended as in table 5.6b and 5.6c by adding country fixed effect on both and excluding the personal characteristics as in table 5.6c.

3. The third model as in table 5.7a will estimate the effect of GDP per capita, the unemployment rate and the inflation rate on the life satisfaction only of the full time employed people and then test the effect of the same above mentioned variables on the life satisfaction of the unemployed people.

4. The fourth model in table 5.7a as well takes the same approach in testing the effect on the employed and unemployed people but replaces the GDP per capita with the change in GDP per capita. The extension in table 5.7b will be in adding country fixed effects to the model.

As mentioned in chapter 4, the empirical model of life satisfaction and happiness could be represented for each variable by:

$$\Pr(y_{jict} \angle j) = \phi(\alpha_j - \gamma \times GDP_{ct} - \lambda \times Infl_{ct} - \delta \times Unemp_{ct} - \sum_k \beta_k \times Personal_{kict} - \varepsilon_c)$$

Wherej indicates the happiness or life-satisfaction level, i indicates the individual, c indicates the country and t indicates the year. Then for a given country c, and year t, $odds_{jict}$ is the odds of a happiness or life-satisfaction level of at most j for individual i, GDP_{ct}, $Infl_{ct}$, and $Unemp_{ct}$ are the gross domestic product per capita, the inflation rate and the unemployment rate, and ε_c is the fixed country effect. $Personal_{kict}$ is the k^{th} personal characteristic of the i^{th} respondent in country c and year t, this includes income category–(low, medium or high), gender, marital status, education level, employment status, age, age^2 , and number of children.

For all the regressions as in tables 5.5, 5.6 and 5.7 the reference category for personal employment status is 'full time employed', for income category it is 'low', for marital status it is 'married', and for country it is 'Algeria'. Taking the above reference categories the table below includes the predicted sign and magnitude of each coefficient used in the model. I predict that the effect of being unemployed on individual's happiness or satisfaction level is large and negative and also larger than the effect of inflation as being found in many literatures such as Clark and Oswald (1994 and 1996), Winkelmann and Winkelmann (1998) and Stanca (2008).

On the other hand, being on the highest income group or being married is expected to affect happiness largely and positively as being found in Di Tella et al (2003) and Clark, and Oswald (1996) to name only a few. Education is expected to affect happiness significantly and positively as in Clark, and Oswald (1996). Being female is expected to affect happiness positively as in Clark, and Oswald (1996) and many others. Age is expected to be u-shaped around the age of 40 as in Clark, Oswald (1996).

Table 5.5 predicted signs of the variables in the Model

Independent variables	Predicted sign
Unemployed	- significant
Self-employed	+
Retired	+
Home	-
Student	+
Male	- significant
Age	-
Age squared	+
Income quartile	
Medium	+
High	+
Education to age	
Primary education	-
University level	+ significant
Marital Status	
Single	- significant
Divorced	- significant
Separated	-
Widowed	-

Number Of Children	
One	+
Two	+
>= Three	+
Country	
Egypt	-
Iraq	-
Iran	-
Jordan	-
Kuwait	+ significant
Lebanon	-
Libya	+
Morocco	+
Palestine	-
Qatar	+ significant
Saudi	+ significant
Tunisia	-
Yemen	- significant

5.4 Empirical Results

Having discussed the predicted sign and coefficient of each variable the results of the personal characteristics of the model will be presented below in table 5.5.

Table 5.5: Life Satisfaction (2000-2013), Wave 4,5 and 6

	(1)	(2)
	Happiness level	Life satisfaction
Divorced	-0.406***	-0.205***
	(0.0469)	(0.0432)
Living together as married	0.0978	-0.0292
	(0.108)	(0.0977)
Separated	-0.480***	-0.293***
	(0.0771)	(0.0709)

Single	-0.164***	-0.122***
	(0.0198)	(0.0180)
Widowed	-0.233***	-0.0938***
	(0.0302)	(0.0279)
Housewife	-0.0383*	0.0238
	(0.0214)	(0.0195)
Other	-0.00175	-0.0138
	(0.0522)	(0.0476)
Part time	-0.0970***	0.00369
	(0.0239)	(0.0219)
Retired	-0.0354	-0.0348
	(0.0331)	(0.0303)
Self employed	-0.101***	-0.0276
	(0.0215)	(0.0197)
Students	0.00701	0.0923***
	(0.0280)	(0.0254)
Unemployed	-0.220***	-0.169***
	(0.0243)	(0.0223)
Female	0.0925***	0.0790***
	(0.0160)	(0.0146)
age	-0.0328***	-0.0184***
	(0.00274)	(0.00251)
age2	0.000313***	0.000195***
	(0.0000302)	(0.0000277)
Complete primary school	0.0538**	0.0169
	(0.0236)	(0.0217)
Complete secondary school: technical/ vocational	0.0700***	0.0380*
	(0.0249)	(0.0229)
Complete secondary school: university-preparatory	0.0671***	0.0477**
	(0.0251)	(0.0230)
Incomplete primary school	0.0509**	0.0423*
	(0.0245)	(0.0225)
Incomplete secondary school: technical/ vocational type	0.0326	0.0368
	(0.0310)	(0.0284)
Incomplete secondary school: university-preparatory	0.0124	0.0392
	(0.0290)	(0.0266)
Some university-level education, without degree	0.0457	0.0490*
	(0.0299)	(0.0273)
University - level education, with degree	0.0391	0.123***
	(0.0252)	(0.0231)
num_children	0.0238***	0.00533*
	(0.00352)	(0.00322)
Income category 2	0.218***	0.305***
	(0.0141)	(0.0130)
Income category 3	0.480***	0.560***
	(0.0175)	(0.0160)

Egypt	-0.316***	-0.267***
	(0.0280)	(0.0255)
Iraq	-0.590***	-0.443***
	(0.0283)	(0.0257)
Iran	-0.175***	0.0560**
	(0.0293)	(0.0266)
Jordan	-0.0598*	-0.0189
	(0.0333)	(0.0303)
Kuwait	0.547***	0.351***
	(0.0430)	(0.0388)
Lebanon	-0.124***	0.0308
	(0.0405)	(0.0370)
Libya	0.351***	0.433***
	(0.0352)	(0.0321)
Morocco	0.0124	-0.162***
	(0.0326)	(0.0297)
Palestine	-0.335***	-0.264***
	(0.0428)	(0.0393)
Qatar	0.830***	0.621***
	(0.0452)	(0.0398)
Saudi	0.533***	0.407***
	(0.0391)	(0.0352)
Tunisia	-0.0642	-0.211***
	(0.0407)	(0.0373)
Yemen	-0.123***	-0.00654
	(0.0435)	(0.0402)
cut1		
Constant	-2.264***	-1.744***
	(0.0699)	(0.0637)
cut2		
Constant	-1.404***	-1.314***
	(0.0692)	(0.0634)
cut3		
Constant	0.309***	-1.050***
	(0.0690)	(0.0633)
cut4		
Constant		-0.802***
		(0.0632)
cut5		
Constant		-0.303***
		(0.0632)
cut6		
Constant		0.0125
		(0.0632)
cut7		

Constant		0.370***
		(0.0632)
cut8		
Constant		0.742***
		(0.0632)
cut9		
Constant		1.183***
		(0.0634)
Observations	35766	36022
Pseudo R^2	0.063	0.031

Standard errors in parentheses $^{*}p<0.1$, $^{**}p<0.05$, $^{***}p<0.01$

There are a number of diagnostic points evidenced from the results displayed in table 5.5 above that require explanation. The coefficient Pseudo R^2 as evidenced above are low.This evidences the impact of noise within the results. Attempts to draw robust conclusions and show clear relationships from within a wide data set such as this is limited, since the sample size and complexity of the data makes clear correlations difficult. There are several possible explanations such as: the diversity of the set of countries included, the different geographical locations, the income variation or the age variation in the sample. Indeed, while base-level demographic data is useful in helping categorize respondents, it provides only a basic quantitative understanding of the impact that specific variables have upon happiness. The inferred nature of these conclusions are borne out in the low R^2 results. This does not invalidate the research, however, but demonstrates further the extent to which the researcher has conducted a fair and detailed sample of research. The broad conclusions evidenced from Table 5.5 are just that: top-line examples of the impact of income on happiness levels within MENA nations.

Table 5.5, then, measures micro-econometric life satisfaction equations in MENA countries using wave 4, 5 and 6. The equation includes a dummy for the country where the respondent lives. It reports the results of an ordered probit regression focusing on life satisfaction and including the following measures as predictors: employment status, gender, age, income category, education to age category, marital status, number of children, and country. The results of this analysis showed all predictors emerging with coefficients with the correct sign and also statistically significant as predicted in the model specification section of this chapter. With the exception of the happiness and satisfaction of the retired and the self-employed people.

In the majority of the economics of happiness literature happiness or life satisfaction increases when people are retired and that is consistent with the age u-shaped (after a certain age, when people get older they become happier) results in almost all the literature however, the results here were on the opposite direction as in the Switzerland sample of Frey and Stutzer (2000). And the number of children was also found to be not consistence with the prediction in the previous section however; it is in corroborative with Angeles (2009). This overall regression model was found to achieve statistical significance with low, but relevant pseudo-R^2 of 0.063 and 0.031 being found

With the full time employed being the reference group, unemployed individuals are significantly less satisfied and less happy than full time employed. Females, are significantly more satisfied and happier than the reference group males. The coefficient of age is significantly negative while the coefficient of age^2 is significantly positive. This indicates a quadratic effect – for low values of age, extra years decrease life satisfaction, and for high values of age extra years increase life satisfaction. The minimum point is at around the age of 45, as can be seen in figure 3 below. People in the medium and higher income group are more satisfied than people who belong to the low income group. Highly educated people are the most satisfied. Single, divorced and widowed people are significantly less satisfied and less happy than the married people which are the reference group. All the countries are less happy and satisfied than the reference group Algeria except of the GCC countries in the sample (Kuwait, Qatar and Saudi Arabia) which could be explained by the gap in GDP per capita between these countries and Algeria. These robust significant correlations show that happiness data are reliable and can be used in economics.

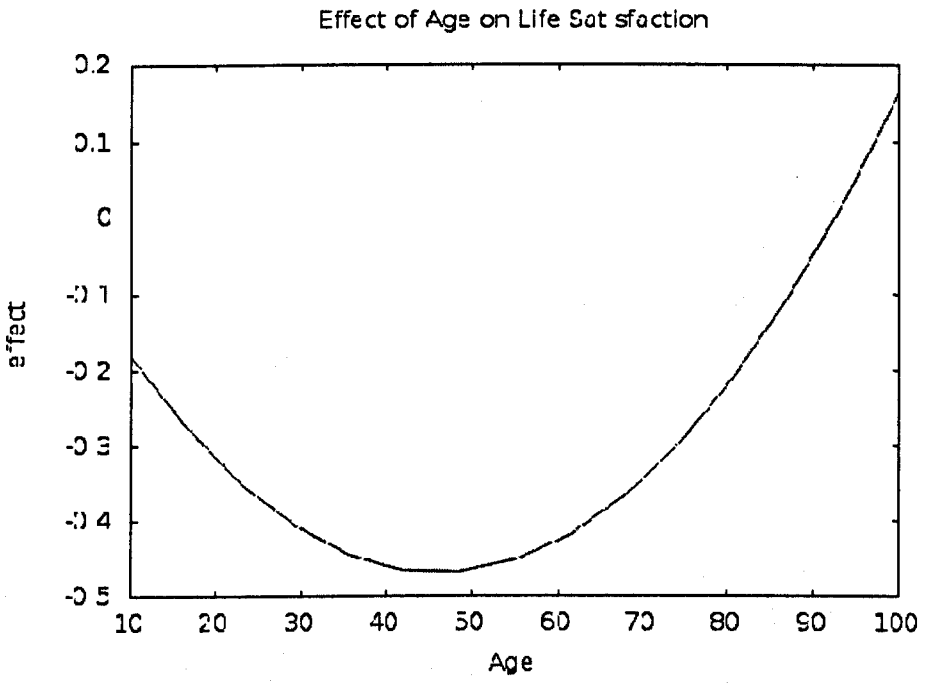

Figure (3): Effect of Age on life satisfaction

Table 5.6 a: Happiness, satisfaction and Macroeconomic Variables

	(1) Happiness level with unemployment & inflation	(2) Happiness level with diff(GDP)	(3) Life satisfaction with unemployment & inflation	(4) Life satisfaction with diff(GDP)
gdppc2	0.00764*** (0.000363)	0.0126*** (0.000448)	0.00589*** (0.000319)	0.0102*** (0.000401)
gdppcdiff2		-0.0719*** (0.00759)		-0.0588*** (0.00702)
unemployment	-0.0176*** (0.00117)		-0.0154*** (0.00108)	
Inflation	-0.0137*** (0.000860)		0.000520 (0.000783)	
Age	-0.0319*** (0.00297)	-0.0279*** (0.00292)	-0.0180*** (0.00273)	-0.0176*** (0.00268)
age2	0.000298*** (0.0000329)	0.000255*** (0.0000322)	0.000192*** (0.0000302)	0.000186*** (0.0000296)
Divorced	-0.356*** (0.0532)	-0.315*** (0.0525)	-0.116** (0.0492)	-0.132*** (0.0485)
Living together as married	0.294*** (0.111)	0.237** (0.111)	0.191* (0.101)	0.201** (0.101)
Separated	-0.500*** (0.0912)	-0.486*** (0.0902)	-0.260*** (0.0840)	-0.263*** (0.0832)
Single	-0.103***	-0.0904***	-0.0673***	-0.0849***

	(0.0215)	(0.0210)	(0.0196)	(0.0192)
Widowed	-0.253***	-0.245***	-0.110***	-0.0997***
	(0.0323)	(0.0319)	(0.0299)	(0.0295)
Housewife	-0.112***	-0.174***	-0.0290	-0.0391*
	(0.0226)	(0.0220)	(0.0206)	(0.0201)
Other	0.0552	-0.0294	0.00938	0.0208
	(0.0545)	(0.0537)	(0.0497)	(0.0491)
Part time	-0.0929***	-0.136***	-0.00968	-0.0273
	(0.0274)	(0.0269)	(0.0251)	(0.0247)
Retired	-0.0482	-0.0563	-0.0491	-0.0567*
	(0.0374)	(0.0368)	(0.0343)	(0.0338)
Self employed	-0.0766***	-0.102***	-0.0215	-0.0320
	(0.0229)	(0.0225)	(0.0210)	(0.0207)
Student	0.0122	-0.00431	0.0891***	0.0831***
	(0.0306)	(0.0300)	(0.0278)	(0.0273)
Unemployed	-0.215***	-0.268***	-0.141***	-0.162***
	(0.0259)	(0.0254)	(0.0239)	(0.0234)
Female	0.118***	0.143***	0.0862***	0.0859***
	(0.0174)	(0.0171)	(0.0158)	(0.0156)
Complete primary school	0.0416*	-0.0410*	0.0462**	0.0212
	(0.0240)	(0.0236)	(0.0221)	(0.0217)
Complete secondary school: technical/ vocational	0.0431*	0.0000548	0.0545**	0.0472**
	(0.0251)	(0.0248)	(0.0231)	(0.0228)
Complete secondary school: university-preparatory	0.157***	0.0679***	0.168***	0.141***
	(0.0255)	(0.0248)	(0.0233)	(0.0227)
Incomplete primary school	0.0524**	-0.00291	0.0355	0.0152
	(0.0259)	(0.0255)	(0.0238)	(0.0235)
Incomplete secondary school: technical/ vocational	0.0223	-0.0764**	0.0534*	0.0144
	(0.0338)	(0.0327)	(0.0310)	(0.0300)
Incomplete secondary school: university-preparatory	0.0530*	-0.0549*	0.121***	0.0684**
	(0.0304)	(0.0295)	(0.0279)	(0.0271)
Some university-level education, without degree	0.0334	-0.0556*	0.104***	0.0641**
	(0.0321)	(0.0308)	(0.0293)	(0.0282)
University - level education, with degree	0.0654**	-0.0362	0.182***	0.153***
	(0.0259)	(0.0250)	(0.0237)	(0.0229)
num_children	0.0316***	0.0247***	0.00757**	0.00200
	(0.00386)	(0.00376)	(0.00354)	(0.00345)
Income category 2	0.160***	0.160***	0.269***	0.281***
	(0.0152)	(0.0148)	(0.0140)	(0.0137)
Income category 3	0.419***	0.460***	0.523***	0.544***
	(0.0191)	(0.0187)	(0.0175)	(0.0172)
Observations	29567	30552	29843	30827
Pseudo R^2	0.048	0.040	0.022	0.021

Standard errors in parentheses
*$p<0.1$, **$p<0.05$, ***$p<0.01$
Note: WVS, wave 4,5,6 from 2000 -2013

Table (5.6 a) reports the first two models mentioned in the empirical model section. It shows the

results of four ordered probit regressions focusing on life satisfaction and happiness as the outcome measures. This table uses all the waves from WVS which is between 2001 and 2013. It includes Algeria, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Palestine, Qatar, Saudi Arabia, Tunisia and Yemen.

1. The first regression tests the happiness level with all the macroeconomic variables (GDP per capita, the unemployment rate and the inflation rate).

2. The second regression tests the happiness level with only GDP per capita and the change in GDP per capita (which is the difference between the current year and the previous one).

3. The third regression tests the life satisfaction level with all the macroeconomic variables.

4. The fourth regression only tests the life satisfaction level with GDP per capita and GDP per capita change.

These four regressions in model 1 and 2 are tested without country fixed effects. The findings of this table are: the unemployment rate and the inflation rate affect the individual's happiness level negatively and significantly; happiness at the individual level is significantly and positively correlated with GDP per capita but negatively and significantly correlated with change in GDP per capita. Which indicates that people become happier when the GDP per capita in their country is raised and they become less happy when the unemployment and the inflation rates increase or when the level of the GDP rate changes. In the next two regressions that test for a different kind of question from the WVS, life satisfaction is positively and significantly correlated with GDP per capita and negatively and significantly correlated with the unemployment rate and as in the happiness model the life satisfaction is negatively correlated with change in GDP per capita. The only different here between the happiness regressions and the life satisfaction regressions is the inflation rate. In life satisfaction there is no negative effect on people's satisfaction with any increased level of inflation.

Using the same reference group as in table 5.5 unemployed, part time employed and self-employed are significantly less happy than the full time employed. And the students are more satisfied but not happier than the full time employed. Also, individuals in the sample become more satisfied and happy when they are more educated, have more children and are in the top income category.

These results endorse the view that governments should focus on the unemployment problem by creating more jobs instead of focusing on economic development alone in the form of raising GDP: GDP doesn't reflect the real situation of the people in terms of the inequality of incomes, the inequality of opportunities or the well-being of the citizens. Compensating unemployed individuals with benefits wouldn't be beneficial either because as tested above the loss of income to the unemployed individuals is part of their dis-satisfaction or their unhappiness but not the only reason.

Table 5.6 b: Happiness, satisfaction and macroeconomic variables (with country fixed effects)

	(1)	(2)	(3)	(4)
	Happiness level with unemployment & inflation	Happiness level with diff(GDP)	Life satisfaction with unemployment & inflation	Life satisfaction with diff(GDP)
gdppc2	-0.106***	-0.0421***	0.0339***	0.0425***
	(0.00627)	(0.00537)	(0.00571)	(0.00490)
gdppcdiff2		0.113***		0.107***
		(0.0112)		(0.0103)
unemployment	-0.0211***		0.00289	
	(0.00211)		(0.00194)	
inflation	-0.0311***		-0.00526***	
	(0.00197)		(0.00180)	
age	-0.0297***	-0.0303***	-0.0183***	-0.0183***
	(0.00300)	(0.00296)	(0.00274)	(0.00270)
age2	0.000284***	0.000284***	0.000194***	0.000191***
	(0.0000331)	(0.0000326)	(0.0000303)	(0.0000298)
Divorce	-0.428***	-0.404***	-0.155***	-0.162***
	(0.0535)	(0.0529)	(0.0493)	(0.0487)
Living together	0.194*	0.166	-0.0220	-0.0356
	(0.112)	(0.112)	(0.102)	(0.102)
separated	-0.519***	-0.529***	-0.291***	-0.297***
	(0.0916)	(0.0907)	(0.0841)	(0.0833)
single	-0.175***	-0.167***	-0.115***	-0.116***
	(0.0218)	(0.0215)	(0.0198)	(0.0196)
widow	-0.196***	-0.210***	-0.0738**	-0.0692**
	(0.0326)	(0.0321)	(0.0300)	(0.0296)
housewife	-0.0211	-0.0404*	-0.00726	-0.0126
	(0.0235)	(0.0231)	(0.0214)	(0.0211)
other	0.00682	-0.00929	0.00329	0.00536

	(0.0547)	(0.0543)	(0.0498)	(0.0495)
Part-time	-0.111***	-0.108***	-0.0427*	-0.0339
	(0.0276)	(0.0272)	(0.0253)	(0.0249)
Retired	-0.0259	-0.0158	-0.0561	-0.0595*
	(0.0376)	(0.0370)	(0.0344)	(0.0339)
Self-employed	-0.119***	-0.101***	-0.0596***	-0.0507**
	(0.0234)	(0.0230)	(0.0214)	(0.0210)
Student	0.0263	0.0388	0.0765***	0.0837***
	(0.0309)	(0.0304)	(0.0280)	(0.0275)
Unemployed	-0.212***	-0.208***	-0.164***	-0.172***
	(0.0264)	(0.0259)	(0.0242)	(0.0238)
Female	0.0952***	0.0904***	0.0684***	0.0670***
	(0.0177)	(0.0174)	(0.0161)	(0.0159)
Complete primary school	0.0423*	0.0487*	0.00994	0.0142
	(0.0252)	(0.0250)	(0.0231)	(0.0229)
Complete-secondary school:technical/ vocational	0.0926***	0.0740***	0.0357	0.0345
	(0.0268)	(0.0266)	(0.0245)	(0.0243)
Complete-secondary school:university-preparatory	0.0850***	0.0677**	0.0438*	0.0447*
	(0.0272)	(0.0268)	(0.0248)	(0.0245)
Incomplete primary school	0.0475*	0.0540**	0.0248	0.0215
	(0.0265)	(0.0263)	(0.0243)	(0.0241)
Incomplete-secondary school:technical/ vocational	0.0282	0.0389	0.0176	0.0250
	(0.0348)	(0.0340)	(0.0318)	(0.0311)
Incomplete-secondary school:university-preparatory	0.0106	0.00472	0.0438	0.0368
	(0.0315)	(0.0310)	(0.0288)	(0.0284)
Some university-level education, without degree	0.0442	0.0556*	0.0529*	0.0561*
	(0.0338)	(0.0329)	(0.0308)	(0.0300)
University - level education, with degree	0.0688**	0.0426	0.111***	0.111***
	(0.0275)	(0.0271)	(0.0251)	(0.0248)
num_children	0.0208***	0.0214***	0.00455	0.00423
	(0.00394)	(0.00387)	(0.00359)	(0.00353)
Incomecat_2	0.178***	0.210***	0.299***	0.306***
	(0.0154)	(0.0151)	(0.0142)	(0.0139)
Incomecat_3	0.384***	0.468***	0.535***	0.559***
	(0.0195)	(0.0190)	(0.0178)	(0.0173)
Egypt	-0.579***	-0.417***	-0.132***	-0.161***
	(0.0409)	(0.0313)	(0.0374)	(0.0285)
Iraq	-0.145***	-0.778***	-0.368***	-0.593***
	(0.0379)	(0.0334)	(0.0346)	(0.0304)

Iran	0.482***	-0.169***	0.152***	-0.0307
	(0.0542)	(0.0306)	(0.0494)	(0.0276)
Jordan	-0.597***	-0.256***	-0.0152	0.0278
	(0.0487)	(0.0455)	(0.0444)	(0.0415)
Kuwait	0	0	0	0
	(.)	(.)	(.)	(.)
Lebanon	0.163***	0.112**	-0.0982**	-0.148***
	(0.0492)	(0.0480)	(0.0448)	(0.0437)
Libya	0	0	0	0
	(.)	(.)	(.)	(.)
Morocco	-0.782***	-0.232***	0.0665	0.101**
	(0.0578)	(0.0465)	(0.0527)	(0.0424)
Palestine	0	-0.571***	0	0.116**
	(.)	(0.0596)	(.)	(0.0544)
Qatar	12.95***	5.126***	-3.196***	-4.829***
	(0.712)	(0.635)	(0.648)	(0.579)
Saudi	2.928***	1.441***	-0.342***	-0.702***
	(0.146)	(0.136)	(0.133)	(0.124)
Tunisia	-0.153***	-0.0941**	-0.144***	-0.155***
	(0.0436)	(0.0413)	(0.0398)	(0.0378)
Yemen	0	0	0	0
	(.)	(.)	(.)	(.)
Observations	29567	30552	29843	30827
Pseudo R^2	0.064	0.060	0.028	0.028

Standard errors in parentheses

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

In table (5.6b) the same analysis of the four ordered probit regressions in table (5.6 a) are repeated as an extension of the first two models mentioned in the empirical model section, this time with country fixed effects converting each country into a dummy. As seen from table 5.6b adding country dummies affected the happiness of the people negatively. On other words, after taking the countries of the respondents into consideration, the happiness of the people decrease with any increase in GDP per capita level. Also the unemployment rate becomes less effective in people's life satisfaction but not happiness. And the change in GDP level that had a negative effect on both happiness and life satisfaction before adding the country dummies turned into a positive effect after adding the country fixed effects.

Note that the inflation rate that was not significant before adding the country dummies became

significant and negative on both happiness and life satisfaction levels in the presence of country fixed effects. This could be due to the differences between countries in unemployment benefits or the level of weakness of the currency in every country. In other words, adding the country dummies made the inflation more important than the unemployment rate and showed that on average people get happier when the GDP raises therefore richer countries have happier citizens but adding the country fixed effects made the variations between happiness appear when comparing different countries.

From table 5.6a the happiness of Qatar and Saudi Arabia is positively and significantly related to the happiness of the reference group Algeria and negatively and significantly related in the life satisfaction question. The GDP per capita levels in Qatar and Saudi are very high compared to the other countries and the coefficients of GDP per capita is positive in the life satisfaction model. This means that if we ignored the country fixed effect coefficients (without changing the other coefficients), the predicted life satisfaction levels for Qatar and Saudi would be much larger than other countries on average. However, since the country fixed effect coefficient for Qatar is negative, this brings the predicted values back down to more realistic values. Similarly in the happiness models the GDP per capita coefficient is negative, this has the effect of decreasing the predicted happiness levels of Qatar compared with other countries, and so the country fixed effect for Qatar is positive to bring the predicted values up to more realistic values.

Table 5.6 c: Happiness, satisfaction and macroeconomic variables (with country fixed effects and without personal characteristics)

	(1)	(2)	(3)	(4)
	Happiness level (no personal characteristics)	Happiness level (no personal characteristics)	Life satisfaction (no personal characteristics)	Life satisfaction (no personal characteristics)
GDP per capita	-0.0801***	-0.0277***	0.0425***	0.0511***
	(0.00573)	(0.00490)	(0.00525)	(0.00450)
Change in GDP		0.116***		0.0993***
		(0.0108)		(0.00998)
unemployment	-0.0203***		0.000297	
	(0.00204)		(0.00188)	
inflation	-0.0290***		-0.00557***	

	(0.00184)		(0.00168)	
Egypt	-0.444***	-0.313***	-0.0544	-0.0664**
	(0.0387)	(0.0286)	(0.0355)	(0.0261)
Iraq	-0.103***	-0.714***	-0.289***	-0.514***
	(0.0360)	(0.0315)	(0.0329)	(0.0289)
Iran	0.488***	-0.103***	0.242***	0.0761***
	(0.0510)	(0.0285)	(0.0467)	(0.0259)
Jordan	-0.139***	0.0293	0.304***	0.309***
	(0.0377)	(0.0345)	(0.0346)	(0.0317)
Kuwait	0	0	0	0
	(.)	(.)	(.)	(.)
Lebanon	0.133***	0.151***	-0.0175	-0.0334
	(0.0472)	(0.0459)	(0.0432)	(0.0420)
Libya	0	0	0	0
	(.)	(.)	(.)	(.)
Morocco	-0.600***	-0.112***	0.161***	0.218***
	(0.0532)	(0.0415)	(0.0488)	(0.0381)
Palestine	0	-0.370***	0	0.287***
	(.)	(0.0558)	(.)	(0.0512)
Qatar	10.14***	3.647***	-4.006***	-5.547***
	(0.648)	(0.578)	(0.593)	(0.530)
Saudi	2.443***	1.224***	-0.461***	-0.780***
	(0.133)	(0.125)	(0.122)	(0.114)
Tunisia	-0.131***	-0.0711*	-0.0877**	-0.0893**
	(0.0420)	(0.0395)	(0.0387)	(0.0364)
Yemen	0	0	0	0
	(.)	(.)	(.)	(.)
Observations	32044	33040	32341	33336
Pseudo R^2	0.045	0.040	0.017	0.017

Standard errors in parentheses

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

Table 5.6c shows the same two models and four regressions as in 5.6a and 5.6b but this time with country fixed effects and without personal characteristics. As it is shown there are no much

changes in the result which indicate that the coefficients are fairly robust. In other words, holding the personal characteristics of the people answering the life satisfaction and the happiness questions constant and adding country dummies that relate the respondents to the country they live in without taking their personal characteristics into consideration. These robust results that did not change much shows that macroeconomics variables matter to people regardless of their age, gender, employment status or their marital status.

Table 5.7 a: Life Satisfaction of the Employed and Unemployed and the Well-being Gap

Independent Variable	Employed (1)	Unemployed (2)	Gap (3)	Employed (4)	Unemployed (5)	Gap (6)
GDP per capita	0.0056*** (0.0005)	0.0072*** (0.0011)	0.0054*** (0.0003)			
Δ GDP per capita				0.0969*** (0.0091)	0.1180*** (0.0185)	0.0828*** (0.0057)
Unemployment Rate	-0.0143*** (0.0022)	-0.0130*** (0.0037)	-0.0141*** (0.0011)	-0.0251*** (0.0018)	-0.0276*** (0.00338)	-0.0249*** (0.0010)
Inflation Rate	-0.0009 (0.0016)	0.0071*** (0.0025)	-0.0012 (0.0008)	-0.0026 (0.0017)	0.0040 (0.0026)	-0.0023*** (0.0008)
Pseudo-R2	0.026	0.029	0.020	0.025	0.028	0.020
Number of observations	7071	2288	26349	7071	2288	26349

Note: *<0.05, **<0.01, ***<0.001

To check if the observed effects of macro-economic variables on life-satisfaction are significantly different for unemployed than employed people, two further models were estimated and conducted separately for fully employed and unemployed respondents. Model three as explained in the empirical model section included the GDP per capita, the unemployment rate, the inflation rate and personal characteristics as predictors. The fourth model included the change in GDP per capita, the unemployment rate, the inflation rate and personal characteristics as predictors. Both models included interaction terms between the macro-economic variables and a dummy variable indicating if the respondent was unemployed or not which is the gap. In the first regressions interactions with GDP per capita, unemployment rate, and inflation were included, and in the other regressions change in GDP were used instead of per-capita GDP along with the other macroeconomic variables. The gap indicated the extra effect of GDP per capita, the unemployment rate or the inflation rate on the unemployed people compared to the employed.

However, in this sample in the employed column only the full-time employed were included and when calculating the gap part-time and self-employed were included with the full-time employed. And that's why the coefficients do not equal the differences between the coefficients of the employed and the unemployed in the model. The interaction of the unemployed dummy and the unemployment rate was significantly negative for both regressions, which indicates that higher rates of unemployment have a significantly negative effect on both unemployed and employed people. Of the other interaction variables, only GDP difference (in model 4) was significant and positive. This indicates that changes in GDP have more of an effect on the life-satisfaction of unemployed people than employed people. This analysis is repeated with country fixed effects when countries are added as dummy variables as in table 5.7b.

Table 5.7 b: Life Satisfaction of the Employed and Unemployed and the Well-being Gap (with country fixed effects)

Independent Variable	Employed (1)	Unemployed (2)	Gap (3)	Employed (4)	Unemployed (5)	Gap (6)
GDP per capita	0.0548***	0.0292	0.0000293			
	(0.0120)	(0.0192)	(0.0000864)			
Δ GDP per capita				0.208***	0.181***	0.0526***
				(0.0313)	(0.0457)	(0.0179)
Unemployment Rate	0.00579	0.00688	-0.0135***	-0.0251***	-0.0176**	-0.0156***
	(0.00434)	(0.00630)	(0.00202)	(0.00479)	(0.00741)	(0.00212)
Inflation Rate	-0.0104***	-0.0113*	0.00264	-0.0128***	-0.0129**	0.000412
	(0.00344)	(0.00664)	(0.00229)	(0.00347)	(0.00629)	(0.00228)
Egypt	0.0736	0.110	-0.113***	-0.354***	-0.154	-0.499***
	(0.0842)	(0.121)	(0.0369)	(0.0724)	(0.105)	(0.0330)
Iraq	-0.242***	-0.145	-0.429***	-0.483***	-0.332***	-0.651***
	(0.0705)	(0.116)	(0.0341)	(0.0804)	(0.126)	(0.0371)
Iran	0.313***	0.450***	0.0143	(0.103)	0.301*	-0.167***
	(0.101)	(0.169)	(0.0481)	0.120	(0.170)	(0.0496)
Jordan	0.0382	-0.00362	0.300***	-0.255***	-0.149	0.0300
	(0.0907)	(0.125)	(0.0355)	(0.0753)	(0.0945)	(0.0316)
Kuwait	-	-	-	-	-	-
Lebanon	-0.0867	-0.0123	-0.174***	-0.147	-0.0838	-0.260***
	(0.0900)	(0.152)	(0.0440)	(0.0897)	(0.147)	(0.0434)
Libya	-	-	-	-	-	-

Morocco	0.266**	-0.0999	0.161***	-0.306***	-0.435***	-0.381***
	(0.111)	(0.193)	(0.0512)	(0.0688)	(0.126)	(0.0330)
Palestine	-	-	-	-	-	-
Qatar	-5.460***	-2.233	-5.085***	-0.737***	-0.180	-1.069***
	(1.349)	(2.185)	(0.611)	(0.235)	(0.365)	(0.107)
Saudi	-0.718***	0.0135	-0.741***	0.00472	0.273	-0.163***
	(0.270)	(0.457)	(0.125)	(0.107)	(0.185)	(0.0513)
Tunisia	0.0767	-0.0243	-0.142***	-0.114	-0.123	-0.309***
	(0.0862)	(0.109)	(0.0397)	(0.0840)	(0.107)	(0.0390)
Yemen	-	-	-	-	-	-
Pseudo-R^2	0.029	0.029	0.027	0.30	0.31	0.028
Number of observations	8137	2762	31341	8137	2762	31341

Standard errors in parentheses

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

Table 5.7b represents the extension of model 3 and 4 mentioned in the empirical model section by adding country dummies to the analysis. This extension made the unemployment rate less effective or not at all to the life satisfaction of the employed and unemployed people. The correlation between the unemployment rate and both (employed and unemployed people) was anomalously positive, although not significant. A possible explanation is that adding country dummies allowed the unemployment effect to vary between countries depending on the unemployment benefits in a country or how high the unemployment rate in a particular country is could affect people differently. Therefore, if the unemployment is high unemployed people become more satisfied with their situation than when the unemployment rate is low as been scientifically proved in Clark and Oswald (1994) they also added that people might be less effective about being unemployed because they experienced unemployment for a long time and that they adapted to being unemployed. Because people like to compare themselves to each other and when more people are not employed they fell less embarrassed about their situation (these arguments are explained in chapter two section 2.6). However, in the next model that includes three regressions the change in GDP per capita, the unemployment rate and the inflation rate, the effect of unemployment rate becomes negative and significant.

GDP per capita in model 2 was found to be positively and significantly affecting the life satisfaction of the employed but less than without country fixed effects and it affects the life

satisfaction of the unemployed positively but not significantly as before adding the country dummies. In regards of the inflation rate in the third model that includes GDP per capita, the unemployment rate and the inflation rate the effect on the employed is negative and significant and negative but less significant on the unemployed people. So if people are employed they would be bothered by a higher rate of inflation rate more than the unemployed people. The same applies in the fourth model which means that the inflation rate effect both but the employed people show more sensitivity about the inflation rate. They value money more since they worked hard to get it they want it to have value.

In model 4 the change in GDP per capita as before adding country fixed effects the effect on both the employed and unemployed people is the same positive and significant.

The reference category of the countries is Algeria. Comparing Qatar and Saudi Arabia with Algeria resulted in a negative correlation that means Qatari and Saudi employed citizens are significantly less satisfied than Algerian employed citizens. But that could be explained by the big differences of GDP per capita level between these countries. Qatar and Saudi Arabia are oil rich countries and the richest of all the countries in the sample as indicated by their GDP per capita.

To test how accurate our models predictions are in all four models a chi-square test was done. The Pseudo R^2 values are very small and didn't fully explain the variation which means that there are more determinants or causes of happiness that are not captured by these models. It could be determinants that can't be easily measured such as genes and moods.

5.5 Conclusion

This study uses psychological well-being data on thousands of people across fourteen countries in the Middle East and North Africa. The data come in the form of answers to questions such as "How happy are you?" or "How satisfied are you with your life as a whole" as evidenced in the detailed methodology of chapter 4. This was established on the findings of Chapter two's literature review, which evidenced the core research gap for this sort of data drawn from MENA countries. The empirical model of evaluations was an ordered probit model, where equations are estimated prior to the statistical processing of the collated data sets.

After testing a range of specific variables, as detailed in section 4.2, it is concluded from the data evidenced above that macroeconomic variables affect people's well-being in a number of important ways.

People's answers to the happiness and life satisfaction questions are found to be strongly correlated with GDP change, unemployment rate and inflation rate. Also, clear microeconomic patterns are noticed in the psychological well-being levels of thousands randomly sampled individuals from 2000 to 2013 in the selected MENA countries. People are happier and more satisfied in MENA nations when they are married, employed and when they are in the highest income group. Therefore, happiness equations have a similar structure in different countries around the world. Movements in reported well-being are correlated with changes in macroeconomic variables such as GDP, the inflation rate or the unemployment rate. This holds true after controlling for the personal characteristics of the respondents and the country fixed-effects dummies. The model establishes that recessions in the form of unemployment create psychological losses that extend beyond the fall in GDP and the rise in the number of people unemployed. These losses are large and significant.

It is important at this stage, however, to emphasise the limitations of this research and of these wider conclusions. The focus on demographic and employment data is important in terms of initially categorising respondents, however a more detailed research would require more information from the respondent. This is because trends such as unemployment and its impact upon happiness is subject to a lot of circumstantial noise from connected variables. If the model were extended, for example, it could examine the effect of the unemployment benefits on happiness and satisfaction and on the unemployment rate to distinguish between the voluntary and non-voluntary unemployment. That could be done by comparing two countries with different benefit systems between them to add to the validity of the research. However, that couldn't be done because of the limitations in the MENA data. In addition, this type of analysis is not afforded by this model as the research question focused on establishing the existence of the relationship, rather than testing the causation of factors which influence that relationship. This is symptomatic of the fact that this is the first study to have been made into MENA countries, and before such an analysis can take place, the existence of the relationship must be confirmed.
In short, this study does establish that macroeconomic movements have strong effects on the

well-being of people. The unemployment rate effect and the GDP effect are stronger than other variables. It appears that well-being is robustly correlated with the current GDP and the change in GDP. However, this correlation is negative for the change of GDP and positive in the current rate of GDP. It might suggest that short term changes in GDP decrease people's happiness and satisfaction in the short term only because of income inequality, but that higher level of GDP tend to increase peoples happiness and satisfaction in the long term. Furthermore, the nature of that impact upon respondents of different ages and genders can also be established.

Further research could be added to this study to focus on unemployment and income level only by holding the other variables used in this model constant and adding a variable that shows the father income and how it affects the job search process or the satisfaction level of being unemployed with a certain father' income in the house. Also, as what has been established in almost all the literature studying various countries including this research that females are more satisfied and happier than males. However, it was assumed that this sample from MENA would yield more satisfaction or happiness for males compared to females because of the obvious gender inequality issues in the region and the unachievable women's right. Therefore, a further research would go deeper to analyse the reasons between the consistence of female's additional happiness compared to males around the world and specifically in the MENA region.

Chapter 6: The Objective Determinants of Well-being

6.1 Introduction

As explained in the first chapter, there are two approaches to happiness that can be found throughout 21st century economic discourse. The first approach is a *Eudaimonian* orientation, based on the philosophy of Aristotle, which thinks of pleasure or subjective happiness as one component of a wider notion well-being built upon the harmony of many virtues coexisting to create greater objective happiness. The objective approach in that sense could be also defined as the social indicators or objective circumstances of a particular country or region. The second perspective is more subjective: a self-evaluated notion of happiness that is closer to Bentham's utilitarian view of happiness as the pursuit of pleasure and is reduced to utility. This subjective approach relies on people's feelings of their own experiences and choices in life. While these approaches are treated separately in economic literature, as evidenced in Chapter 2, they can be argued to be utilised in tandem to contribute to a more accurate assessment of the term 'quality of life'. In Chapter five the subjective approach was used to analyse the effect of economic fluctuations on the citizen's subjective happiness and satisfaction in the MENA countries. This chapter will take the human development index as a direction in evaluating the objective indicators situation in MENA countries and compare it or supplement it to the subjective happiness approach analysed in the previous chapter. The objective validity of these subjective perspectives has been noted previously, as such this chapter will focus on the objective approach that takes into account the actual circumstances and indicators in some selected MENA countries (based on data availability). It will start by defining a range of objective variables affecting well-being: such as health, education, inequality, poverty, corruption, gender equality, freedom and religion. After analysing the objective circumstances in MENA countries in a descriptive way, a model that compares inequality between people in MENA (measured by Gini index) will be derived. This model builds on Sen's capability approach, and takes into account factors such as life expectancy; and corruption level with the individual's happiness from self-reported surveys. This model will be used to corroborate the validity of the subjective approach in assessing people's well-being. This chapter covers countries in MENA where data are available. The data for this chapter has been gathered from World Bank Development Indicators (WDI) and the

World Bank Development Program, as well as the Human Development Index. Country selection in the MENA region has been dictated by data availability.

6.2 Objective Global Metrics of Well-being Measurement

The objective approach in this chapter describes the situation across the MENA region, taking Human Development Indicators (HDI) as an approach to evaluate the respective well-being of countries. As noted in the previous chapter, a number of MENA countries have missing data in these areas. However, this chapter will try to cover as many countries and years as there is data available. Following the HDI approach, the outlined objective measures are divided into three main social indicators: health (measured by infant mortality and life expectancy); education (measured by years of schooling and literacy rate); and living standards (including GDP per capita, GINI coefficients to measure inequality, corruption, freedom and poverty). The forthcoming sections will discuss all variables in more details. Similar to the HDI survey, the Legatum Institute's Prosperity Index, first published in 2007, covers objective measures of well-being in 142 countries around the world and includes a wide variety of subjective data as well. The index evaluates every country against many indicators related to economy such as entrepreneurship and opportunity; governance; personal freedom; health; education and social capital. It goes beyond GDP as a sole indicator, as it is based on wealth and well-being being assessed together.

The LEGATUM prosperity index (Index, 2012) ranked 14 MENA countries including Israel and Turkey. From the results compiled within this index, it has emerged that the United Arab Emirates (UAE) is the highest ranked of all MENA countries in terms of education, health and personal freedom; while Yemen is the worst. UAE ranked 28 on the universal scale, while Kuwait, Saudi Arabia, Morocco and Jordan ranked 36, 47, 85 and 82 respectively. A number of MENA nations feature further down the scale, with Lebanon, Iran, Egypt, Iraq and Syria ranked 101, 107, 116, 128 and 129 respectively. The relatively low ranking shared between MENA countries comes primarily from the poor results yielded for the personal freedom metric. The GCC countries in MENA ranked better in the health section than other MENA countries because of the relative higher level of GDP per capita.

By contrast, the better life index website (http://www.oecdbetterlifeindex.org) that measures well-being in OECD countries takes into account many objective factors such as housing, income, job, community, education, environment, civic engagement, health, life satisfaction, safety and work-life balance. This index allows citizens to evaluate the importance of each domain by organizing it according to their preferences and look at their level of well-being and compare countries to each other. It is a tool designed to get the citizens to help direct policy makers in deciding which domains are more important, or to identify which individual factor is most directly influencing people's well-being.

There are many objective benefits from increasing happiness in a society. De Neve et al (2013) summarized the objective benefits from this subjective happiness approach categorising important life domains in three parts: health and longevity, income, productivity and organizational behaviour, and individual and social behaviour. De Neve et al (2013) conclude that being subjectively happy improves an individual's health by reducing the risk of heart disease, allows them to recover faster after being sick, and live longer because happy people tend to exercise more and are less likely to become addicted to alcohol or smoking. Furthermore, subjective happiness is associated to greater productivity allowing employees to work harder and reduce absences from work. In the individual and social behaviour category, an increased level of happiness could increase the desire of donation and volunteering as well as engaging more in social activities. Furthermore, some financial acts could be influenced by happiness such as savings. When people are optimistic and planning for the future they increase their savings. Happier unemployed people also have more chances to re-employ faster than less happy people. And that could be argued about when dealing with causation of the unemployment effect and how unemployment and well-being are related as in chapter two section 2.6.

Some of the strengths of the objective approach or the social indicators in a particular country, is that its measures are widely clear and easily quantified which makes it available for comparisons between countries or regions over time and doesn't rely on people's different opinion or perception of life. Therefore, it doesn't include the measurements error usually associated with the subjective self-reported surveys. It could also capture indicators that was neglected or not covered by economic indicators such as human rights or personal freedom. However, these objective indicators could suffer from inaccuracy due to cultural or developmental reasons. In the

case of MENA, some countries would not report all crimes or rape incidents. Some victims may feel a shame of reporting due to cultural constrains specially in the rape incidents. Some might think that reporting a crime wouldn't benefit them and would just waste their time because of the untrusted feeling they have towards their government's authorities. Or it could be the government's choice not to report any crime to maintain the political stability and falsely assure citizens that they are in a safe country. And that was proven in recent years when social medial played a big role in revealing all the hidden crimes and corruption in some MENA countries that governments tried to hide. Another example is the infant mortality, it could not be accurate because people used to give birth in the past at home without applying for birth certificate. So in the case of MENA the numbers in the previous years may be higherthan it is shown.

According to Hall (2013) in the world happiness report, HDI component are related to the subjective answers of people in evaluating their lives. Between 2010 and 2012, the Gallup World Poll Question asked: 'Please imagine a ladder, with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possiblelife for you, and the bottom of the ladder representsthe worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?' The evidences collated suggest that higher life expectancy correlates strongly with the subjective answer of life evaluation asked by the Gallup poll in a coefficient of 0.70. Additionally, the years of schooling and the positive life evaluation have a correlation coefficient of 0.69. In total Hall (2013) found that the correlation between life evaluation and HDI is high valued at 0.77, similar to the correlation between subjective life evaluation and GDP. Therefore, it could be argued that these correlations are driven by income. After controlling for income in the life evaluation and excluding it from the HDI the correlation remained strong (0.67). Therefore asking people randomly to evaluate their happiness or satisfaction is related to their objective circumstances and this chapter will support the previous one in evaluating the quality of life situation in MENA by combining the two approaches.

6.2.1 Health

The World Health Organization defines health as: 'a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity' (1948, p.1). This definition has not been altered by the WHO since its first conception in 1948.To evaluate the state of health in the MENA region two primary indicators are taken into consideration; life expectancy and infant mortality. Life expectancy at birth indicates the number of years a new-born infant would live if prevailing patterns of mortality at the time of its birth were to tay the same throughout its life. In general MENA countries have made considerable progress in the recent decades in this area, as life expectancy has increased in all countries and compared to OECD countries, as evidenced in table 6.1. This presents descriptive statistics for selected MENA countries that demonstrates progress here at 20 year intervals. As evidenced below Bahrain and United Arab Emirates had the highest life expectancy at birth of 75.5 and 75.6 years in 2005; however both countries are far lower than comparable OECD countries. By contrast, life expectancy in Sudan and Yemen are the lowest among the MENA countries. The overall difference between MENA countries is less than five years, which shows the potential for further increases in future life expectancy, especially among the least developed countries in MENA. The infant mortality rate reflects the number of infants dying before reaching one year of age, per 1,000 live births in a given year. Many factors contribute to infant mortality such as the mother's level of education, environmental conditions, and political and medical infrastructure. Improving sanitation, access to clean drinking water, immunization against diseases and other public health measures could help reduce high rates of infant mortality. Infant mortality rate has dropped over the last 60 years in the world due to improvements and availability of health facilities.Mortality rates of MENA countries have also fallen by about two thirds. However, as could be seen from table 6.1 the decline in MENA countries is slower especially in Sudan, Yemen and Iraq. Also compared to OECD countries Bahrain is close by having 9.4 deaths per 1,000 live births compared to 8.8. However, Saudi Arabia is not yet close to the OECD countries with 16.1 deaths while having a higher GDP per capita than the other countries. These are also evidenced below in table 6.1.

Table 6.1: Health in some MENA Countries

Country	Life expectancy in 1965	Life expectancy in 1985	Life expectancy in 2005	Infant mortality in 1965	Infant mortality in 1985	Infant mortality in 2005
Algeria	48.4	64.1	69.8	149.9	57.3	28.8
Bahrain	58.6	71.4	75.5	88.5	21.1	9.4
Egypt	50.5	61.8	69.4	175.2	83.1	25.5
Iraq	53.8	62.1	69.4	102.4	46.8	33
Jordan	56.6	68.3	72.6	82.9	35.6	20.2
Kuwait	63.7	71.2	73.7	72	19.7	10.1
Libya	50.3	66.8	73.6	126.2	46	19.8
Morocco	50.6	61.4	69.1	134.2	77.8	35.2
Oman	46.6	63.9	74.4	199.6	50.3	11
Qatar	65	74.2	77.4	-	23.6	8.9
Saudi Arabia	48.4	66.6	73.9	-	52.2	16.8
Sudan	50.2	54.8	59.9	99.7	84.6	61.4
Syria	55.6	68.3	74.4	96.1	37.5	16.1
Tunisia	45.8	65.9	73.5	155.5	51.8	19.5
Emirates	57.4	70.1	75.6	103.8	19.2	8.4
Yemen	37	55	61.5	250.2	105.2	56.1
OECD	68.5	73.5	78.2	46	20.9	8.8
World	55.8	64.5	69	114.5	68.3	44.2

Source: WB, WDI

6.2.2 Education

When evaluating the impact of education upon notions of happiness within the MENA sample, two principle factors predominate the analysis: mean years of schooling and the literacy rate. The mean years of schooling refers to the average number of years of total schooling taken from a sample of the entire population who are over 15 years old. The data for MENA countries are taken from the Barro-Lee data set. In most MENA countries the adult literacy rate has almost doubled in the last 20 years, reflecting large increases in gross educational enrolments as demonstrated in Table 6.2. This shows that the average number of years of schooling has improved in all MENA countries. Also, according to the statistic of the world development indicators in the World Bank when comparing the adult literacy rate (the percentage of people ages 15 and above who can both read and write with understanding a short simple statement

about their everyday life) of the Arab world population and the OECD countries in 2010, the gap still exist especially in female education. The Arab world marked 77% in the total adult literacy rate and 68.6% in female literacy rate while OECD countries marked 98.3% and 97.8% respectively.The pace of this development is not maintained across the entire sample of MENA countries, however, with the rate of growth markedly slower in Yemen and Sudan. Additionally, female enrolment in education is growing rapidly in the Middle East. This is noted in Appendix B (Table 1) where female enrolment in tertiary education is higher than males, and the gap is increasing year on year across the region, with the exception of Egypt and Morocco. What makes the female enrolment of higher education relatively high especially in the GCC countries is that the oil rich countries invested huge part of their GDP in education and offered many scholarships to young people. Culturally however, men are seen in these countries as the main provider of the family, so they enter the job market straight away after university. Higher education doesn't guarantee a quick high pay and that is suitable for women in GCC countries where they have the luxury to stay student for longer time.

What is presented, therefore, is an uneven playing field between men and women regarding access to education, and the extent to which that education is viewed within the wider cultural employment market. For women it is more important to be educated in order to know their legal rights, to further their fight for equality, and to prepare them to the job market they desire. Also women education affects their fertility and their age in marriage in wider demographic samples. As stated by Moghadam and Roudi-Fahimi (2005) as women receive more education they tend to have smaller and healthier families by taking advantages of the family planning and nutrition information and using reproductive controls to plan their families. This study used data from Egypt, Morocco and Turkey to support their argument.

Table 6.2: Education in Some MENA Countries

Country	Years of schooling in 1980	Years of schooling in 2000	Years of schooling in 2010	Literacy rate female 1999	Literacy rate male 1999	Literacy rate both 1999
Algeria	2.81	5.67	6.68	44.3	22.6	33.4
Bahrain	4.93	7.48	7.06	17.8	9.5	12.9
Egypt	2.65	6.03	7.15	57.2	33.9	45.4
Iraq	2.74	5.9	7.16	-	-	-
Jordan				16.6	5.5	10.8
Kuwait	4.61	6.09	6.34	20.6	16	18.1
Libya	3.26	6.79	8	33.1	9.8	20.9
Morocco	1.76	3.82	4.96	64.9	38.9	52
Qatar	4.75	6.6	8.43	17.4	19.9	19.2
Saudi Arabia	4.26	7.08	8.53	34.1	16.5	23.9
Syria	3.36	4.58	6.7	40.7	12.3	26.4
Sudan	1.27	2.82	3.21	55.1	31.1	43.1
Tunisia	3.25	5.9	7.48	40.7	19.6	30.1
Emirates	3.89	8.43	9.07	22	26.2	24.9
Yemen	0.23	2.34	3.68	76.1	33.4	54.8

Sources: WB, WDI and Arab human development report

6.2.3 Living Standards

Following the methodology established by the HDI model, living standards in a country looks at the GDP level and the change in GDP as well as other factors such as poverty, inequality and corruption. Below are some living standards indicators and a description of each indicator situation in the MENA countries.

Table 6.3: Living standard Indicators in Some MENA Countries

Country	Average GDP per capita USD	Average Annual Growth rate %	Gini Index	Poverty
Algeria	2413.97	3.50	-	-
Bahrain	16689.79	4.69	-	-
Egypt	829.13	3.79	31.603	21.3
Iraq	1624.01	8.06	29	20.5
Jordan	2414.03	5	35.54	
Kuwait	17623.03	3.67	-	-
Libya	7433.63	3.67	-	-
Morocco	1422.76	4.39	40.7	9
Qatar	41721.77	10.15	-	-
Saudi Arabia	14499.44	5.15	-	-
Syria	1147.70	3.98	-	35
Sudan	536.68	4.38	-	47
Tunisia	2136.65	3.69	37.65	23.7
Emirates	49730.58	4.64	-	-
Yemen	764.16	3.37	-	35

Sources: GDP per Capita, Gini index and poverty from: WB, WDI

The annual growth rate from: Office National des Statistiques in Algeria, the Central Informatics Organization - Kingdom of Bahrain, Central Bank of Egypt, The Central Department of Statistics & Information of Saudi Arabia, the Central Bank of Syria, the National Bureau of Statistics of the UAE, the Sudan Central Bureau of Statistics, National Institute of Statistics in Tunisia and the Central Statistics Office, Yemen.

Table 6.3 (above) presents the accumulated living standard metric across MENA nations. The average values of GDP per capita for each country is listed. The average GDP per capita for Algeria, Egypt, Iraq, Morocco and Sudan has been calculated from data collected between 1960-2013; and the average values of GDP per capita for Bahrain, Jordan, Libya, Qatar and Saudi Arabia has been collated from data collected between 1980-2013. The data from Yemen is only available from 1990 to 2013 and Syria's data has been gathered from 1960-2010.

The GINI coefficient is available from 1999-2014 for some countries in MENA from the WB and WDI. This coefficient is also presented above in table 6.3. The poverty rate is taken from the WDI of the WB. It is measured as a percentage of the poverty headcount ratio at national poverty lines which is the percentage of the population living below the national poverty lines. National estimates are based on population-weighted subgroup estimates from household surveys. There

is, however, missing data in calculating an accurate poverty rate for most of the MENA countries. However, the table presents the average of 2000, 2009 and 2011 in poverty headcount ratio in Egypt; an average of 2007 and 2012 in Iraq; 2007 in Morocco and Syria; 2009 in Sudan; 2005 in Yemen and the average of 2000, 2005 and 2010 for Tunisia.

6.2.3.1 Inequality

In this study inequality is signified through determining the relative differences in personal income. From the World Bank's *Handbook of Poverty and Inequality*, the definition of inequality is 'differences in the shares of income received by different groups in the population' (Haughton and Khandker, 2009).

This metric for assessing the impact and extent of inequality within and between MENA nations is the cause of much controversy and academic discourse within the 21st century economic community. For example, politicians generally argue about whether to make efforts to reduce inequality or leave the free market to correct itself. By contrast, economists argue about the measures of inequality and whether to use income or wealth. Without a universal consensus on the accuracy of the metric, it will be difficult to present an accurate picture of inequality that is acceptable to policy makers and economists alike. This study assesses a number of potential measures to better understand this presentation of 'inequality' and it's use in applying economic theory to practical policy.

The most popular measure of income inequality is the Gini coefficient. The Gini index measures the degree to which the distribution of income or consumption expenditure among households deviates from a perfect equality within an individual nation state. It is derived from the Lorenz curve framework. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The 'Gini index' measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a 'Gini index' of '0' represents perfect equality, while an index of '1' implies perfect inequality.

This is by no means the universally accepted method of inequality measurement, however. Another inequality measure that is derived from the Lorenz curve is the Robin Hood index. It represents the maximum vertical distance from the Lorenz curve to the 45° line of equality.

Higher Robin Hood values indicate a more unequal society. It represents the share of income that would need to be redistributed from individuals above the mean income to those below it in order to achieve 'perfect' equality (Haughton and Khandker, 2009).

The most important issue about inequality and how it is related to the well-being of a society is how vertically mobile a society is. For example, if the poor person could have a chance to move up the socio-economic scale to become rich then inequality would cause less hardship within the nation state. If people are trapped in poverty and in one social class that they were born in, however, an increased inequality level would be present, which would in turn decrease the well-being of the citizens in that country and increase unrest.

When considering inequality on a broader scale, however, it can be evidenced to relate also to gender or opportunities, and not simply upward social mobility. Gender inequality is another effective issue especially in the Middle East. As previously noted, gender inequality can be seen in education, health or employment. To elucidate this point further, Baliamoune-Lutz and McGillivray (2009) showed that gender inequality in education in ten MENA countries affect income growth significantly and stronger than Sub-Saharan African countries.From the Women's Rights in the Middle East and North Africa, Freedom House delivers a cross-regional comparative analysis of women's freedom to exercise their human rights and shows the magnitude of gender in equality in eighteen countries in MENA. The key areas analysed in the methodology of assessing the gender gap in MENA are: non-discrimination and access to justice; autonomy; security; freedom of the person; economic rights and equal opportunity; political rights and civic voice; and social and cultural rights. The methodology was followed on two separate occasions (in 2005 and 2010) by a group of Freedom House staff, and was reviewed and approved by a committee of senior academic specialists. The results from the 2010 edition appeared to present Tunisia, followed by Morocco, as the top MENA nations for equality average. The GCC countries, however, are on the bottom of the list; while Saudi Arabia and Yemen fell significantly behind all other MENA countries. The gains made across the region between the 2005 and 2010 reports demonstrate that major advances were made in education (with more women enrolled in schools and higher education); employment (mostly in education and health sectors); and political representation. However, the area still lacks equality is violence laws that protect women against spousal rape, honour killing or any gender-based violence (Kelly and Breslin, 2010). The predominance of these social practices across the MENA region

are particularly harmful, and the GINI measure for example doesn't reflect the real inequality that comes from the lack of violence, discrimination laws, or the lack of voting rights. This shows that the measurements of inequality are limited and can't accurately reflect the societal and gender inequality in practice within this sample. Gender equality is a critical subject in the Middle East, where Islam is dominating and the literal interpretation people take from the Quran (the Islamic sacred book) could lead to different treatment or expectations towards women. In some cases, practices which actively promote gender inequality are justified by law. These discriminations in law against women are misinterpreted from Islam, and seriously hinder the future development of equality in these nations. Until this can be tackled through policy, no accurate metric for global inequality can be presented. This research necessarily takes into account these practices of gender inequality when assessing happiness and well-being. And that was discussed in chapter two section 2.8 about the importance of inequality to well-being.

6.2.3.2 Poverty

The World Bank's *Handbook of Poverty and Inequality* defines poverty as 'pronounced deprivation in well-being'. If households or individuals don't have enough resources to meettheir needs they are considered poor (World Bank, 2000). The differences between poverty and inequality, in this instance then, can be focussed on the notion that poverty measures focuses on the poor people in a population, while inequality is broader measure that captures the whole population.

Poverty is measured in monetary terms by comparing individuals' income or consumption with some defined threshold with the use of a household survey data. If these fall below that threshold, individuals are considered to be poor. However, there are different types of consumption such as food, water, education, health or houses, meaning that this metric is not fixed, and applicable across each nation at the same level. These specific measurements that relates poverty to food or health etc., are closer to Sen's capability approach and the objective measures of well-being. It could be measured directly by using the HDI index as in measuring literacy, longevity and other human development variables.

According to Atkinson (1975, pp. 224-239) poverty cannot be measured in absolute terms: comparing poor people in the USA or UK to the world or to their past levels of poverty would

not give researchers a clear picture of the poverty situation. This mirrors the notion of inequality metrics, and their culture-specific requirements; posing the question 'what is an objective position regarding poverty and inequality, and from what perspective is an individual researcher or a metric system able to judge this free from cultural bias?' To combat this problem of cultural-bias on behalf of the researcher, the social structure and the level of development in each country should be taken into account when measuring poverty. Poverty cannot be measured using international poverty lines set at $1.00 per person per day and that could be useful in comparing poverty between countries and over time. Rather, it must be measured in a more tailored way on a national scale, to each individual country to examine closely the actual costs of specific food or non-food items (Atkinson, 1975).

Adams and Page (2003) try to explain the unusually low rate of poverty and inequality in the MENA region compared to any other region of the developing world. This is unique as MENA region countries maintained throughout relatively low rates of GDP growth. Adams and Page (2003) utilised collective cross-country data of five MENA countries (Egypt, Jordan, Morocco, Tunisia and Iran) and the results of household budget surveys. The results demonstrates the broad range of poverty index results across the region, from highs of 46.3% in Mauritania in 2000, to a relatively low 7.6% in Tunisia in 1995. The results also clearly indicates a rapid increase in the poverty rates of MENA nations during the 1980s and 1990s; for example the results for Algeria between 1988 and 1995 increase markedly. As noted by Petmesidou and Papatheodrou (2006) 'a common feature in all the countries is that poverty incidence and intensity are high among rural residents, although urban poverty has been increasing since the 1990s' (2006, p.21). One interesting example here can be taken by presenting the extreme cases of a rural/urban divide between the examples of Morocco and Egypt. Here the former demonstrates the widest inequality gap between the rural and urban populous; and the latter demonstrates the smallest. Petmesidou and Papatheodrou (2006) place this down to successful land reform and the adoption of liberal policies in Egypt, delivering 'lower levels of inequality and a smaller urban/rural gap' (2006, p.21). Despite lowering the rural/urban gap, however, poverty can be evidenced as being on the increase in both cases, El-Ghonemy (1998) notes that is evidence to suggest 'Egypt seriously hurt the existing poor and created a group of "new" poor especially in urban areas' (1998, p.201). While inequality can be assessed internally through the

rural/urban divide, therefore, a wider appreciation of the national implications of inequality and poverty metrics are required to place these results in context.

Furthermore, the comparatively low Gini coefficient results regarding inequality in the region present a problem. The presence of low poverty and low inequality levels in spite of stagnant GDP presents a problem for wider quantitative studies of the MENA region. As evidenced above, an internal appreciation of wide-spread endemic poverty and inequality has not transferred to the relatively moderate Gini results. Adams and Page (2003) suggested two explanations for the presence of this trend: international migration/remittances and public sector employment. Migration trends, according to Adams and Page (2003) can be divided between the Maghreb and Mashreq nations. The former evidences prevalent migration towards Western Europe, while the later demonstrates large migration trends towards oil-rich nations in the Middle East. Furthermore, Adams and Page (2003) emphasise a rise in worker remittance to contribute to poverty reduction across the region, noting "between the mid-1970s and early 1990s in Algeria, Morocco and Tunisia, workers' remittances grew from roughly 2% to 4% of GDP. The two factors were found to have a statistically significant impact upon both the level and the depth of poverty and inequality in the MENA region, reducing rural poverty on the one hand through migration, and on the other through a steady rise in wages.

This does not mean, however, that poverty (both rural and urban) is not endemic across the region. Petmesidou and Papatheodrou (2006) conclude that 'avoidance of outright hunger, despite poverty aggregation and moderate to low performance in terms of social indicators, is the key characteristic of MENA countries' (2006, p.25). Indeed, as Richards (2003) notes 'the commitment of Middle Eastern countries to protecting the nutritional levels of their (substantial) disadvantaged populations is striking, particularly in an international comparative perspective' (2003, p.63). In this instance then, a wider national and regional appreciation of socio-cultural factors is required to gather an accurate impression of poverty and living standards across the data-light MENA region.

6.2.3.3 Corruption

Corruption is defined as 'the abuse of entrusted power for private gain' (Transparency international, 2015). It can be evidenced to share a causal link with inequality when assessing the

satisfaction of respondents experiencing corruption. For example, instances can occur when individuals cannot access public goods without personal connections or paying unfair amount of money as a bribe that they can't afford.

Determining an internationally held definition of 'corruption', including its limits and constituent factors, is a complex procedure, with academic consensus difficult to establish. For example, when defining corruption some might argue that money laundering and black markets are not part of an accurate definition, because it doesn't involve the misuse of public power, and as such does not influence the welfare of people trying to access the public goods. On the other hand, however, it might be considered corruption because it might involve public employees or politicians using their power to generate corruption and effecting the economy of the country.

Necessarily, cultural and regional considerations have to be made when determining the presence of corruption across MENA nations. In the Arab world the word 'wasta'- which could be translated as'who you know' - demonstrates one of these culture-specific examples, an example perhaps of evident corruption from a western perspective. In this instance, government's transactions by officials prevent people from working hard if they have or don't have personal connections. Either way, those without significant influence lose the incentive to work harder.

It is difficult, therefore, to quantitatively measure corruption accurately and use it in empirical studies to relate it to welfare. Difficulties exist when defining the extent of its influence and form, let alone considering the difficulty in establishing a reliable data set, as corruption is usually happening in secrecy behind the public eye. People who have benefited from corruption are trying to hide it and take it away from being recorded. However, many organizations tried to fight corruption and measure it such as the Transparency International index that started in 1993 and the World economic Forum in Switzerland. The transparency index measures corruption on a scale ranging from 0 to 100, where 0 is 'highly corrupt'.

Helliwell and Huang (2006) conducted an empirical analysis of more than seventy countries internationally to test the relation between life satisfaction (as measured by the WVS) and the quality of the government (as measured by the WB). They found out that between countries good government behaviour influences life satisfaction, while the differences in GDP per capita between their sample countries was not significant. They also concluded that good government

matters to the poor more than the rich people by splitting the quality of government variable between the top half of the income distribution and the bottom half.

Rothstein (2010) focused on universals of the welfare state in countries generating subjective happiness to their citizens, concluding that the welfare state is related to the level of social trust and corruption. He tried to establish the nature of causality between these variables, concluding that countries with generous universal welfare state have low level of corruption, high level of social trust and higher subjective happiness and the opposite is true.

Table 6.5 Corruption in MENA

Countr	2014	2013	2012	2005
Algeria	36	36	34	28
Bahrai	49	48	51	58
Egypt	37	32	32	34
Iran	27	25	28	29
Iraq	16	16	18	22
Jordan	49	45	48	57
Kuwai	44	43	44	47
Libya	18	15	21	25
Moroc	39	37	37	32
Qatar	69	68	68	59
Saudi	49	46	44	34
Syria	20	17	26	34
Sudan	11	11	13	21
Tunisi	40	41	41	49
Emirat	70	69	68	62
Yemen	19	18	23	27

Source: Transparency index

From the above table, only two countries out of the sixteen Arab countries scored above 50 in the corruption perception index (UAE and Qatar). Corruption correlates with GDP per capita negatively in the above sample. As evidenced in chapter five, GDP level affects subjective well-being in a positive way, and GDP could be affected negatively by corruption. Furthermore, the corruption level in a country could affect the subjective well-being indirectly through income

and directly through the non-material factors such as the feeling of unhappiness or unfairness. This has been explored through the empirical study of Welsch (2008), which concluded that the direct effect of corruption on subjective well-being is larger than the indirect effect of corruption on income.

6.2.3.4 Freedom

As explored in Chapter 2, personal freedom is very important in achieving happiness through Sen's *Capability Approach*. People should have equal opportunities and the freedom to choose between their choices such as education health and so on. They should also choose not to be poor or become educated or work in any field. Women should have the freedom to work or stay home and so on. We can't reach a happy society when citizens (both men and women) can't choose the life they desire for themselves. From the Legatum Prosperity Index in 2012, 2013 and 2014 it is evidenced that the MENA countries are ranked the lowest in the personal freedom sub-index. This index measured the performance and progress of countries in achieving individual freedom and civil liberties. All the Arabian thirteen countries included in the index were ranked above the 100 except for United Arab Emirates and Kuwait who ranked 66 and 73 respectively. Which made them the best two countries in MENA promoting personal freedom to their citizens.

6.2.3.5 Religion

As previously explored in Chapter two, notions of happiness and well-being were discussed from a philosophical and economic perspective. However, a significant percentage of people from the MENA region could equate happiness with their religion. From the WVS analysis, most Arab people in the sample report that they believe in God and think praying is very important. This indicates that Arab people are religious and part of their answers to the happiness or satisfaction questions in the survey could be related to religion rather than economic, health or family circumstances. This has been mentioned in chapter three while discussing institutions, development and politics in the Middle East and how understanding the religion of Islam is very important to understand the region.

After looking at the WVS wave 4, 5 and 6, literature suggests that religion improves the individual well-being and optimism of the sample. Table 6.6 a and 6.6b presents the answers of residents within the MENA sample between 2001 and 2013 to the following question:

'Independently of whether you go to church or not, would you say you are: 1- A religious person, 2- Not a religious person, 3- A convinced atheist, 4- Other answer'. And another question related to the Arabs being religion is: 'Which, if any, of the following do you believe in? God: 1- Don't know, 2- No, 3- Yes'.

Table 6.6a Religion Question WVS wave 4, 5 and 6

Religious Person	Frequency	Percentage	Cum.
A convinced atheist	704	1.8	1.8
A religious person	28556	72.93	74.73
NA	4531	11.57	86.3
Not a religious person	5365	13.7	100
Total	39156	100	

Source: WVS

Table 6.6b Belief in God WVS wave 4 & 6

Believe in God	**Frequency**	**Percentage**	**Cum.**
NA	19226	49.1	49.1
No	54	0.14	49.24
Yes	19876	50.76	100
Total	**39156**	**100**	

Source: WVS

6.3 WVS Analysis of Inequality and Satisfaction in the MENA region

In tables 6.7a, 6.7b and 6.7c raw financial satisfaction data from waves 4, 5 and 6 of the WVS are presented for all the country included in the current model. Table 6.7a refers to the relative financial satisfaction of respondents, and was measured on a 10-point scale, in which 1 is dissatisfied with your household financial situation and 10 is satisfied. When measuring all respondents, the majority of individuals felt dissatisfied with their financial situations. Focusing on countries, a larger proportion of individuals were found to be satisfied with their finances in Morocco as compared with the entire sample. In most countries individuals were more likely to be in the middle between satisfied and dissatisfied. However, in Egypt individuals have strong opinions; especially in wave 4 where there was 39.5% of them satisfied and 40.4% who were dissatisfied. In wave 4 and 5 (table 6.7b&c) Egyptians tend to be more dissatisfied with their

financial situation. From table 6.7a Jordanian are mostly dissatisfied with their finances. However, in table 6.7b they became more satisfied.

Table 6.7 a WVS wave 4 2000-2004

Life Satisfaction	TOTAL	Country/Region			
		Iraq	Jordan	Morocco	Egypt
Dissatisfied	6.4	6.5	12.4	8.3	3
2	18.6	5.1	4.2	5.3	40.4
3	6.6	8.3	7.7	10.5	3
4	7.1	9.6	8.5	9.2	3.6
5	17.6	24.6	30.6	33.7	0
6	11.1	13.9	9.6	9.3	10.2
7	7.2	13.6	11	8.7	0
8	4.6	9.5	5.5	5.2	0.1
9	17	3.1	3.3	2.3	39.5
Satisfied	3.9	5.7	6.8	7.2	0
Don't know	0.1	0	0.2	0.3	0.1
No answer	0	0	0.1	0	0
(N)	**7.799**	**2.325**	**1.223**	**1.251**	**3**
Mean	**5.25**	**5.43**	**5.09**	**5.08**	**5.26**
Standard Deviation	**2.74**	**2.28**	**2.45**	**2.32**	**3.26**
Base mean	**7.789**	**2.325**	**1.219**	**1.247**	**2.998**

Note: all numbers are expressed as a percentage

Source: WVS

Table 6.7 b WVS wave 5 2005-2009

Life Satisfaction	TOTAL	Country			
		Iraq	Jordan	Morocco	Egypt
Dissatisfied	10.8	11.1	9.8	2.2	14.4
2	7.1	6.8	2.7	7.8	8.8
3	9.9	10.1	4.5	13.2	10.6
4	10.6	13.6	5.3	12.2	9.3
5	22.6	25.7	17.8	30.8	18.6
6	11.2	12	8.3	15	10.1
7	9.8	9.1	8.6	9	11.1
8	7.9	5.4	13.5	5.4	8.9
9	3.2	2.4	6.4	2.2	3
Satisfied	6.4	2.9	21.5	2.2	5.2
No answer	0.3	0.1	1.5	0.1	0
Don't know	0.3	0.8	0	0	0
(N)	**8152**	**2701**	**1200**	**1200**	**3051**
Mean	**5.04**	**4.71**	**6.4**	**4.98**	**4.83**
Standard Deviation	**2.5**	**2.23**	**2.88**	**1.9**	**2.59**
Base mean	**8.107**	**2.676**	**1.182**	**1.199**	**3.05**

Note: all numbers are expressed as a percentage

Source: WVS

Table 6.7 c WVS wave 6 2010-2014

	TOTAL	Country			
		Iraq	Jordan	Morocco	Egypt
Completely dissatisfied	10.1	2.2	11.4	6	18.6
2	4.3	3.3	4.3	3.2	6
3	9	8	8.4	8.1	11.1
4	8.5	9.9	6.4	9.2	8.5
5	20.3	18.7	19.4	32.5	12.8
6	13.4	17.4	14.4	11.9	10.8
7	14.1	20.2	17.3	8.2	11.3
8	10.6	11.4	11.3	5.6	13.5
9	3	4.7	2.8	2.1	2.6
Completely satisfied	6.2	3.8	4.2	12.3	5
No answer; BH: Refused	0.2	0.2	0	0.8	0
Don't know	0.1	0.2	0	0.1	0
(N)	**5123**	**1200**	**1200**	**1200**	**1523**
Mean	**5.37**	**5.85**	**5.33**	**5.57**	**4.86**
Standard Deviation	**2.46**	**2.01**	**2.42**	**2.4**	**2.73**
Base mean	**5.107**	**1.195**	**1.2**	**1.189**	**1.523**

Note: all numbers are expressed as a percentage

Source: WVS

In tables 6.8 a, b and c raw data from four MENA countries are presented. The data are about answers to a question concerning income equality. If people answered 1 they believe strongly that income should be made more equal, and if there answer was toward 10 it means they believe in larger income differences between individuals. In total, people in MENA were tending to be against equality in the first two waves, and in wave 6 they become more likely to agree that incomes should be made equal.

Table 6.8a WVS Wave 4 2000-2004

Life Satisfaction	TOTAL	Country/Region			
		Iraq	Jordan	Morocco	Egypt
Incomes should be made equal	8.2	14.1	7.5	11.5	2.6
2	4.1	11.1	1.6	0.7	1.2
3	4.1	8.6	2.1	3.6	1.6
4	2.7	5.1	1,4	4.1	0.8
5	7.2	11.3	9.6	7.3	3.1
6	4.6	6.8	4.2	3.2	3.7
7	9.4	8.8	9.9	7.6	10.4
8	16.5	15.2	14.4	4.9	23.1
9	15.1	11.4	17.5	6.2	20.8
We need larger income	26.7	7.8	26.8	47.3	32.8
Don't know	1.4	0	4.9	3.6	0
No answer	0	0	0.1	0	0
(N)	**7799**	**2325**	**1223**	**1251**	**3000**
Mean	**7.14**	**5.42**	**7.43**	**7.44**	**8.23**
Standard Deviation	**2.91**	**3**	**2.73**	**3.21**	**2.05**
Base mean	**7.692**	**2.325**	**1.161**	**1.205**	**3**

Note: all numbers are expressed as a percentage

Source: WVS

Table 6.8b WVS Wave 5 2005-2009

Life Satisfaction	TOTAL	Country			
		Iraq	Jordan	Morocco	Egypt
Incomes should be made more	11.9	13.9	19.8	12.3	6.7
2	5.7	8.5	2.6	9.5	2.9
3	6.5	9.3	1.5	7.4	5.6
4	5.9	7.3	2.5	6.2	5.7
5	11.4	13.4	4.8	16.2	10.2
6	7	7.2	2.4	8.5	7.9
7	9.9	8.4	4.3	10.8	13.3
8	11.8	9.6	8.8	12.5	14.7
9	8	4.8	14.3	6.6	8.9
We need larger income	16.5	5.4	34	7.8	22.9
No answer	1.4	1.2	4.9	2.1	0.1
Don´t know	4.1	11	0	0	1.1
(N)	**8152**	**2701**	**1200**	**1200**	**3051**
Mean	**5.99**	**4.91**	**6.82**	**5.35**	**6.79**
Standard Deviation	**3.04**	**2.79**	**3.58**	**2.81**	**2.76**
Base mean	**7.703**	**2.371**	**1.141**	**1.175**	**3.016**

Note: all numbers are expressed as a percentage

Source: WVS

Table 6.8c WVS Wave 6 2010-2014

Life Satisfaction	TOTAL	Country			
		Iraq	Jordan	Morocco	Egypt
Incomes should be made more equal	17.7	11.2	5	14.9	35.1
2	6.7	10.2	2.2	4.7	8.9
3	6.8	8.8	1.8	6.8	9
4	4.3	7.7	3	1.8	4.5
5	11.5	10.6	10.5	18.9	7.1
6	6.8	9.2	10.8	3.5	4.4
7	9.2	13.9	16	2.8	5.3
8	10.5	13	17.7	4.3	7.8
9	7.8	8.9	12.4	1.7	7.9
We need larger income differences as incentives for individual effort	11.4	3.8	20.3	12	10
No answer	1.9	0.2	0	7.9	0
Don't know	5.4	2.3	0.2	20.6	0
(N)	**5123**	**1200**	**1200**	**1200**	**1523**
Mean	**5.39**	**5.31**	**7.15**	**5**	**4.3**
Standard Deviation	**3.13**	**2.73**	**2.44**	**3.11**	**3.33**
Base mean	**4.748**	**1.17**	**1.197**	**858**	**1.523**

Note: all numbers are expressed as a percentage

Source: WVS

6.4 An Empirical Model

As explained in the methodology chapter, this model will investigate the objective factors relation to the subjective well-being in two models with an extension to the first model. In the first model the dependant variable is self-reported happiness and self-reported life satisfaction tested twice and separately. The responses to the questions from the WVS mentioned earlier such as whether you consider yourself happy is recorded on a scale varying from 1 to 4 where 4 marks not at all happy and 1 indicates very happy. Similarly, the response is recorded on a scale from one to ten for life satisfaction, where 10 means that the respondent is completely satisfied and 1 is completely dissatisfied. Due to the ordinal nature of the data, the study uses an ordered probit model. The Independent variables in the first model include GDP per capita, the Gini index as an inequality measure, the answers of the financial satisfaction question (mentioned earlier in this

chapter) and the subjective answers of the equality opinion question. An extension to this model would be testing the same regression again without including the personal characteristics of the self-reported life satisfaction respondents.

Also another model is constructed that has self-reported life satisfaction as the dependant variable and the corruption rate, life expectancy and Gini coefficients as the independent variables. Corruption data was obtained from the Transparency International webpage. As mentioned in the methodology chapter the literacy rate couldn't be included to cover the education domain in the objective approach due to the limitation of the data. The equations for the ordered probit models are shown below:

$$Prob(y_{ict} = lowest\ value) = \Phi(\alpha_{lowest} - z_{ict})$$

$$Prob(y_{ict} = j) = \Phi(\alpha_j - z_{ict}) - \Phi(\alpha_{j-1} - z_{ict})$$

$$Prob(y_{ict} = highest\ value) = 1 - \Phi(\alpha_{highest} - z_{ict})$$

Where y_{ict}=life satisfaction/happiness level for respondent i in country c and year t,

Φ=cdf of standard normal distribution,

α_j=constant coefficient for level j,

and z_{ict} is given by one of the following equations:

$$z_{ict} = \beta_0 GDP_{ict} + \beta_1 ineq_{ict} + \beta_2 eq\_op_{ict} + \beta_3 fin\_sat_{ict} + \sum_j \beta_j personal_{jict}$$

$$z_{ict} = \beta_0 GDP_{ict} + \beta_1 ineq_{ict} + \beta_2 eq\_op_{ict} + \beta_3 fin\_sat_{ict}$$

$$z_{ict} = \beta_0 gini_{ict} + \beta_1 life\_exp_{ict} + \beta_2 corrupt_{ict}$$

Where i indexes individuals, c indexes countries and t indexes times/years. GDP = per capita gross domestic product, ineq = measure of inequality, eq_op = equality opinion (answer to question about equality), fin_sat = financial satisfaction, and personal$_j$'s are personal

characteristics including three income categories low, medium and high, gender, marital status, education level, whether employed, or unemployed, age and number of children,gini = gini coefficient, life_exp = life expectancy, corrupt = corruption perceptions index. The first two equations show that the well-being level will be tested twice, the first equation include the personal characteristics of the individuals answering the happiness or life satisfaction questions, while the second one does not include the personal characteristics of individual i in country c and year t. This is in order to test the robustness of the estimates of the coefficients of interest (GDP per capita, equality opinion, finance satisfaction, and Gini). The third equation was estimated to test the relationship between corruption, Gini, life expectancy and life satisfaction. That was constructed to gather the objective and the subjective factors affecting well-being.

6.5 Results and Analysis of Empirical Research Methodology

From table 6.9 (below) happiness and life satisfaction are significantly (and negatively) related to GDP level in the country either by taking the personal characteristics into account or not (which are the controls).

Table 6.9 Happiness, life satisfaction, equality opinion and financial satisfaction

	Happiness level (with controls)	Happiness level (without controls)	Life satisfaction (with controls)	Lifesatisfaction (without controls)
GDP per capita	-0.110***	-0.105***	-0.0842***	-0.0676***
	(0.0122)	(0.0106)	(0.0107)	(0.00932)
Equality_opinion	0.00740	0.0131***	0.0156***	0.0194***
	(0.00520)	(0.00500)	(0.00458)	(0.00444)
Finance_satisfaction	0.197***	0.218***	0.309***	0.332***
	(0.00728)	(0.00666)	(0.00673)	(0.00626)
gini	-0.0321***	-0.0344***	-0.0603***	-0.0510***
	(0.00906)	(0.00698)	(0.00796)	(0.00617)
Observations	6329	6553	6332	6555

Standard errors in parentheses

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

Source: WVS, wave 4,5 and 6 and WB, WDI

Table 6.9 (above) also indicates that people consider that inequality is important, and that happiness and satisfaction are positively correlated. GDP per capita, therefore, provides an

inaccurate metric for assessing personal perceptions of happiness and well-being. For example, the more people are satisfied with their financial situation, the more they are happy and satisfied in general. This exists in direct contrast to the initial correlation which evidenced that GDP was negatively correlated with both happiness and satisfaction. What this could indicate, however, is that the rich got richer and the poor get poorer, increasing the inequality with which GDP is distributed. This is indicated when assessing the same table when the measure of inequality – Gini coefficient - was strongly and negatively correlated with life satisfaction. This is explored in table 6.10 (below):

Table 6.10: Life satisfaction and Objective Variables

	life_satisfaction
gini	-0.00364
life_expectancy	0.0399***
corruption	0.0118***
cut1	
Constant	1.695***
cut2	
Constant	2.184***
cut3	
Constant	2.428***
cut4	
Constant	2.655***
cut5	
Constant	3.103***
cut6	
Constant	3.383***
cut7	
Constant	3.681***
cut8	
Constant	3.970***
cut9	
Constant	4.490***
Observations	19738
Pseudo R^2	0.004

Standard errors in parentheses

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

Source: WVS, wave 4, 5 and 6, WB, WDI and Transparency Index

The third model shows that controlling for life expectancy, Gini coefficient and levels of corruption are significantly related with life satisfaction; less corruption (higher values of the corruption perceptions index) tends to imply higher levels of life satisfaction. The coefficient of corruption is very small, and implies that for every 10 points increase in the corruption perceptions index we can only expect to see an increase in life satisfaction of about 0.1. Since the corruption perceptions index is measured on a scale of 0 to 100, according to model 3 the largest possible change in life satisfaction due to changes in corruption is 100x0.0118 = 1.18, which is not very much considering this would represent the change moving from a totally corrupt government to a totally incorrupt one. Also inequality (measured by Gini coefficient) is as been illustrated before in table 6.9 is as well negatively correlated to life satisfaction. As it shown there is a huge variation between inequality and corruption variables which could explain the impossibility of pooling the data. Finally, life expectancy is positively and significantly correlated with subjective life satisfaction. This indicated that the objective circumstances are very important to collaborate the subjective assessment of well-being to assess the quality of life in a country. If more data were available for the Middle East the assessment of the quality of life would be more accurate and more informative to the policy makers.

6.6 Conclusion

This chapter outlined the objective measures of well-being following the HDI approach. It started by explaining the three main indicators and describing the situation in MENA region over the years to show the development in each domain compared to the past and compared to other regions around the world. The three main indicators are: health (measured by infant mortality and life expectancy); education (measured by years of schooling and literacy rate); and living standards (including GDP per capita, GINI coefficients to measure inequality, corruption, freedom and poverty).

This chapter also overviewed these objective circumstances of the MENA region to complement the subjective approach in Chapter five of this thesis, and detail a clearer picture of the wider situation regarding quality of life, and approaches to providing accurate measurements for quality of life, across the region. Progress in health and education domains are rapid and real in MENA. These are initialising, however, from a position of previously very poor health and

education provision, and continue to be faced with huge demographic challenges. This chapter also demonstrated the importance of inequality when measuring happiness, throughout a region where this statistic cannot accurately be measured using GDP alone and could also explain the opposite relation of decreased well-being with the increased level of GDP. There are some limitation of data about poverty and inequality in the region which made the analysis less significant. However, the MENA region face huge challenges in these domains that are obvious from the limited data.

The empirical model in this chapter constructed two models to assess the quality of life in MENA. The first model resulted in confirming the opposite relation of well-being and inequality. And also confirming that financial satisfaction is important in overall satisfaction. The second model started by gathering the subjective well-being with the objective circumstances in the country such as corruption level, life expectancy and inequality. The results were as expected less corruption and more life expectancy increased people's well-being. It is shown from the above chapters that increasing the level of the objective circumstances around people in their countries could influence the well-being of the citizens positively. The level of objective circumstances could be increased by focusing more on the health domain in the manner of increasing the spending from the budget or allowing equal and balanced access to people. It could also be increased by focusing on monitoring corruption and tackling it and reducing inequality. However, deciding which specific domain should have more attention than the other or the amount of budget spending on each specific domain on the price of the other could be controversial and difficult to allocate. That is why as suggested by Diener (1995) the selected social indicators which are used in assessing the quality of life should reflect the societies values to figure what is important to spend on and the trade-offs between the different social indicators.

For further research, more objective variables should be included such as freedom, religion, education or political freedom. The more data we can pool the more significance we can get. However, these variables are different in their measurements and have huge variations between them. Therefore, following health literature in analysing the objective circumstances could be very useful. And also, the duration model and the Hazard model could be used in further research to expand the interpretation of the objective circumstances.

This chapter tried to assess the quality of life in the MENA region by depending on more than one approach. Gathering the objective approach in terms of social indicators and the subjective approach which captures the individual's own experiences and choices in life. This approach could help policy makers in gathering more information on the progress of the quality of life in a country. And also to inform people on how to live their lives better. These two approaches are different in their methodology and concepts that is why they are important to complement each other in assessing the quality of life to cover the different gaps that the two approaches yield.

Chapter 7: Policy Implication and Recommendation for Future Research in the MENA Region

7.1 Concluding Remarks

As established throughout this research, quantifying and utilising the notion of happiness requires an appreciation of many academic fields of research, and cannot simply rely on an appreciation of economic theory only. This study initiated research by assessing the perspectives of ancient Greek philosophers, to extract and explore detailed definitions and interpretations of happiness. The field of political philosophy contributed to happiness research in analysing the causes of happiness and how to seek it or increase it without depending on material things. The other field (examined in Chapter 2) is psychology, where it brings evidence to what has been stated about happiness in philosophy. The contribution of this field can predominantly be evidenced through an appreciation of the process of measuring happiness, either by asking people directly or asking other people about certain things involving the intended individual. Close appreciation must also be taken regarding the lexicon used to form the question.

Additionally, from the field of psychology, it is possible to measure happiness more scientifically either by asking them or observing their actions or asking their friends and family about their level of happiness and compare it to their answers.

Furthermore, the contribution of sociology to this study has helped demonstrate an appreciation of the ways in which social relations could influence happiness, the level of trust in society and security. This is one of the reasons that explains why people are so dissatisfied with unemployment or poverty, because it raises the level of insecurity they are in and make them feel isolated from other people in their society.

From the field of sociology, the effect of social comparison, relative income or social classes are very important to judge the happiness of a particular nation or person. The societies people live in could influence their happiness. People care about their status in the society they live in and they compare their income, their cars or their houses to their neighbours or relatives. Also people need to find a social group they can trust and enjoy being around. It is also important for people to trust their governments in dealing with any economic, political, education or health situations. Finally, from the economic field we learned that the macroeconomics conditions which are

income, unemployment, inequality and inflation in any country can influence the happiness level of the citizens and the political stability.

This chapter has assessed the practical implementation of happiness concepts from philosophical and psychological perspectives, and reviewed some theoretical and empirical literature about happiness and many economics activities. From this research, two approaches can be distinguished. Initially, the subjective approach focuses on a random sample of people, directly assessing their level of happiness or satisfaction and relating their self-reported answers to the macroeconomics conditions (GDP, the unemployment rate and the inflation rate). This research has been outlined in Chapter five. The second approach is an objective one that covers more variables such as health, education and living standards. This approach is analysed in Chapter 6 and looks at the whole situation in MENA and relate it to the self-reported happiness.

To conclude the main contributions in chapter five are embodied in regressions designed to indicate whether macroeconomic fluctuations affect respondents' level of happiness or satisfaction and the size of this effect. Here are the list of findings from chapter five of some selected countries in the MENA region before adding country fixed effects of the included countries in the regression:

1. Subjective happiness and life satisfaction are positively and highly correlated with the GDP per capita.
2. Subjective happiness and life satisfaction are negatively and significantly correlated with change in GDP per capita.
3. Subjective happiness and life satisfaction are negatively and significantly correlated with the unemployment rate and the inflation rate.
4. The unemployment rate effects the subjective happiness and satisfaction the most even after controlling for the income variable.
5. After testing only two groups of respondents, the unemployment rate effects the life satisfaction of the employed people and the unemployed significantly and negatively.
6. After separating the unemployed from the employed respondents and testing the effects on them, changes in GDP have more of an effect on the life-satisfaction of unemployed people than employed people.

After adding the country fixed effects on the above regressions in chapter five the findings were:

1- Subjective happiness and life satisfaction are negatively and highly correlated with the GDP per capita.
2- Subjective happiness and life satisfaction are positively and significantly correlated with change in GDP per capita.
3- The inflation rate effects the subjective happiness and satisfaction more than the unemployment rate.
4- After testing only two groups of respondents, the unemployment rate does not have a significant effect in the life satisfaction of the employed people and the unemployed.

In other words, adding the country dummies made the differences between countries become more obvious and that could be explained by the different development stage of each country and the differences in the unemployment benefit system as well as the strengths of the economy. However, in conclusion macroeconomics variables matter to people regardless of their age, gender, employment status or their marital status. The effects of these variables depends on the country people live in.

To conclude the main contribution of chapter six, three regression were made to aggregate the subjective and objective approaches of well-being. Here are the list of findings:
1- Subjective happiness and life satisfaction are significantly and negatively correlated to GDP level in the country either by taking the personal characteristics of the respondents into account or not.
2- The more people are satisfied with their financial situation, the more they are happy and satisfied in general.
3- Inequality (measured by Gini coefficient) was strongly and negatively correlated with subjective happiness and life satisfaction.
4- Less corruption tends to imply higher levels of life satisfaction.
5- Life expectancy is positively and significantly correlated with subjective life satisfaction.

7.2 Policy Recommendation

As far public policy as is concerned happiness should be monitored just as income, unemployment or inflation are monitored. It should be tested yearly in each country and monitor the development and changes in its levels. In order to ensure a productive model whereby the happiness and well-being of citizens can be improved, laws must be based on some unifying principle and consistent. Jeremy Bentham suggested that all laws should aim to produce the greatest happiness for the greatest amount of people, based upon his principles of a utilitarian approach to virtue and happiness. As discussed in chapter two Bentham's principal idea was that citizens' happiness is a measure of the success of a society. As such, we should look for a policy that increase happiness and avoid laws that reduce happiness and that means the greatest happiness for the greatest number of people in Bentham's point of view.

By making happiness the ultimate goal of a society, we include all domains of life at once such as health, education, freedom, leisure employment. There are evidenced as the principal factors impacting upon the happiness of respondents from the MENA region. If people are satisfied in all these domains, happiness is increased. Through this approach we give the people the option of maximizing their own happiness by themselves in balancing their lives between all the available domains. Some people are happier with family relation some are happier when they are successful at work and so on. Self-reported happiness answers could be seen as an objective vision of life in all necessary domains, however an important issue here is the availability of the options people can have. This includes equal opportunities to access to health, education and socio-economic and gender lines.

Economists usually assume that people's preferences don't change over time but in psychology people are expected to change their minds and moods and not always choose the best choice for themselves. As such consumption behaviour and economic activities patterns cannot be utilised as accurate metrics of behaviour or happiness.

Public policy, therefore, cannot be appreciated as the sole cause or determinant of personal happiness. While it can help in removing pain and misery in citizens, some of the factors of happiness are determined by people, their genes, and choices in life or relationships and that could not be influenced by policy makers. It would also be beneficial to spend a greater

proportion of the government's budget to reduce poverty and inequality in the form of increasing equal opportunities for citizens and trying to reduce the gap between the rich and the poor and the female and males. To also reduce high unemployment especially for young people; create more jobs rather than giving unemployment benefits even if that would increase inflation. As evidenced in Chapter five, across MENA and other countries in the west, unemployment negatively impact happiness more than inflation.

A number of other observations regarding public policy can be made from the research conducted above. For example, increasing focus on the education system can be evidenced to practically yield more positive results. When people are more educated they are happier, and it increases their employment chances. This helps increase affordability and quality of life, and provides activities and focus for the large (and growing) youth population across MENA nations.

Problems remain regarding the impact that public policy can have upon objective appreciations of happiness. Layard (pp17-20, 2004) believes that happiness has an objective character that has been proven by neuroscience. He based his research on an experiment scanning the brain directly while showing people pleasant and dreadful pictures. They discovered that the left side of the brain get activated with nice pictures and the right side of the brain get activated with the terrible pictures. So these differences between the activities of the right and left of the brain vary closely with the self-reported happiness. He concludes that there are no significant differences between what people think they feel and what they actually feel. This further contributes to the validity of the self-reported measured of happiness that had been used by economist in empirical work in happiness studies and could also be valid to be used by policy makers.

Furthermore, according to Bentham's fairness theory we should create policies that produce happiness to a large number of people, where each person's happiness matters equally. Addressing inequality, and removing pain and misery are therefore more achievable for policy makers than addressing objective notions of personal happiness.

When thinking about increasing happiness in nations as the ultimate goal of policy makers we have to think about its measurements, and to explore how this can be more accurately represented. As shown in chapters two and three the different measures of well-being in many forms and style of question and also the question of the validity and reliability of the well-being

measurement to offer a good source of data to policy makers both within and between nations. The general focus has always been on crime, poverty, disease or war. Talking about happiness and making it the ultimate goal could be considered a luxury we can't enjoy until we solve our real problems.

As discussed, there are many causes of happiness and misery. Some are genetic factors that policy makers can't influence or control such as mental health or family experiences. A number of factors are environmental, and these can be influenced by policy makers to improve the happiness level in a country. In other words, if a country wants to focus on the quality of life citizens enjoy, they should listen to the judgment of the people in their country about their level of satisfaction. It is important here to note the accuracy with which people measure their own lives; the respondents themselves are the best judges. Therefore, countries in MENA should re-organize their policies to facilitate for greater happiness of more citizens.

There have been some examples in the west for countries trying to listen to their citizens in evaluating their lives such as the 'better you' index and 'what works' index for the OECD countries. And that could help policy makers to realize the areas that are more important to people in order to work on improving it.

Helliwell et al. (2015) in the World Happiness Report 2015, suggest that policy makers deal with their budget in delivering happiness to citizens as dealing with the cost-benefit analysis. It should be assumed that happiness is measurable cardinally and could be compared between people. However, the costs and benefits in this case are not measured in the same units as in the ordinary cost-benefit analysis. The cost here is measured by government expenditure and the benefit would be interpreted as happiness and measured cardinally in units to become comparable between people. Therefore, it would measure the extra happiness a policy generate in relation to the actual cost of that policy. They also suggested that policy makers think about their policies and rank them in terms of the extra happiness they generate to citizens by spending extra money.

As discussed in chapter six, the objective approach emphasises the dependent on social indicators in affecting the individuals' subjective well-being. Social indicators' data could be easier to collect and measure but for policy makers it is difficult to settle which indicator is more important than the other to spend more on. That's why the gathering of social indicators and

subjective happiness helps to discover the values of each society and what matters to them the most. This would help policy makers to decide which social indicator is more important than the other to allocate budget spending on each domain.

There are many challenges facing MENA region politically and economically. Corruption and gender inequality are the main enemies to the stability and development of the MENA region, and continue to inhibit this process of happiness facilitation and inequality reduction from the perspective of public policy.

7.3 Limitation and Shortcomings

Limited data on poverty and inequality which are very important issues in MENA is one of the main shortcomings in dealing with well-being research in that area. Also there is a huge lack of analytical studies that are not solely in political science relative to European and Latin American studies.

More available data in education would made the last model in chapter six more reliable, but the years of schooling data had many missing values that it could not be balanced with the other variables. Also more data in the health and crime sections would benefit this thesis such as the number of doctors per capita, police per capita and rate of rapes. And also as mentioned in chapter six due to possible cultural reasons there are missing crime data that could be used in the objective approach to add to the significance of assessing the quality of life in MENA.

In regards to the subjective approach, it could be more informative if we had detailed data about the subjective happiness or satisfaction in specific domains in life instead of just focusing on life as whole. These data are available for OECD countries but not for the MENA countries and it could help to contribute to the gathering of the two approaches in measuring the quality of life in MENA accurately.

One of the limitations of the subjective approach or the accusation of its invalidity and reliability (as mentioned in chapter two), is that people are adaptable creatures and could adapt easily to any situation (good or bad) when reporting their subjective happiness level they would return to their normal level of happiness. This limitation could also be applied to the quality of life

assessment, which gathers the objective social indicators with the subjective well-being, because people can also adapt to the social indicators in their country such as personal freedom or gender inequality and so on. For example in Saudi Arabia women can't drive and that is an obvious violation of women's right to free movement, but when comparing subjective happiness between females in Saudi and other countries in MENA it is appeared to be the same (as in table 5.1 in chapter five) that could be due to the adaptation to the objective social indicators in their countries.

Furthermore, another limitation of the quality of life assessment is the impossibility of pooling the data because the variables are different in their measurements and have huge variations between them. Which could suggest further research using different models such as the hazard model.

Regarding the shortcomings in the technical part of the thesis, it was not possible to treat the data as panel data since there was no variable that can be used as a panel variable. The same individual couldn't be followed every year because these kind of data are not available for the MENA region. And when including dummy variables to take into account the fixed effects for countries and years, some degrees of freedom was lost by doing this. If both country and year dummy variables are included then many of the models could not be estimated due to multi-collinearity problems with the macroeconomic variables. And this could be a common problem in cross-sectional data as mentioned in Caporale et al. (2009). Therefore, in this thesis the year dummy variables were dropped and just controlled for country fixed effects by including appropriate dummy variables for each country in MENA.
Also, by having a closer look at the available data it is obvious that some values are missing at random (MAR). And that was due to the lack of statistical records in some countries for some years, this should not be a problem as long as we have enough data and the lack of the data is unrelated to any of the other variables in the model. This complicated further the application on dealing with the data beneficially.

As a consequence, the available limited data reduced considerably the possibilities of enhancing the scope, scale and the significance of the present thesis. Therefore, the MENA countries are encouraged to make collecting data on a regular basis a priority to allow policy makers and researchers to have a better perspective on socio-economic and socio-demographic issues that

could help in enhancing the situation in MENA and allow for better comparisons. In addition, collecting more data regularly could guide individuals in making important decisions in their lives to increase their personal well-being.

7.4 Areas of Further Research

Studying and analysing each country of the MENA separately would be beneficial especially with the obvious differences in their level of income and political situation internally and externally. However, that could only happen if the sample size of the subjective happiness question were bigger, thereby permitting the calculation of results with greater statistical significance. Also the effect of unemployment on subjective happiness and life satisfaction would be clearer and would make it possible to distinguish between the involuntary and voluntary unemployment if data like unemployment benefit and unemployment duration were available for MENA countries. Having more data would make it possible to distinguish the poor unemployed and the others. It would also be helpful to have data on male and female unemployment and the real reasons of the causes of unemployment in females. Additionally, with more detailed data we can look at the happiness level of the housewives who could be considered unemployed in the available general data we have for the MENA countries. In future research studies, to assess the quality of life in the employment domain for example, based on the subjective job satisfaction we could detect the best objective work conditions that yields the ultimate results in assessing the quality of life.

Furthermore, in future research we can use more models to analyse the situation such as the hazard models or panel models. We could also change the structure of testing when trying to combine the objective and subjective determinants of happiness. For example we could have the health domain by any indicator to be the dependant variable and life satisfaction, education, living standards to be the independent variables.

According to Diener and Suh (1997) we can't realize the quality of life approach if we don't understand the connection between the objective social indicators in a country and the subjective feedback of the people living in that country; increasing an objective indicator could result in positive and negative results at the same time. They gave an example of a nation that have high reported subjective happiness and high suicide rate. This was because people in that nation enjoy

a higher personal freedom to manage their lives and that makes them happy in a normal scenario but when everything goes wrong without social support some might take the choice to end their lives. Therefore, with more data and more studies, subjective individuals' reaction to the objective external circumstances in a country should be taken into account.

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Appendix A

Table1: Feeling of Happiness (wave 4)

Questions asked	Country/Region							
	Total	Algeria	Iran	Iraq	Jordan	Morocco	Saudi Arabia	Egypt
Very happy	20.9	16.1	23	13.2	12.8	22.3	44.3	18.1
Quite happy	55.4	64.6	34.6	49.0	70.1	57.6	47.0	71.3
Not very happy	16.9	11.9	28.6	26.2	12.4	15.4	7.7	8.8
Not at all happy	4.6	3.8	5.8	10.4	4.3	4.5	0.7	1.6
No answer	0.3	0.0	1.1	0.3	0.1	0.0	0.0	0.0
Don't know	1.9	3.5	6.8	0.9	0.3	0.1	0.2	0.2
Observations(N)	**13115**	**1282**	**2532**	**2325**	**1223**	**1251**	**1502**	**3000**

Source: WVSWave4: 2000-2004

Table 2: Satisfaction with your Life (wave 4)

Questions asked	Country/Region							
	Total	Algeria	Iran	Iraq	Jordan	Morocco	Saudi Arabia	Egypt
Dissatisfied	5.7	12.6	3.9	9.1	8.6	5.4	2.2	2.3
2	12.8	5.6	3.2	5.4	4.7	3.4	1.4	42.8
3	6.1	8.4	6.2	11.0	6.2	6.9	2.7	2.4
4	6.3	5.9	8.3	9.6	7.6	7.5	4.5	2.2
5	14.6	12.9	14.5	21.5	24.7	32.1	11.8	0.0
6	10.4	10.5	11.5	12.6	10.5	10.5	12.3	6.7
7	10.0	13.6	15.2	11.9	13.5	8.8	13.7	0.0
8	9.2	11.5	15.8	10.4	9.0	6.7	14.6	0.0
9	15.6	6.3	9.6	3.7	4.4	4.3	15.2	43.3
Satisfied	8.9	11.9	10.9	4.9	10.1	14.3	21.0	0.1
Don't know	0.3	1.0	0.5	0.0	0.6	0.0	0.5	0.1
No answer	0.1	0.0	0.6	0.0	0.1	0.0	0.0	0.0
(N)	**13115**	**1282**	**2532**	**2325**	**1223**	**1251**	**1502**	**3000**
Mean	**5.9**	**5.7**	**6.4**	**5.2**	**5.6**	**5.8**	**7.3**	**5.4**
Standard Deviation	**2.8**	**2.9**	**2.4**	**2.4**	**2.5**	**2.5**	**2.3**	**3.4**
Base mean	**13056**	**1269**	**2504**	**2325**	**1215**	**1251**	**1494**	**2998**

Source: WVS Wave 4: 2000-2004

Table3: Feeling of Happiness (wave 5)

Questions asked	Country/Region					
	Total	Iran	Iraq	Jordan	Morocco	Egypt
Very happy	14.8	18.1	6.2	29.8	24.6	9.6
Quite happy	59.9	61.3	46.0	57.1	56.2	73.5
Not very happy	17.9	14.8	28.4	10.9	16.3	14.8
Not at all happy	6.5	4.5	17.1	2.2	2.8	2.0
No answer	0.6	1.0	1.4	0.0	0.1	0.0
Don't know	0.3	0.2	1.0	0.0	0.0	0.0
N	**10819**	**2667**	**2701**	**1200**	**1200**	**3051**

Source: WVS Wave 5: 2005-2009

Table4: How Satisfied are you with your Life (wave 5)

	Country/Region					
	Total	Iran	Iraq	Jordan	Morocco	Egypt
Dissatisfied	9.4	3.8	17.2	9.5	2.2	10.3
2	4.6	3.9	8.2	1.8	2.6	4.1
3	6.6	4.4	8.6	1.7	9.6	7.7
4	9.1	6.7	11.8	2.8	16.2	8.4
5	19.4	17.0	22.8	12.1	31.1	16.6
6	11.8	13.6	11.5	6.9	17.2	10.3
7	11.8	14.4	7.7	10.3	10.8	14.0
8	10.7	14.8	5.5	15.3	4.8	12.2
9	5.4	8.6	2.3	8.9	1.8	5.4
Satisfied	10.8	12.7	3.3	30.4	3.3	11.0
No answer	0.1	0.0	0.2	0.4	0.2	0.0
Don't know	0.2	0.0	1.0	0.0	0.0	0.0
N	**10819**	**2667**	**2701**	**1200**	**1200**	**3051**
Mean	**5.7**	**6.4**	**4.5**	**7.1**	**5.3**	**5.7**
Standard Deviation	**2.6**	**2.4**	**2.4**	**2.9**	**1.8**	**2.7**
Base mean	**10780**	**2667**	**2670**	**1196**	**1197**	**3050**

Source: WVS Wave 5: 2005-2009

Table 5: Satisfaction with your life (wave 6)

	Country Code										
	Total	**Algeria**	**Iraq**	**Jordan**	**Kuwait**	**Libya**	**Morocco**	**Qatar**	**Tunisia**	**Egypt**	**Yemen**
Completely dissatisfied	6.5	5.7	1.9	3.9	2.8	4.5	4.2	1.1	11.2	19.6	7.5
2	3.0	0.8	4.8	2.7	0.9	1.3	3.0	0.4	4.4	6.6	5.2
3	5.8	4.8	9.8	3.7	1.8	2.7	7.1	1.0	5.5	13.9	8.9
4	5.2	7.7	10.7	3.4	2.7	3.3	7.7	1.0	4.8	6.2	5.8
5	16.8	19.6	12.2	15.1	16.0	15.5	31.6	8.6	23.2	9.8	19.1
6	10.9	12.1	15.8	12.7	11.7	8.5	9.7	9.1	14.9	7.9	8.4
7	14.4	14.6	20.5	22	15.3	12.7	8.1	12.6	14.7	12.5	12.0
8	13.1	12.6	11.8	18.6	13.7	12.9	7.7	20.9	6.7	14.6	12.3
9	7.2	7.4	7.5	7.0	9.2	8.6	2.4	14.9	2.9	4.1	9.2
Completely satisfied	16.0	12.0	4.2	11.0	22.9	29.4	16.3	30.4	11.1	4.9	10.1
No answer; BH: Refused	0.6	1.8	0.2	0.0	2.1	0.3	1.5	0.0	0.2	0.0	0.2
Don't know	0.5	1.0	0.6	0.0	0.7	0.3	0.8	0.1	0.4	0.0	1.3
N	**13022**	**1200**	**1200**	**1200**	**1303**	**2131**	**1200**	**1060**	**1205**	**1523**	**1000**
Mean	**6.4**	**6.3**	**5.9**	**6.6**	**7.2**	**7.3**	**5.9**	**8.0**	**5.6**	**4.8**	**5.9**
Standard Deviation	**2.6**	**2.4**	**2.9**	**2.2**	**2.3**	**2.5**	**2.5**	**1.9**	**2.6**	**2.8**	**2.7**
Base mean	**12878**	**1166**	**1191**	**1200**	**1266**	**2117**	**1173**	**1059**	**1198**	**1523**	**985**

Source: WVS Wave 6: 2010-2014

Table 6: feeling of Happiness (wave 6)

		Algeria	Iraq	Jordan	Kuwait	Libya
Very happy	25	17.6	10.5	20.8	41.3	38.5
Rather happy	50.7	57.9	57.5	65	50.3	49
Not very happy	15.2	15.2	26.3	9.8	6.4	8.7
Not at all happy	8.2	3.8	4.8	4.5	0.9	2.9
No answer	0.6	5.5	0	0	0.4	0.2
Don't know	0.3	0	0.9	0	0.6	0.7
(N)	**13022**	***1200***	***1200***	***1200***	**1303**	**2131**
		Morocco	**Qatar**	**Tunisia**	**Egypt**	**Yemen**
Very happy		21	56.4	16.7	5.3	17.9
Rather happy		57.3	41.6	62.6	20.7	54.2
Not very happy		15.8	1.7	15.8	30.1	24.4
Not at all happy		5.6	0.3	4.7	44	3.5
No answer		0.2	0	0	0	0
Don't know		0.1	0	0.2	0	0
(N)		**1200**	**1060**	**1205**	**1523**	**1000**

Source: WVS Wave 6: 2010-2014