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YOUTH EMPLOYMENT AND UNEMPLOYMENT IN DEVELOPING COUNTRIES:
MACRO CHALLENGES WITH MICRO PERSPECTIVES

A Dissertation Presented

by

BERNA KAHRAMAN

Submitted to the Office of Graduate Studies,
University of Massachusetts Boston,
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

June 2011

Public Policy Ph.D. Program

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ABSTRACT

YOUTH EMPLOYMENT AND UNEMPLOYMENT IN DEVELOPING COUNTRIES: MACRO CHALLENGES WITH MICRO PERSPECTIVES

June 2011

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An increasingly challenging phenomenon for both developing and advanced economies, the negative consequences of long-lasting youth unemployment both at the individual and the societal level are well established. The volatility of local economies in an era of recurrent global economic crisis may have solidified the disadvantaged status of young people within the larger economies. Understanding youth labor outcomes in developing countries may offer new perspectives for policy makers as well as help to unmask chronic problems in our economic systems and give direction to further studies concerning the youth labor market.

One might expect that declines in the size of the youth cohort observed in the past two decades would have contributed positively to labor outcomes of youth in developing

countries. Panel fixed-effects regression analyses covering a span of the last 22 years in 18 economically advanced and 23 developing countries were conducted to test the impact of changes in the size of the youth cohort on youth employment and unemployment controlling for macroeconomic conditions. A second question this study focused on concerns the impact of individual supply factors on youth outcomes in Turkey. The roles of human capital factors such as education and of family factors such as parent and sibling characteristics related to social capital were tested using micro data from the Turkish Household Labor Force Survey and hierarchical modeling. The study also tested the impact of the structural characteristics of regions.

Analysis of time series data across countries illustrated that relative cohort size had no impact on youth labor market outcomes controlling for other factors, in contrast to the findings of earlier studies. Results of the micro-level analysis illustrated the varying impact of education, the significance of the role of both parents and siblings and the distinct nature of family dynamics in rural versus urban contexts and across genders. Both micro and macro analysis indicated that with the structural changes taking place in developing economies today coupled with their context-specific features, youth unemployment is both a problem in its own right and signifies a problem larger than itself.

ACKNOWLEDGMENTS

Without the constant support and encouragement of the chair of my dissertation committee, Professor Alan Clayton-Matthews, this dissertation would not have been possible. Alan has been very generous in giving his time and utmost patient during the endless meetings where we discussed technical and challenging aspects of the data and analyses. Alan's humility and unique approach to teaching, without 'teaching' has inspired and helped me get through the past couple of years by being calm and confident about my judgment and work. Alan has set an example for the kind of scholar that I would like to transform into. I thank him for leading the way. The co-chair of my committee Prof. Donna Haig Friedman has contributed enormously to my intellectual development and has helped me widen my set of skills by teaching me about and providing me the opportunity to do qualitative work with high standards. She provided me with great opportunities to learn and apply my skills through work at the Center for Social Policy, which she directs. Throughout the dissertation, Donna has reminded me of the importance of the narrative and encouraged me to find my voice. I thank her for helping me to persist and to find my own story. Professor Ramón Borges-Mendéz, who was the member of the committee, with his great knowledge base, across disciplines reminded me of the importance of the theory, helped me to understand the big picture and to make the connections. He was supportive and available at all times. I thank him for helping me find my audience.

Professor Randy Albelda, read the final draft and offered important insights and comments which made this dissertation better. I thank her and all the professors of the Public Policy Program with whom I had the chance to work and who contributed to my intellectual development, especially Professor Ann Withorn and the late Professor Janet Farrell Smith for their participatory and inspiring styles of teaching. I had the privilege to be in an exceptionally supportive and rich cohort with whom classes were intellectually stimulating and pleasant. I thank all the friends in the Public Policy Program, in particular Shelley Tinkham, Mandira Kala, Brandynn Holgate and Heike Boeltzig. I thank Dr. Françoise Carré who generously offered her insights and knowledge on the topic on several occasions. I would like to thank my colleagues at the Center for Social Policy who have all been supportive and encouraging, especially Elaine Werby who has also been a great friend and mentor. This dissertation has benefited tremendously from the meticulous editing of Patricia Peterson, who also provided moral support and encouragement during the last challenging days. I thank her for keeping me company at the end of the journey. I thank all the administrative staff who worked at the Public Policy Program throughout the years for helping me sort through bureaucracy. This dissertation was partially funded by the University of Massachusetts Boston Doctoral Dissertation Award. I thank the University for the support.

This has not been an easy journey, but I had good company. My father, Mahmut Kahraman, a man of courage and persistence, bears unconditional love to all humankind. I thank him for keeping us together at the time of the Tempest. I thank my sister Belma Kahraman and my brother Ozal Murat Kahraman for sharing all the joy and the sorrow

that life brings. My aunt, Hatice Kahraman, raised me and sustained me and has set an example for not only me, but all those whose lives she touched. I thank her helping me become who I am. I thank my father in law, Naci Akmehmet, mother in law Eltaf Akmehmet for their support and encouragement especially during difficult times in the past few years. My friends here and elsewhere in the world have made my life joyous and rich. I thank them all for helping me love life.

I was lucky to have the companion of my husband Dr. Onur Akmehmet, throughout the journey who contributed to my growth as a human being and helped me persist. He contributed to my intellectual development and to this dissertation enormously by offering insights and ideas and by challenging me with his unique ability to see the end from the beginning. I thank him for the past journey and for the journey to come.

There are others who are not in this world anymore, but who have kept me company through my journey. My grandmother, Fatma Kahraman, who used to be my playmate, my story teller, and my friend, a relentless and brave fighter of love, continued to take care of me. I thank her for her love and compassion. This work is dedicated to the other woman in my life who has been on my mind and heart every day that I worked on this dissertation and who left this world a little too early. I thank my mother for giving me the Buddha inside her and the Buddha inside me.

DEDICATION

For My Mother

Zehra Sulanç Kahraman

(January 1, 1955–August 2, 2010)

Sen çiçek!
Bana içindeki Buda'yi verdin.
Sen çiçek!
Bana içimdeki Buda'yi verdin.

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CHAPTER 1

INTRODUCTION

Developing countries are becoming increasingly prominent in the world economy as emerging market share and responsibility within the global economy increases. Youth employment and unemployment is a challenging policy arena for developing countries, and little empirical evidence is available to inform policy planning and development. While there are numerous studies of youth labor market outcomes in advanced countries, studies of youth labor in developing countries are more limited. Since developing countries have considerably larger young populations as compared to developed countries, issues of youth employment and unemployment in developing economies, first of all, will increase in importance as these countries continue to gain weight within the global economy. Second, the fast arc of development in newly industrializing countries provides a unique opportunity to focus on how youth unemployment presents itself within the global economy. Third, by examining youth unemployment, one finds an opportunity to focus more broadly on some of the problems of unemployment. Therefore, the insights gained in this dissertation, as they are pertinent to youth and to developing countries, can also unmask chronic problems in the global economic system and give direction to further studies concerning employment and unemployment.

The significance of the 15 to 24 years of age span cannot be overstated because this is the developmental stage during which decisions that affect the rest of one's life are made. According to the 2008 Global Employment Trends for Youth report prepared by the International Labor Organization (ILO, 2008), youth comprise approximately 40 percent of total unemployed persons worldwide although they account for only one-quarter of the total working age population (ages 15 and over). In the decade between 1997 and 2007, unemployment of youth worldwide increased from 10.9 to 11.9 percent while the global adult unemployment ratio stayed level at 4.2 from 1997 to 2007 (ILO, 2008). Youth are approximately three times more likely to be unemployed than adults. The youth-to-adult unemployment ratio was 2.8 in 2007, up from 2.6 in 1997 (ILO, 2008, p. 3). O'Higgins (2001, p. 11) noted that youth unemployment rates are generally observed to be higher than adult unemployment for every country for which statistics are available. With the volatility of local economies in an era of recurrent global economic crises, the vulnerable position of youth within labor markets may become more solidified as they are often not the priority in the agendas of policy makers. Recent studies of the effects of the 2008 crisis and studies of prior crises have shown that youth have been adversely affected and much more so than adults; the effects have been very severe and long lasting (Verick, 2009; Bell & Blanchflower, 2009).

If overlooked, youth unemployment has a potential to have significant and serious social repercussions. Youth unemployment has implications for social exclusion and division within the society (ILO, 2006). If prolonged, unemployment may have negative consequences for the later stages of working life in terms of lower wages and longer

spells of unemployment (Fares & Tiongson 2007; Arulampalam, Gregg & Gregory, 2001; Ellwood, 1982; O'Higgins, 2001). Such scenarios imply that youth unemployment also has a potential to impact not only a person's lifetime economic well being, but also social and political participation and the economic inequality in the society at large. Increasingly, it becomes apparent that youth experiences, as they relate to the labor market, need to be viewed within macro-level contexts while taking micro-level perspectives into consideration.

Blanchflower and Freeman (2000), in an analysis of youth labor markets in advanced countries, discussed various explanations as to why there has not been any youth unrest in recent history despite deteriorating labor market conditions for youth in these countries. At the time of the writing of their book, the violent youth unrest in Greece¹ and earlier similar events in France² had not yet taken place. Both in France and Greece, there were suggestions in the media and public discussions that youth unemployment might have played a role in the eruption of social conflict as both these countries experience significant, above average levels of youth unemployment as compared to other European Union countries.

One of the signs of the information age is that youth around the world, using social media and other Internet tools, have immediate and intimate access to economic realities near and far. For developing country youth, this might mean a building up of high expectations for their futures in the face of grim realities close to home. As public

¹According to the UNDP unemployment of youth between the ages of 15 and 24 was 24.5 percent for Greece in 2007–2008 where events turned into violent youth unrest after the killing of a teenager.

²The rate of unemployment of youth aged 15–24 was 18.7 percent in France in 2007 prior to the worldwide financial crisis, and it reached 22.6 percent in 2009 after the crisis (ILO, KILM Databases).

opinion takes shape regarding the possible causes of uprisings in the Middle East in the winter of 2011, the role of youth is an undeniable precipitating factor. Countries need to evaluate policy matters as they relate to youth since discontent of youth is a major force for regime change. The challenge for public policy is to uncover the dynamics associated with change in national economies and in the global economy. As these dynamics are empirically revealed, direction for the development of individual and institutional problem-solving tools can emerge. If youth unemployment is not addressed, the youth will remain a risk factor in terms of economic and political stability in countries around the world.

Confronted with the challenges mentioned above, the two major questions that are the focus of this study are:

- 1) What are the factors that explain the size of the youth unemployment problem (i.e., the proportion of youth who are unemployed) in developing countries?
- 2) What are the factors that explain the distribution of this unemployment among the youth, (i.e., who is unemployed)?

To answer these questions, the study utilized a structure that incorporated both international and national data. The focus of the second question, using micro-level data from the Turkish Household Labor Force Survey (HLFS), is the country of Turkey.

In order to answer the first question related to determinants of aggregate levels of youth employment and unemployment in developing economies, the study used international labor market and macroeconomic data. The empirical literature on factors that determine the magnitude (aggregate rate) of youth employment and unemployment

were derived primarily from the experiences of advanced economies. The empirical literature has attempted to measure the contributions of several theoretical factors which can be grouped as demographic (related to labor supply), macroeconomic (related to aggregate demand) and institutional (rigidity) factors including also in their analyses, the interaction of these factors with one another (Blanchflower & Freeman, 2000; O'Higgins, 2001 & 2003; Muller & Gangl, 2003; Freeman & Wise, 1982; Blanchard & Wolfers, 2000; Biagi & Lucifora, 2007; Korenman and Neumark, 1997 & 2000, Baccaro & Rei, 2005; Neumark and Wascher, 2004; Jimeno & Rodriguez-Palenzuela, 2002; Scarpetta, 1996). Evidence with regard to the role of institutional factors, such as the presence of unions, is not consistent and recent studies argued that altogether they may not have a significant role in determining youth employment and unemployment (Bell & Blanchflower, 2009; Baccaro & Rei, 2005).

Testing the role of the changes in population age structure, controlling for macroeconomic conditions, had been particularly relevant for advanced countries which experienced sharp declines in the size of the youth populations in the 1980s and 1990s (Korenman and Neumark, 1997 & 2000). These changes were supposed to be favorable toward labor market outcomes of youth (Korenman and Neumark, 1997 & 2000). Korenman and Neumark (1997, 2000), having observed deteriorating outcomes for youth during these two decades and early in the 1990s, tested the impact of these variables on youth labor market outcomes in a set of advanced countries to explicate whether in reality the decline in size of the youth population had played a role in the variation of youth labor market outcomes controlling for macroeconomic conditions. Their results

suggested that these factors still played a role in determining youth unemployment outcomes, but that aggregate demand factors played a more important role (Korenman & Neumark, 1997, 2000). Korenman and Neumark (1997, 2000) argued further that the impact of yet another set of factors, such as structural changes taking place within advanced economies, may have dominated other factors throughout this period; and if it weren't for positive demographic changes, the youth labor market outcomes could have been worse. Many developing countries went through similar demographic trends in their population age structures (declines in the relative size of the youth cohorts) in the 1990s and 2000s; these declines are expected to continue in the next few decades (Lam, 2006). Evidence with regard to the role of the changes in population age structures on youth labor market outcomes in developing countries is weak both due to the limitations of data and the appropriateness of the methods used.³

This study builds on the work of Korenman and Neumark (1997, 2000) and tests the impact of changes in the population age structure (defined by the relative size of the youth population to adult population) on youth employment and unemployment, controlling for changes in the aggregate economy (defined by changes in adult labor market outcomes). The study uses data from the Key Indicators of the Labor Market, published by the ILO, and the World Bank Development Indicators as well as panel regressions covering a span of 22 years and two sets of countries which are grouped as 18 economically advanced countries, and 23 developing and transition countries. Analyses are conducted separately for advanced and developing/transition countries (henceforth referred to as developing countries); the regression methodology follows that of

³ O'Higgins (2003) has conducted an analysis, the limitations of which will be discussed in later chapters.

Korenman and Neumark (1997, 2000) as they introduce important improvements to what earlier studies had done in this regard. The results from this study provide important insights into the challenges associated with improving youth labor market outcomes in developing countries and hence have direct implications for the work of policy makers and researchers.

The second major question in this dissertation has to do with a micro study of factors that explain who is employed and unemployed, focusing on youth in Turkey. Turkey is an upper-middle income country⁴ with a Gross Domestic Product per capita of \$11, 208 in 2009.⁵ The country has been experiencing moderate economic growth in the past decades without accompanying growth in employment. The World Bank found Turkey's "sluggish labor market" in recent years puzzling: between 2002 and 2005, job growth was less than 3 percent while the economy grew at 7.5 percent annually (World Bank, 2008a, p. 97). In the 2000s, prior to the worldwide crisis in 2008, adult unemployment rates in Turkey were at 7-8 percent levels while the youth unemployment rates were at 16 to 19 percent levels. By 2009, unemployment rates worsened and were 11.3 percent for adults and 25 percent for youth.

Major structural changes have occurred within Turkey's economy in the past three decades. These changes involved a shift from an import substituting industrialization model to liberalization of the markets and an export-led growth strategy. Throughout this period, Turkey experienced a major shift in the sectoral composition of its economy: the agricultural sector lost its prominence while the services sector has been on the rise

⁴ World Bank's classification of countries according to income. More information can be found at <http://data.worldbank.org/about/country-classifications>

⁵ Purchasing power parity, constant 2005 International \$: World Development Indicators, World Bank.

(World Bank, 2008). The services sector has contributed most to employment creation in recent years (World Bank, 2008). In the past two decades, Turkey also experienced two major national economic crises; in addition, as with most other countries, its economy was adversely affected by the most recent global economic crisis. After the last national economic crises in 2000 and 2001, Turkey followed the IMF-led structural adjustment policies that included strict fiscal austerity, inflation targeting and a major restructuring of the banking sector. These strategies were successful in restoring stability to the economy (World Bank, 2008a).

Still a young country, half of the 72 million people living in Turkey are younger than 28.5 years of age.⁶ Furthermore, one quarter of the total population is between the ages of 0–14 years. Turkey's share of young population is expected to grow until 2020, although the relative share of the young population to adult population has been decreasing in the past two decades and is expected to further decrease in the next decades (Lam, 2006). Starting in the next decade, Turkey's demographic profile is expected to resemble that of an aging society (Lam, 2006). Turkey has been experiencing rapid urbanization in the last half century. The urban population increased from 20 percent in the 1950s to 64 percent in the 2000s, and the portion of the country's population living in urban areas is expected to rise to 80 percent by 2050 (World Bank, 2006). Urban unemployment has been problematic for both genders and adults, but especially for youth (Yenturk & Baslevent, 2007). Thus Turkey's current demographic profile and future trends, along with the current and imminent future economic situation, point to both opportunities and challenges for the country in its development.

⁶ Turkish Statistical Institute, 2008, New Census Results: <http://www.turkstat.gov.tr>

Very few studies examine youth unemployment or issues related to the employment of youth in Turkey considering the size of the problem (Yenturk & Baslevent, 2007). Most existing studies are descriptive in that they lay out statistics on youth employment or unemployment.⁷ The unavailability of micro data until recent years and the challenging nature of the structure of the data that are available have hindered comprehensive studies of the factors which impact the distribution of employment and unemployment among youth.⁸ United Nations Development Program (2008, p. 8) stated that Turkey needs an articulate youth employment strategy. This would involve: “identifying the specific features, constraints and opportunities which matter most in terms of employment creation,” and “new and more specific employment policies, geared towards the needs of the young” (UNDP, 2008, p. 8). The study of Turkey as part of this dissertation is an attempt to first identify these specificities in order to contribute to the definition of the issues around youth employment and unemployment, and thereby contribute to the construction of employment policies for youth in Turkey, taking into account international and local dynamics.

The empirical literature identifies several demographic and background factors which primarily derive from human and social capital theories, as well as spatial factors, that affect the probability of individual employment and unemployment at youth. Studies conducted in different countries show that one’s own educational background, gender,

⁷ Even these descriptive statistics are limited by what was available at the time of the writing of the reports or articles. Turkish Statistical Institute updates and improves its data collection strategies on a continuous basis. Lately, the Turkish HLFS 2008 micro-data was updated according to the results of the latest Census which was released in 2007 and has provided a very good opportunity for an advanced study of youth labor market outcomes.

⁸ The way the data is structured makes it a complex and challenging task to construct variables, for example, family level variables, which can be important in explaining who is employed and unemployed among youth are not readily available.

family factors (such as parent education or sibling employment status) are among those which are worth examining (Osterman, 1980; Freeman & Wise, 1982; McDermott, 1983; DeLamatre, 1985; Peterson, Stivers & Peters, 1986; Macdonald, 1988; Valero Gil, 1989; Mortimer, 1990; O'Regan, 1990; Powers, 1991; Rivkin 1991; Broomhall, 1991; Prause, 1991; Keithly, 1992; Vella, 1993; Pedersen & Westergird-Nielsen, 1993; O'Regan & Quigley, 1996; Coltrane, 2000; Ianelli, 2002; Athena, 2002; Aaronson, Park & Sullivan, 1997; Ianelli & Smyth, 2008). Using the Turkish Household Labor Force Survey for 2008 and hierarchical logistic regressions, this study tests whether these demographic and family background factors have a significant role in explaining youth labor market outcomes of Turkish youth controlling for structural characteristics of the regions in Turkey. The study attempts also to explain the variations from expectations with regard to the role of these factors taking into account the specific contextual economic, institutional, social and cultural characteristics of Turkey. A deeper understanding of the individual and local dynamics is expected to provide a better basis in the design of youth employment policies within developing country contexts.

Chapter 2 presents the literature review and Chapter 3 presents the theoretical framework for the two primary research questions. Chapter 4 provides information on methods, data, and sample selection. Chapter 5 presents the background and history of Turkey focusing first on the aggregate economy, and then on the characteristics of Turkish youth labor. Chapter 6 presents the results of the empirical analysis for the first macroeconomic question together with a discussion of the results, which are presented in a separate section. Chapter 7 presents the results of the empirical analysis for the second

microeconomic question together with a discussion of the results, which are presented in a separate section. Chapter 8 presents the broad conclusions of this study bringing together the results of the macro and micro studies. Finally, Chapter 9 presents policy and research implications which emerge from this study.

CHAPTER 2

LITERATURE REVIEW

The literature review is divided into three main sections. The first section below presents the background on definitions, characteristics and issues of youth employment and unemployment. It discusses also the consequences of youth unemployment. The second section discusses the various explanations of high unemployment among youth, indicating the larger theoretical underpinnings of these explanations. The third section discusses youth employment policies worldwide.

I. Overview of Youth Employment and Unemployment

Youth and Unemployment, Definitions

The standard UN definition of youth is those people who are between the ages of 15 and 24 inclusive. Turkish Statistical Institute (TurkStat) has adopted the standard UN definition of youth. O'Higgins (2001, p.10) has pointed out that, in practice, this definition may vary according to the cultural and social characteristics of the context; however, in industrialized countries, the lower limit is usually the statutory minimum school leaving age. There are greater differences across countries in the definition of the upper limit; for example, in Britain youth employment policy covers those aged 16 to 18,

while in Southern Italy youth employment policy is targeted at people between the ages of 14 and 32 (O'Higgins, 2001, p.10).

The standard ILO definition of the unemployed are “those people who have not worked more than one hour during the short reference period, which is usually the previous week or day, but who are available for or actively seeking work” (O'Higgins, 1997, p. 3).⁹

Characteristics and Issues of Youth Employment and Unemployment

According to the 2008 *Global Employment Trends for Youth* (henceforth referred to as GET Youth, 2008) report prepared by the ILO (2008), youth comprise approximately 40 percent of total unemployment worldwide although they only account for one quarter of the total working age population (ages 15 and over). In the decade between 1997 and 2007, unemployment of youth worldwide increased from 10.9 to 11.9 percent while the global adult unemployment rate stayed level at 4.2 from 1997 to 2007 (ILO, 2008). “The youth are approximately three times more likely to be unemployed than adults, youth-to-adult unemployment rate was 2.8 in 2007, up from 2.6 in 1997” (ILO, 2008, p. 3). O' Higgins (2001, p. 11) noted that youth unemployment rates are generally observed to be higher than adult unemployment rates for every country for which statistics are available.

⁹ For a detailed discussion of the implications of adopting this definition of youth unemployment as opposed to some other measure such as Non-Employment Rate and for a discussion of differences between Unemployment Rate and Unemployment-Population ratio, please refer to O'Higgins, 1997, pp. 3–5. O'Higgins illustrates these differences with comparisons across countries.

From 1997 to 2007, worldwide youth participation rates decreased, while youth inactivity rates (non-participation in the labor force) increased (55.2 to 50.5 and 44.8 to 49.5 respectively). These changes are explained by increased participation in full-time education (ILO, 2008). The decline in youth labor force participation rates for the standard definition of the youth age group, 15–24, does not hold true for the age group, 25–29 (ILO, 2008). The labor force participation rate for this group remains constant over time, indicating that “the decline in youth labor force participation rates [for the former group] is mainly a passive side-effect of longer education terms, namely the postponing of labor force entry beyond the years which define ‘youth’”(ILO, 2008, pp. 6–7). The report, thus, suggested that there is strong evidence for expanding the standard definition of youth from 15–24 to 15–29 years of age for research purposes (ILO, 2008, pp. 6–7).¹⁰ O’Higgins (1997) illustrated that, between the early 1980s and mid-1990s, the labor force participation for youth across European countries has decreased largely due to increased participation in full-time education (O’Higgins, 1997, p. 20). He also showed that the rates for teenagers (15–19) and young adults (20–24) are different.

Unemployment is one among many issues that youth face in the labor market (ILO, 2006). In both developing and industrialized countries youth are more susceptible to issues such as “long working hours, work with short-term and/or informal contracts, low pay and little or no social protection” (ILO, 2004, p.1). Additional youth labor market indicators recommended by the ILO (2004) to reveal the other layers of the situation of youth include:

¹⁰ This will be taken into account in the preliminary descriptive analyses of data for this study.

- *Unemployment Duration:* Longer spells of unemployment are found to be directly linked to future poverty and social exclusion (ILO, 2004). Identifying those who experience long-term unemployment is recommended in order to design interventions in a timely manner for those who are most vulnerable (ILO, 2004). For Organization for Economic Cooperation and Development (OECD) countries, unemployment duration has decreased from 1993–2000. ILO (2004) argued that this measure is more relevant for advanced countries because youth in developing countries cannot afford to be unemployed for longer periods. However, such a generalization across developing countries may not be true. In some developing countries, cultural values and social and family ties may allow youth to spend longer periods of times with their families, without working.
- *Underemployment:* Underemployment implies that employed people are working below a certain cut-off point of hours although they would like to work more if work were available (ILO, 2004). ILO (2004) stated that there is a connection between underemployment and poverty. A high level of underemployment among youth might imply that youth lack the power to bargain for more hours or better conditions.
- *Incidence of Temporary Work:* Youth are more likely to hold temporary jobs than adults (ILO, 2004). The problems associated with temporary work are “higher risk of job loss and labor market exclusion,” and lower wages (ILO, 2004, p.16).
- *Employment Status:* Under the assumption that wage employment is desirable, a high prevalence of unpaid family work, for example, might imply that youth are

facing difficult job entry transitions (ILO, 2004). The prevalence of non-wage work is especially high in developing countries (ILO, 2004).

- *Informal Economy Employment:* There is not enough evidence about the incidence of informal unemployment among youth; however, trends in some countries point to the increased presence of informal, unprotected employment in urban areas (ILO, 2004). In Latin America, informal employment is the most feasible option for many youth when they enter the labor market (ILO, 2004). Jobs in the informal sector are those that usually pay very low wages and lack social security (ILO, 2006). ILO has coined the term “working poverty” to identify those situations where people work “for long hours for low wages under poor conditions and with no social security or any voice” (ILO, 2006, p. 24).
- *Sectoral differences in employment:* Especially in developing countries the prevalence of informal employment is higher in the agricultural and the service sector (ILO, 2004). Osterman (1980) found that most youth start out their careers working in secondary jobs and move to primary jobs later on in their careers. Primary jobs offer better opportunities of training and stability (Osterman, 1980). Secondary jobs, on the other hand, offer fewer opportunities and require fewer skills (Osterman, 1980). Osterman (1980) explained that as much as this is related to behavior of the youth, it is also related to the nature of demand for youth labor. He explicated that employers of primary jobs tend not to choose young employees while the opposite is true for employers of secondary jobs (Osterman, 1980).

- *Discouraged Workers, Neither in Education nor Employment (NEET):* The discouraged workers are those who have given up looking for work since they believe there is no opportunity for them in the labor market (ILO, 2004). The incidence of the discouraged worker phenomena is higher among adults in some countries and it is higher for youth in other countries (ILO, 2004). Women are more likely to be discouraged workers than men (ILO, 2004). The NEET rate is considered to be a useful measure of “non-utilized labor potential of the youth population” (ILO, 2006). It is a measure of those who are inactive due to reasons other than education such as disability or engagement in household work as well as those youth who are unemployed. For those countries for which data are available, the youth NEET rate is the highest for Central and Eastern Europe, 33.6 percent; followed by sub-Saharan Africa, 27 percent; Central and South America, 21 percent; and Developed Economies and European Union, 13.4 percent (ILO, 2006). Once again, for those countries for which data is available, NEET rates among young females are higher than among males (ILO, 2006). ILO (2006) has speculated that the total of those who are unemployed and those who are involuntarily out of the labor force would be a suitable measure of “social exclusion” and thus would be of good use to policy makers who wish to provide support to those who need it the most. Thus NEET is also a useful measure of “vulnerability rate” (ILO, 2006).

- *Wages:* ILO (2004) has stated that there is a gap between adult wages and youth wages arising from lack of experience, but there is no straightforward answer to how great a gap is acceptable.
- *Various Indicators of Job Satisfaction:* Another measure of labor market conditions for youth is an indicator of job satisfaction. However, satisfaction rates are difficult to measure. ILO (2004) has pointed out that the school to work transition survey that ILO is implementing across countries could be a good start to measure job satisfaction.

Consequences of Youth Unemployment

Studies have found that unemployment, if prolonged, may have negative consequences for a person's working life in terms of lower wages and/or longer spells of unemployment (Fares & Tiongson, 2007; Arulampalam, Gregg & Gregory, 2001; Elwood, 1982; O'Higgins, 2001). The authors used the term "scarring" to explain this phenomenon. Authors showed that for youth in Bosnia, for example, jobless spells take a higher toll on youth with more education (Fares & Tiongson, 2007). Arulampalam et al. (2001) have illustrated empirically that a significant dimension of scarring is depreciation of skills during the periods of unemployment (Arulampalam et al., 2001). The phenomenon of scarring signifies that unemployment is much more costly for the individual and the society than the initial loss of earnings (Arulampalam, et al., 2001).

II. Explanations of High Unemployment Rates for Youth

Different explanations of high unemployment rates among youth are discussed below. The larger theoretical underpinnings of these explanations are also indicated.

Youth Cohort Size & Fluctuations in Aggregate Demand

A major aggregate determinant of youth unemployment is related to the size of the youth labor force (Macunovich, 1999; Shimer, 1999; Korenman & Neumark, 1997, 2000; O'Higgins, 2001 & 2003; Jimeno & Rodriguez-Palenzuela, 2002; Yenturk & Baslevent, 2007). Holding other factors constant, a greater number of people in the labor market mean a greater number of jobs required to accommodate them. Studies have shown that the relative size of the youth cohort to the adult population has a significant impact on youth unemployment; however, the aggregate labor market conditions have more impact (O'Higgins, 2001 & 2003, p. 45; Blanchflower & Freeman, 2000; Muller & Gangl, 2003, p. 271; Korenman & Neumark, 1997 & 2000; Yenturk & Baslevent, 2007). Differences were detected when the impact of youth labor cohort were analyzed separately for the two genders (O'Higgins, 2001; Yenturk & Baslevent, 2007). The elasticity of female youth unemployment with respect to the relative cohort size is greater than that of males (O'Higgins, 2001). Although the actual size of the youth labor force is expected to increase in many of the developing countries, the relative size of the youth cohort is expected to decrease in the coming decades (O'Higgins, 2001). O'Higgins (2001) argued that the real challenge then is augmenting the employment content of economic growth.

The effect of a fall in aggregate demand is a fall in the demand for labor of both young and adult workers (O'Higgins, 1997, p. 31). Prior studies of worldwide economic crises and recent studies of the 2008 worldwide financial crisis have illustrated that youth were hit the hardest and that unemployment is persistent even after the economy is growing again (Verick, 2009; Bell & Blanchflower, 2009). O'Higgins (1997, p. 31) has stated that it is important to understand why "fluctuations in aggregate demand affect youths disproportionately." On the supply side, young workers are found to be more likely to quit their jobs than adults even during recessions due to the low opportunity cost of doing so, and thus they will be "disproportionately affected by recession induced reductions in new hires" (O'Higgins, 1997, p. 31). On the demand side, hiring freezes affect young workers more heavily than lay-offs as the young "comprise a disproportionate segment of job seekers" (O'Higgins, 1997, p. 31). The employment of youth in economically advanced countries deteriorated from the 1970s into the 1990s (Blanchflower & Freeman, 2000). This is despite advantages with regard to demographic and structural factors, such as the decline in the relative size of the youth cohort and the rise of sectors which employ youth, such as the services sector. Blanchflower and Freeman (2000) concluded, after successfully eliminating many factors, that aggregate-level changes might have affected youth employment levels the most (Blanchflower & Freeman, 2000).

Wages & Labor Legislations

The argument related to wages is as follows: “the higher the relative wages of youth with respect to those of adults, the more incentives there are to employ adults as opposed to youth” (O’Higgins, 1997, p. 31). O’Higgins (1997) observed that this is only true if one assumes adult workers are perfect or close substitutes for their younger counterparts. O’Higgins asserted that there is no strong evidence of youth unemployment rates being closely related to youth/adult relative wage rates (O’Higgins, 1997, p. 40).

The evidence that minimum wages are likely to affect the employment of youth in a significant way in the context of industrialized countries is mixed and varies widely across countries (O’Higgins, 2001). However, one can say “neither theory nor empirical evidence” uniformly supports a negative relationship between minimum wage and youth employment (O’Higgins, 2001, p. 91). The evidence in developing countries is even less conclusive (O’Higgins, 2001).

Unemployment insurance, welfare benefits, and unionization are among the factors which may contribute to youth unemployment by interfering with the supply of labor (Bell & Blanchflower, 2009). Once again, the influence of demand related factors seem to outweigh these other legislative factors: Bell and Blanchflower (2009) and Baccaro and Rei (2005) have argued and illustrated empirically that “the orthodox view,” which claims that labor market inflexibility caused by labor market institutions such as union density or interactions of such variables with macroeconomic variables cannot explain the fluctuations in unemployment. Indeed, the outcomes of the studies which focus on testing the institutional factors present unequivocal results (Blanchard &

Wolfers, 2000; Baccaro & Rei, 2005; Neumark and Wascher, 2004; Jimeno & Rodriguez-Palenzuela 2002; Scarpetta, 1996).

Structural Changes and Labor Market Mismatches

Mismatches are defined as exogenous shifts that occur on the demand side of the labor market to which labor supply is slow to adjust (Peterson and Vroman, 1992). For example, technological changes might cause displacement of workers in certain sectors and might bring about a growing need for more skilled workers (Peterson and Vroman, 1992). Alternatively, changes in exchange rates could lead to a raise in the rates of imports in certain industries which could result in decreased demand for these goods in that industry (Peterson and Vroman, 1992). These types of shifts result in mismatches which are considered to be among the structural causes of unemployment (Peterson and Vroman, 1992). Technological changes such as computerization, might be among the factors that impact the demand for youth labor positively (Blanchflower and Freeman, 2000). Also, increased trade with developing countries with an abundant supply of young labor is considered to be among the factors that can impact youth employment (Blanchflower and Freeman, 2000).

Gangl (2003) drew attention to a feature of labor markets which became apparent in recent years in the context of EU countries; rising educational levels along with occupational upgrading. He formulates and tests various hypotheses over the impact of these changes in youth labor markets. The author measures educational upgrading in terms of increases in the proportion of those with tertiary education. On the other hand,

rising occupational standards are measured as the percentage of professional occupations among all occupations. These two factors combined together explain the patterns of occupational allocation (Gangl, 2003). Gangl (2003) has illustrated that it is the least qualified who are most adversely affected by the occupational upgrading.

Spatial Differences

Although macroeconomic theory has for a long time neglected the existence of spatial differences in unemployment or employment, studies which examine these differences have offered various explanations as to why these differences persist (Elhorst, 2003; Lopez-Bazo, Del Barrio, & Artis, 2002). Countries where there are regional differences in terms of adult unemployment have even more pronounced variations for youth (O'Higgins, 2001). Youth generally don't have the financial means to relocate for work, they are less likely to move for job opportunities beyond their close vicinity; this lack of mobility may partially explain high unemployment rates observed among youth (ILO, 2006).

The urban-rural angle is one of the dimensions of regional differences that is associated with different labor outcomes for youth (McDermott, 1983; Powers, 1991; Prause, 1991; Broomhall, 1991; MacDonald, 1988). O'Grady (1993) found evidence in support of the importance of region specific factors in young persons' transitions to work. O'Regan and Quigley (1996) found strong evidence for spatial differences to play a role in outcomes of youth; neighborhood poverty and unemployment had a significant impact on labor market outcomes of youth. In addition, DeLamatre (1996) found that negative

perceptions of youth of their neighborhood or area in terms of access to opportunities and jobs were associated with lower probabilities of employment among youth. Keithly (1992) has attempted to control for the characteristics of the labor market in an investigation of the labor force participation of youth: the variables which were significantly associated to youth labor force participations included unemployment, employment growth, labor supply and urban/rural status. Similarly, Prause (1991) found local economic conditions to be significantly related to youth labor market outcomes. Larson (1996) illustrated that structural factors play a role in youth employment; sectoral shifts in favor of services were found to be negatively impacting employment of black youth.

Individual Supply Factors

Behavioral and personal attributes of young individuals have a role in their employment prospects. Economists consider individual decisions with regard to acquiring intangible forms of capital —such as those related to a person’s education or skills and health— important in determining their outcomes in the labor market (Becker, 1975). These decisions are conceptualized within the human capital theory which has at its core the rational, utility-maximizing individual who is constantly engaged in making cost-benefit decisions with regard to investment in his own education or training (Becker, 1975). The theory makes a distinction between different forms of human capital; those that are acquired through formal education and those which may be specific to a job and are acquired through training (Becker, 1975). The cost of getting higher levels of

education or training involves the opportunity cost of not being engaged in work and thus includes the lost income from not working throughout the period of education or training (Becker, 1975). Human capital theorists have also recognized the significant impact of families on knowledge, skills, and behavior of youth (Becker, 1975). Thus the ways in which family characteristics factor in youth labor market outcomes is through their impact on the capabilities and behaviors of youth.

How far various strands of human capital theory go in explaining the *behavior of youth* in labor markets is not clear. For example, Osterman (1980) has argued that Richard Freeman's conclusion in *Market for College-Trained Manpower*, which stated that human capital models of occupational choice are valid and relevant, might not hold true for a different group of youth. For a far less advantaged group that he studied through qualitative interviews, Osterman (1980, p. 40) explicated that the behavior of youth can hardly be explained by the different strands of Human Capital Theory for various reasons. First, the sequence of jobs youth hold did not follow career patterns; second, most jobs were found through informal contacts and thus careful search and rational choice did not seem to play a significant role; third, unemployed youths tend to take the first job that comes along without careful consideration of alternative options; and last "when asked how they found their jobs, youth rarely described the process in terms of choice or selection" (Osterman, 1980, p. 40). The same study (1980, p. 43) further stated that for many youth, "the process of entry and adjustment to the labor market is lengthy and involves distinct periods." Youth move from "a period of casual attachment to an increasing commitment to work and stable behavior" (Osterman, 1980,

p. 40). ILO (2006) has stated that youth will take longer than adults to look for and find a job that will suit them (termed as ‘shopping around’). This, of course, is based on the assumption that the youth have a family support system which will sustain them during this period and this is less likely to be the case in developing countries (ILO, 2006). Empirical studies have illustrated differences in outcomes of youth that varies by their individual characteristics such as age, gender or education. Furthermore the same characteristics may be associated with different outcomes for youth when the context varies. The results from these various studies are discussed below.

Age, Gender, Ethnic Origin/Race, Disability, Education and Skill Levels

As youth age, differences will be observed in their experience and skill levels which can have a direct impact on their outcomes. For a majority of countries as teenagers (15–19) age and become “young adults” (20–24) and as young adults become “prime age adults” (25–54) the unemployment rates fall (O’Higgins, 2001, p. 22). There are a few countries with higher unemployment rates observed for young adults (“inverted-U pattern”) and Turkey is one of them (O’Higgins, 2001). This exceptional pattern is observed also in Germany, the Philippines and Thailand (O’Higgins, 2001). Osterman (1980) has observed that as youth age there are shifts in their industrial distribution. For example, youth in the U.S. are employed in construction, manufacturing and wholesale and retail trade early on, while later manufacturing and construction are still there, wholesale and trade tend to disappear (Osterman, 1980). Osterman has (1980)

observed also that as youths age their quit rates fall, suggesting once again that youth's attachment to the labor market may change as they age.

Countries have distinct patterns in terms of the prevalence of unemployment among young women and men (O'Higgins, 2001). For the OECD countries the ratio of female-to-male youth unemployment stayed fairly stable and close to 1 with slightly higher levels of unemployment for females throughout the 1990s (O'Higgins, 2001). In developing countries, the patterns revealed a different picture when rural vs. urban unemployment rates were considered for both genders. In urban areas, female unemployment proved to be much higher than for males (O'Higgins, 2001). O'Higgins (2001) illustrated that the labor force participation rates for females were much lower than males for a significant number of developing countries. The primary out-of-the-labor-force activity for women was housework, while for young men it was education (O'Higgins, 2001). Ianelli and Smyth (2008) in a study of 12 European countries have found that countries exhibit variations in the extent to which gender explains youth labor market outcomes. Furthermore, this variation is mediated by the characteristics of the welfare regime. The role of gender was observed to have more effect in familial and conservative systems (Ianelli and Smyth, 2008). These familial and conservative systems included the Southern European countries along with France and Belgium and females in these systems had difficulty in finding paid employment despite high education levels (Ianelli and Smyth, 2008).

Ethnic origin appears to be a significant factor in determining employability as large differences are observed across groups with different ethnic origins (O'Higgins,

2001). Not many countries publish data deviated along ethnic lines. Turkey has not collected data on ethnic minorities since the 1960s. However, eastern regions of the country are also those where large populations of people with Kurdish origin reside.¹¹ Data for persons with disabilities are rare, but existing data reveal lower labor force participation rates and higher unemployment rates for people with disabilities (O'Higgins, 2001).

In most of the OECD countries as educational level increases unemployment decreases (O'Higgins, 2001). In developing countries, on the other hand, there is a phenomenon of high unemployment among the educated although there are claims that the "educated unemployment hypothesis has been rather overstated" (O'Higgins, 2001). O'Higgins (2001) has warned that there are a couple of factors that need to be taken into account when assessing the intensity of the problem of unemployment among the educated; first as education level goes up, the labor participation rates go up, and this implies a phenomenon of more discouraged workers among the less well educated (O'Higgins, 2001). Second, the educated group is much smaller relative to other groups. Third, a comparison between teenagers and young adults might be revealing since there are differences in the amount of time spent in the labor market looking for a job; that is, those with higher education are likely to have spent less time for looking work (O'Higgins, 2001). Freeman and Wise (1982) noted that the form of education during high school might be related to later labor market experiences. They stated that

¹¹ Kurds are Turkey's biggest minority group with estimated population percentages of 8-15 %. The large variance in estimation is an indicator of the sensitivity of the topic in Turkey. For a discussion of the Kurdish question in Turkey see Kirisci, Kemal and Gareth M. Winrow. 1997. *The Kurdish question and Turkey: An example of a Trans-state ethnic conflict*. London and Portland, OR: Frank Cass.

vocational training in high school is not significantly related to youth success in the labor market (Freeman & Wise, 1982). Academic success in high school is said to be positively related to both employment and wages after graduation (Freeman & Wise, 1982).

School-to-work transition in a young person's life is one of the most important transitions "for determining an individual's economic and social well-being" (ILO, 2006, p. 36). ILO (2006) designed and conducted a school-to-work transition survey to understand what makes transitions "right" and to determine the proportion of youth who get "to start right." The results from the survey indicated that "School-to-work transitions are lengthy and multi-stepped processes and few youths have "finished" by the age of 29" (ILO, 2006, p. 38). Furthermore, a higher education does not necessarily provide for an easier transition. Many youth indicated that the major obstacle to finding a job is the lack of jobs. The concept of school-to-work transition has drawn particular attention in the European Union (EU) (Blasco et al, 2003). EU has adopted specific policies to make transitions work better for its youth and this will be discussed further in latter sections.

Osterman (1980) claimed that the relationship of schooling to employment is most often a crucial factor in the youth unemployment problem. Most youth continue to work part time while they are in school. Furthermore, they start to seek jobs in large numbers when schools are in recess during the summer. Koushik (1994) illustrated that early job experiences, at the ages of 14–15, have no adverse effect on later outcomes of youth, but that gains from such experiences are diversified across groups. For example,

gains in terms of later hours worked and wage rates were most pronounced for black adults.

Lack of skills such as job search expertise may play a role in high unemployment rates of youth (ILO, 2006). Adults have more experience looking for employment and they have more connections and are tied to more informal networks than are young people (ILO, 2006). Informal networks and connections are very prevalent forms of job seeking, especially in developing countries (ILO, 2006).

Family Background/Dynamics

While the human capital theorists recognized the influence of family on individuals' capabilities and thus outcomes, sociologists theorized the importance of the impact of family relationships on youth outcomes in their own right (Coleman, 1988). Coleman (1988, p. 100) argues, while "human capital is created by changes in persons that bring about skills and capabilities that make them able to act in new ways," it is, "changes in the relations among persons that facilitate action" which constitutes "social capital." Although Coleman's (1988) theory is originally applied to the case of high school drop outs and is thus explicating the family background and social capital in relation to educational attainment, this study applies the theory to employment outcomes of youth. Coleman (1988) has argued family background may interfere with youth outcomes in three different ways, through human capital, financial capital and social capital. Why financial capital matters is obvious as one needs stable housing, and other subsistence needs. Coleman (1988) stated that the presence of human capital of parents

such as high levels of education can potentially help in achieving better cognitive skills, but when the relationships are missing, for example, when the parents are too busy to attend to their children, parent education may not have any impact. This is why social capital is distinct from these two forms of capital; it focuses on the existence and nature of relationships.

Coleman (1988, p.102–105) identified three forms of social capital: “obligations and expectations, which depend on trustworthiness of the social environment, information-flow capability of the social structure, and norms accompanied by sanctions.” The existence of these forms of social capital within the family or outside the family could have significant implications for a person’s labor market outcomes. For example, in trying to find a job for the young person, a family member may be able draw on connections with persons he previously served in some way, expecting now to be paid back. Or family might be connected to a community or network which carries significant information about jobs which may have not existed otherwise. There may also be norms such that those within the circle are taken care of or helped when in need which might facilitate the process of looking for a job.

The outcomes of studies vary in terms of how family background measured mostly in terms of parent education or employment impacts youth outcomes. Peterson et al, (1986) find that parents were the most important among the “significant others” in employment decisions of youth. Rees and Gray (1982) found no significant relationship between parent characteristics and income and youth labor market outcomes; parent income was, however, significantly and positively related to youth wages (Freeman &

Wise, 1982). Furthermore, siblings' job situation is more likely to affect a young person's job situation positively (Rees & Gray, 1982). O'Regan (1990) found that having an employed parent or sibling positively impacts labor market outcomes of youth. On the other hand, Athena (2002) has found that high income and education of parents are strongly associated with an exclusive focus on education leaving work out. Another study conducted by DeLamatre (1996) for a random sample of male participants in the U.S. found that parental unemployment, receiving public assistance and low socioeconomic background were significantly related to lower employment outcomes. A study by McDermott (1983) in rural Wales similarly found that the youth were negatively impacted by social disadvantages and lack of access to local networks and specifically by parental unemployment and economic hardship in the household. Keithly (1992) examined labor force participation rates of youth and found that parental employment and white collar occupational status of the parent is positively associated with youth labor force participation.

Ianelli's (2002) cross country European study of family background on young peoples' educational attainment and early outcomes illustrated the important role of institutions such as the welfare or the education system in determining outcomes. Results varied by groups of countries: In Nordic countries where welfare systems are more established and education is more widely available, the family factors played a relatively less important role in contrast to transition countries where these institutions were weaker and provided less with the rapid transformation into liberal economies which took place in these countries (Ianelli, 2002).

III. Youth Employment Policies

A book edited by Bertram in the early 1990s pointed out the difficulty of studying topics such as youth, work and youth unemployment in a comparative perspective as he pointed out these are all connected to the specific economic, social and educational policies of the context being studied (Bertram, 1994, p. 273).

Hamilton (1994, p. 248) further argued that youth employment “interventions cannot be limited to the improvement of human capital; that is, to increasing the supply of qualified workers.” Hamilton (1994, p. 249) pointed out one has to think not only of *programs* but also *systems* to reduce youth unemployment. He stated that programs serve “a limited and defined group of people,” they are funded for short periods of time and viewed as temporary remedies, thus must be cut back when funds are limited. On the other hand, he argued, “*systems* are open to all who qualify” (Hamilton, 1994, p. 250). Hence when more people want to use services, the systems have to extend (Hamilton, 1994, p. 250). A third point on interventions put forward by Hamilton (1994, pg. 250) is that prevention of youth unemployment is preferable to treatment, however, he argues, treatment often wins out because “treatment can be more readily targeted to those in need” and its results can be quantified as numbers or proportions whose conditions have been improved (Hamilton, 1994, p. 250). Fourth, argued Hamilton, interventions should aim at preventing the marginalization or social exclusion of youth. He lastly claimed that interventions should prepare youth according to the needs of the times that are emerging.

An edited book which examined the European Union's youth transition policies published 10 years after Petersen and Mortimer (1994) followed similar arguments (Blasco, McNeish & Walther, 2003). Authors indicated that both supply and demand side factors should be taken into account in order to comprehend youth unemployment, but most interventions within the EU countries have attended only to the supply side by remedying the shortcomings of those unemployed (McNeish & Loncle, 2003, p. 111).

The European Council introduced the European Employment Strategy (EES) in 1997 with a view to promoting convergence in labor market related policies (Walther and McNeish, 2003). EES stipulates that each country makes a commitment to offer an opportunity (new start) to every youth under the age of 25 after they are unemployed for six months (Walther and McNeish, 2003). These opportunities might include orientation, education, training, work experience or employment (Walther and McNeish, 2003, p. 4). EU countries followed different trajectories in meeting this goal with varied outcomes and limited sustainability (Walther and McNeish, 2003). Walther and McNeish (2003) pointed out that most often the policies of more successful countries were promoted as best practice. Authors stated that youth transitions policies should be in tune with the socio-economic and socio-cultural changes that are taking place in societies (Walther and McNeish, 2003, p. 3). They observed that in Europe "often the single policies are not connected with one another and deal with individual biographies only from compartmentalized perspectives for which they are institutionally responsible (as labor, as a human resource, as a claimant of benefits and so on.)" (Walther and McNeish, 2003, p. 3).

Following the adoption of EES, countries approached differently both defining the problem of youth unemployment and the ways to tackle it (Mcneish & Loncle, 2003). However, one commonality among all actors was that they adopted an “active supply side orientation” which focused on increasing the “employability” of the unemployed (McNeish & Loncle, 2003, p. 110). No attention was paid to factors such as geography, vertical and horizontal segmentation, mismatch of supply to demand when demand is high (McNeish & Loncle, 2003).

Blanchflower and Freeman (2000, p. 9) identified three kinds of programs which aim to tackle youth unemployment: supply side programs that try to ease the transition from school-to-work before any problems arise; supply side programs that address specific needs of youth who are facing difficulties in the labor market; and demand side programs such as minimum wage programs, which aim to raise the wages for youth, and programs which try to link certain employment opportunities with youth. Authors pointed to the German apprenticeships as the most successful among school-to-work-transition programs (Blanchflower & Freeman, 2000). They also stated that the Swedish second chance programs are not overly effective (Blanchflower & Freeman, 2000). The effectiveness of the U.S. second chance program, Job Training Partnership Act (JTPA) is also not very conclusive (Blanchflower & Freeman, 2000). The authors examined the French demand side programs and find their effectiveness to be questionable as well (Blanchflower & Freeman, 2000).

Different approaches affect different groups of youth disproportionately: thus one has to pay attention to those who are most disadvantaged. Having a gender dimension is

almost always important; for example, in which sectors are females concentrated? And is their work part time or full time (Blasco et al., 2003; Peterson & Mortimer, 1994)? What other policies (e.g. social policies) influence young women's employment? How about vertical/horizontal segmentation (Blasco et al., 2003; Peterson & Mortimer, 1994)?

Studies found networks and partnerships to be important for developing strategies for youth employment. Some relevant questions to ask in this matter are as follows: Are there local/non-local partnerships existing between the government, the employers, the education sector and the third sector (Blasco et al., 2003; Peterson & Mortimer, 1994)? What does the answer to this question imply in terms of skill mismatches? Doe there exist and is there a need for bottom-up approaches to generating employment (Blasco et al., 2003; Peterson & Mortimer, 1994)?

Youth employment inventory (YEI) is compiled by the World Bank and includes 289 interventions that aim to improve the employment outcomes for youth from 84 countries (Betcherman et al., 2007). The analysis revealed that skill training is the most common type of intervention for youth (39 percent of all interventions) (Betcherman et al., 2007). On the other hand, 32 percent of interventions are comprehensive multiple-service interventions such as “combining vocational and on-the-job training with wage subsidies and public works, or classroom and on-the-job training with paid work experience and job search assistance” (Betcherman et al., 2007, p. 1). The majority of the interventions covered in the study are in the OECD area (42 percent): Industrialized countries are those which usually have explicit strategies in addressing youth unemployment. Latin America ranks as second with 24 percent of the share of total

interventions (Betcherman et al., 2007). An interesting finding is that even after controlling for the quality of the evaluation evidence; interventions that took place in developing regions had more favorable employment outcomes for youth than those in the developed regions (Betcherman et al., 2007).

For many of these programs, the effectiveness is very difficult to document and, as discussed earlier, the context matters. O'Higgins (2001, p. 163) has stated that the effectiveness of various Active Labor Market Policies, for example, "will depend on the general economic context, as well as on the specific nature of the youth labor market problem." He therefore has recommended three factors to be taken into account in designing youth labor market programs: "the state of the economy; the sectors in the economy that have the potential for development; and the target group" (O'Higgins, 2001, p. 163).

A Synopsis of Lessons Learned for Youth Employment Policies

- There are no one size fits all policies. In understanding issues around youth, work and unemployment and in thinking about remedies or preventions for youth unemployment, one has to pay attention to the social, economic and cultural context that is being studied. What might be effective in one society might prove costly and less effective in another.
- It is necessary to distinguish between treatments versus system level preventions.
- It is necessary to pay attention to the connections between strategies and root causes of problems: type of employability skills offered by each of the approaches

(that is, the content of training and education programs) and how these interact with segmentation in the market.

- It is necessary to examine and understand different policy areas that deal with youth transitions, economic, social and education policies and how they connect with one another if they connect at all.
- Interventions should prepare youth according to the skill set requirements of the new century as the global and local economic context is changing continuously.
- Networks and partnerships might be important in devising strategies.
- Different approaches will impact various age, gender or other groups differently.

CHAPTER 3
THEORETICAL FRAMEWORK

This Chapter will illustrate the theoretical framework that underlies the research questions in this study. Based on the discussion of literature presented in the previous section, a table is provided below which includes a summary of the different explanations of youth labor market outcomes that are tested in this study, together with the larger theories that underpin these explanations. The elements of the table will be discussed in separate sections for each of the macro and micro research questions. These two separate sections will present the more specific research questions for each of the macro and micro studies, will discuss the rationale behind these questions and will provide the specific models that are being tested within the study in the end of each section.

Table 1: Explanations for High Unemployment Rates for Youth

Explanation	Theories	Tested or Not	Method
Cohort Crowding (Given Non-substitutability with older workers): Relative youth cohort size should affect it, when controlling for macroeconomic conditions.	Labor supply	Tested in this dissertation	Panel study & hierarchical regressions
Individual supply characteristics	Human Capital	Tested in this dissertation (education, adequate skills,	Hierarchical regressions

		demographic characteristics)	
Family background and dynamics	Human Capital & Social Capital	Tested in this dissertation	Hierarchical regressions
Regional development factors	Structural Characteristics of Regional Economies	Tested within Turkey, and between Turkey and other countries. The latter are unspecified.	Panel study & hierarchical regressions
Labor Market Rigidities. Countries with institutions that enforce rigidities in the labor market will have higher unemployment rates for both youth and adults (or even higher unemployment rates for youth if these institutions favor older/more experienced workers).	Neoclassical Explanations	<u>Not addressed in this dissertation</u>	
Skill mismatches/geographical mismatches	Mismatch Theories	<u>Not addressed in this dissertation</u>	

I. Theoretical Framework for Macro Study

As discussed in the previous chapter, aggregate demand fluctuations seem to be one of the leading explanations for variations in youth unemployment (O’Higgins, 2001, p. 45; Blanchflower & Freeman, 2000; Muller & Gangl, 2003, p. 271; Korenman & Neumark, 1997 & 2000; Yenturk & Baslevant 2007; Bell & Blachflower, 2009). Both in developing and advanced countries, worldwide economic crises resulted in higher unemployment rates for youth, and studies of prior crises showed that the effects are

persistent and continue well after economic growth has been recovered (Verick, 2009; Bell & Blanchflower, 2009). Studies have also explored the impact of changes in the population age structure (cohort crowding) on youth labor market outcomes controlling for macroeconomic conditions (Korenman & Neumark, 1997 & 2000; O'Higgins, 2003; Yenturk & Baslevent 2007). As discussed earlier, under an assumption of imperfect substitutability between adult and young workers, smaller cohort sizes of youth are associated with better labor market outcomes of youth controlling for other factors (Korenman & Neumark, 1997). This phenomenon was especially worthwhile to examine for advanced countries, as in the 1980s and 1990s youth cohorts declined from 40 to 50 percent levels to approximately 30 percent levels for many of these countries while youth labor outcomes continued to deteriorate (Korenman & Neumark, 1997, 2000). Korenman & Neumark (1997, p. 2) explained that the continued deterioration of youth unemployment throughout this period despite declining cohort sizes may be indicative of the dominating effect over supply-side changes of other changes taking place in the economy such as "downturns in the business cycle, technological changes and changing patterns of international trade" (Korenman & Neumark, 1997). They provided evidence that this might actually be the case since the declines in relative cohort size controlling for other factors had a significant ameliorating effect on youth unemployment. Without this effect, the youth labor market outcomes could have been worse (Korenman & Neumark, 1997).

As noted earlier, most of the developing countries, on the other hand, experienced declines or rather small changes in youth population shares in the past two decades.

Shares are expected to decline further in many of the developing countries including Turkey (Lam, 2006, p. 14). Hence, an investigation of the role of changes in population age structure on youth labor market outcomes in developing countries has become more important and may signify challenges or opportunities: challenges in that declines in the relative size of the youth cohort may have no ameliorating impact on youth outcomes; opportunities in that these changes may help reduce youth unemployment. Thus the more specific research question that this macro study is interested in has to do with the independent impact of cohort size on youth labor market outcomes.

O'Higgins (2003) attempted to provide evidence for developing countries and produces a study similar to that of Korenman and Neumark (1997). O'Higgins's (2003) study has a few limitations mainly due to the lack of available data for the period covered (1980–2000). Furthermore, model specification may be problematic since there may be endogeneity associated with the relative cohort size variable and no measures are taken to remedy this potential problem. One other limitation of the study is the low average number of years included (199 observations for 32 developing and transition countries). The addition of each year's data adds power to the panel study.

This study investigates the role of the relative youth cohort size (measured as youth population/adult population) in determining aggregate youth labor market outcomes by examining two separate groups of countries; those that are economically advanced and those with developing economies for the past two recent decades, controlling for the impact of aggregate demand factors which are represented by adult employment and unemployment rates. The study also uses alternative macroeconomic

variables to account for the aggregate demand side since given that some substitutability between adult and young workers, adult rates may be affected by youth population shares (Korenman & Neumark, 1997, p. 18). It is important to use exogenous controls also because there may be other factors which “may affect youth employment and unemployment which in turn may affect adult employment or unemployment, although the endogeneity bias could go in either direction” (Korenman & Neumark, 1997, p. 18).

The basic model specification and the sampling for the advanced economies follow that of Korenman and Neumark (1997 & 2000) since this study brings a few important improvements to the methodology compared to many prior studies. One of the improvements has to do with the potential endogenous determination of the youth cohort size variable. Korenman and Neumark (1997, p. 17) have pointed out that “youth population (and to a lesser extent the adult population) may be endogenous if immigration flows respond to labor market conditions.” They advanced earlier studies in that they introduce lagged birth rates as an instrument for overcoming this potential problem. This study follows the lead of Korenman and Neumark (1997 & 2000) in the specification of its basic models. The advantages of instrumentation and the specific methods will be discussed in the methods section, Chapter 4.

Thus, this study advances O’Higgins’s (2003) work on developing countries: It includes a carefully selected sample of a small number of developing countries (still allowing for variation among countries) and more observations over the years. It controls for the potential endogeneity problem in the same way that the Korenman & Neumark

(2000) models do. Hence, this study provides a chance to compare the results of the advanced countries with the developing countries.

As indicated earlier, another important advantage of this study is the use of alternative controls for macroeconomic conditions. Given some substitutability between older and younger workers, the adult rates might be impacted by changes in the relative cohort size. Hence, testing with alternative and exogenous controls, one can get more conclusive results. This also provides an opportunity to test the impact of various macroeconomic factors on aggregate youth labor market outcomes, although this has not been the focus of this study. Lagged GDP growth and GDP per capita are among these alternative controls for the aggregate condition of the economy.

Model, Hypotheses and Expectations

The basic model for the study is $Y_{it} = \beta_1 RCS_{it} + \beta_2 AD_{it} + \alpha_i + u_{it}$
 $i = 1, \dots, n; t = 1, \dots, T$; Y_{it} represents youth unemployment, employment, labor force participation or inactivity rate for country i in time period t . RCS_{it} is the value of the relative cohort size for country i in time period t , AD_{it} represents the value of the aggregate demand variables and school enrollment rates for country i in time period t and $\alpha_1, \dots, \alpha_n$ are country specific intercepts.

In investigating the impact of youth population share/relative youth cohort size on youth employment and unemployment controlling for aggregate demand factors/cyclical fluctuations using adult unemployment and employment, one might expect that youth population share will be a significant factor. In addition, youth unemployment rate will

increase and youth employment rate will decrease as the youth population share increases. One can also expect that youth unemployment rates will move together with adult unemployment rates, whereas they will move in the opposite direction from adult employment rates controlling for other factors. Other controls relate to the aggregate demand conditions that the study tests include: Growth, GDP per capita, trade (% of GDP); terms of trade; ratio of employment in industry to employment in services and gross fixed capital formation. One could possibly expect that when aggregate demand conditions improve, outcomes for youth will improve (i.e. youth unemployment rates will decrease and employment rates will increase). As discussed earlier, rates of enrollment in school may impact the employment rates of youth. As enrollment rates increase one may expect a decline in youth employment rates.

II. Theoretical Framework for Micro Study

A recent study illustrated that Turkey's unemployment has characteristics of both developing and developed countries (Tansel and Tasci, 2010). The characteristics of unemployment which resemble those of developed countries include the following: high youth unemployment, and youth who have a higher probability of exiting from unemployment to employment; also "the average duration of unemployment is lower than that of developing countries" and similar to that of developed countries (Tansel & Tasci, 2010, p. 521). The characteristics of unemployment which resemble those of developing countries according to Tansel and Tasci (2010; p. 521) include the following: higher incidences of unemployment in urban areas despite lower duration of

unemployment; the concentration of long-term unemployment among the more educated (high school and two year university graduates) and the existence of a queuing process for a good job. Some of their findings may suggest that women have a “high shadow value of home production activities and thus a high reservation wage” or that they get fewer offers in the job market due to discrimination (Tansel and Tasci, 2010). Furthermore, Turkey is a dynamic and young country with a quickly growing economy, but it faces serious challenges in employment creation (World Bank, 2008a). Uniquely positioned this way, it may present an opportunity to deepen our understanding of the challenges of youth employment and unemployment for developing countries everywhere.

There are no prior studies of youth unemployment in Turkey which analyze the factors that relate to the distribution of unemployment or employment among youth in Turkey using micro datasets. A preliminary analysis of characteristics of youth labor in Turkey was conducted by the author of this study using micro data from the Turkish Household Labor Force Survey. The characteristics of youth unemployment and employment cited in the literature section and presented by the ILO were used as a guideline to understand youth labor in Turkey. The results of these analyses are included in Chapter 5. The findings of these analyses have served as a background for the advanced analysis of the determinants of outcomes of youth. Classical and alternative explanations of high unemployment rates observed and suggested by theory were discussed in the literature section. This section will discuss context specific features of labor markets and institutions as they relate to youth in Turkey which will aid in model

specification and forming of the hypotheses. As discussed earlier in the literature review section, spatial differences seem to be prevalent within countries and structural characteristics of localities seem to play an important role determining youth labor market outcomes. The next section will discuss the characteristics of regional differences in Turkey. According to the literature, gender of youth has an important role in determining their outcomes in many countries. The following section will discuss gender and the labor market within the context of Turkey. Educational and other institutions may have a role in determining youth pathways in the labor market and two of such institutions; general university exams and the military service requirement are discussed in this light, also within this chapter. As discussed earlier in Chapter 2, the importance of the role of the family on youth outcomes has been recognized by theorists from various disciplines. Furthermore, the role of the family can be mediated by the characteristics of the welfare system. Hence a section is devoted to the understanding the role of the Turkish family on the lives of the youth within the weak welfare regime of Turkey.

Regional Differences in Turkey

Filiztekin (2007) in an analysis of regional unemployment in Turkey for 1980 and 2000 illustrated that provincial unemployment rates are persistent and regional gaps have widened (Filiztekin, 2007). Filiztekin's (2007) explanation of the sources of these differences lie in factors related to human capital and demand deficiency; however, he also found that the sources of unemployment disparities are not stable over time. A recent study of regional unemployment in Turkey suggested that there is a weak

relationship between regional labor mobility and regional unemployment levels in Turkey (Yuceol, 2007). Although relocation of people to areas of lower unemployment is present, the relationship is not strong (Yuceol, 2007).

There are significant gender differences in youth mobility in Turkey (Filiztekin & Gokhan, 2008). Studies have implied there may also be differences across genders in the motivation to migrate (Filiztekin & Gokhan, 2008). Female youth, especially, are not expected to be highly mobile in their quest for employment due to high cost of moving and also due to cultural or family factors, but within-region mobility may be common for marriage purposes for women (Filiztekin & Gokhan, 2008, Celik, 2008).

This study attempts to control for some of the regional variation in youth outcomes by introducing region-level variables. Among the regional factors that are included in other studies were unemployment, youth labor supply, industrial mix, employment growth, and school enrollment (Keithly, 1992; Larson, 1986). Among the variables tested for impacting youth outcomes in this study are the economic, educational and demographic structure of the region, changes in employment and unemployment from previous years, and employment growth of the region.

Gender Differences in Turkey

There are marked differences in both how females versus males in Turkey interact with the labor market and in their labor market outcomes (Toksoz, 2007; Celik, 2008). Female labor force participation and employment rates are low and female employment rates in Turkey have remained the same instead of increasing, unlike many countries in

the OECD (Toksoz, 2007). It is easy and convenient to resort to rough generalizations about the role of cultural factors and how they may intervene with women's employment decisions and labor market outcomes especially if the context is understudied. While few studies suggested that patriarchal structures may be keeping women from participating in the labor market and encouraging them instead to get married at an early age (Toksoz 2007), Bospinar-Ekinci, (2007), who has conducted a qualitative study of women's work experiences in Mexico and Turkey, has found that gender ideology alone cannot account for the diversity of the experiences of women in the labor market. Bospinar-Ekinci (2007, p. xi) suggests that class and gender combine to shape how women form "values" and "expectations," interact with "power dynamics" and "state policies" to negotiate their positions within the family and in the workplace.

Institutions

There are two significant institutional factors which need to be taken into account in explaining the labor outcomes of youth with varying levels of education: the national university entrance exams and the military service requirement for youth. In Turkey, youth are expected to complete the compulsory eight-year education which includes primary and middle school education by the age of fifteen. By the age of 18, high school is completed and youth who are looking to pursue college education enter nation-wide college entrance exams during their senior year. Youth who are not able to pass the exam have the right to enter the exam a second or third time, however, they have to wait another year since the exam is conducted annually. During this period of time most

youth whose parents can afford it, attend privately run exam preparation agencies called *Dershane* or they take private classes in order to prepare for the nation-wide exams. As such, the educational experiences and choices of youth intervene with their decisions or choices with regard to the world of work. Throughout this period work is not the priority for youth.

Another institutional factor which may intervene with youth experiences or decisions is the Public Sector Employment exam. These exams are also conducted at intervals determined by the government. They are highly competitive and require a long periods of preparation. Labor market decisions and the experiences of college-educated youth who choose are to some degree determined by the choice to take the Public Sector Employment exam.

Males are called to complete their military service two years after they complete high school if they are not in higher education. The military service requirement can be an important factor intervening in employment decisions of youth and hiring decisions of employers, especially for youth who are below the age 20 and are out of school by age 15. One in five male youth in the age category of 20–24 perform their military service (Tunali & Ilhan, 2009). UNDP (2008) argued that some of the high inactivity rates among young men can be accounted for by the willingness of youth to put off military service.

The Role of Family Factors Under the Weak Welfare Regime of Turkey

Celik (2008, p. 430) has classified Turkey's unemployment welfare regime as a "subprotective type of welfare regime" which is a "system that offers the unemployed less than the minimum level of protection needed for basic subsistence." The country had no system of unemployment insurance until a related act was passed in 1999 and the payments started to be distributed in 2000. There are "stringent eligibility requirements" and very few can benefit from the system (Ercan, 2007, p. 54). The system includes "insured blue collar workers" and excludes civil servants or the self-employed (Ercan, 2007, p. 54). Furthermore, one has to be registered with the Turkish employment office in order to qualify; analysis in Chapter 5 revealed that few among the youth utilize this agency for job search. Health insurance and pensions are linked to being a part of the social security system, but as Chapter 5 reveals, significant numbers of youth are not registered in the system, particularly excluded are females in rural areas. Moreover, Active Labor Market Policies (ALMPs) are a recent phenomenon in Turkey; the Turkish Employment Agency whose capacity is limited is in charge of implementing these programs which provide some form of training (Ercan, 2007). Furthermore, youth are only one of the many constituents who are served by these programs (Ercan, 2007).

Given such meager provisions for the unemployed and for youth in particular, the family is an important factor in determining both the employment situation and well being of youth in Turkey. In fact, Celik's (2008) qualitative study on young people's employment and unemployment experiences in Turkey reveals different functions the family serves for unemployed youth. Celik (2008, p. 431) has argued first and foremost,

under the weak provisions of the welfare state, “the family, as a provider of social welfare, is the most important institution in the Turkish society, especially in difficult times like unemployment.” She has counted factors such as “family integrity, number of children, level of education, migratory status, occupations of parents, home ownership or lack thereof and existence of other unemployed members in the family” as factors which are associated with the employment, unemployment of youth in the family (Celik, 2008, p. 431).

Celik (2008) has stated family structure and relationships create three types of dependency for youth in Turkey: material, social, and value dependency. Economic hardship is the biggest challenge that the youth face according to Celik’s (2008) findings. Family provides “shelter, nutrition, education and health needs”; the children rely on the pocket money offered by their families to enable short travel within the city, even to look for a job (Celik, 2008). Such practices limit mobility especially among the children of lower income families.

According to Celik (2008), the stress of unemployment is accentuated for educated females. They typically take longer to find a job that is “safer and more regular.” Some choose to prolong their education instead of staying home and doing house chores (Celik, 2008). Families think the same way; they have higher expectations for their children (Celik, 2008). Unemployment impacts household structure: Some married children stay with their families because they are not able to afford to move to another house and the families are accepting of this circumstance (Celik, 2008).

One of the most important findings of Celik's (2008) study has to do with the negative impact of unemployment on the family as a whole; for example, an elder sibling might postpone his/her own marriage to support siblings. Choices are constantly being made as to who goes to the *Dershane*, or not, or even who has to quit school.

Another dimension of family dynamics according to Celik (2008) is social dependence: all family resources are utilized to find a job, and finding a job for the unemployed becomes a task for the whole family. Family network and social capital is highly important. The preliminary results from Chapter 5 support these qualitative findings. Youth in Turkey rarely rely on formal methods to look for a job.

Celik (2008) proposes also that unemployment of the young person creates value dependence. Family values sometimes prefer that women seek jobs in the public sector (Celik, 2008). Celik found that women are not seen as bread winners: Families refrain from sending their daughters away for work (Celik, 2008).

Celik (2008), finally, makes a distinction between the characteristics of families in her sample who are poor and those who are middle to high income. She argues that in low income families "unemployment breeds unemployment" (Celik, 2008, p. 441). Additionally, low income families generally come from lower educational backgrounds and those with lower education have lower expectations with regard to work (Celik, 2008).

In middle to high income families, as compared with low income families, households are generally smaller, and the father's education is higher (Celik, 2008). According to Celik (2008) these households face more female unemployment primarily

because females have more opportunities to extend the period of their unemployment. They typically go to training or take courses throughout this time (Celik, 2008).

Model, Hypotheses and Expectations

Fields (2008) in ‘Segmented Labor Market Models in Developing Countries’ discussed the importance of considering distinct labor market segments in developing countries and pointed out that the correct model is specific to the context. Based on the discussions above and the preliminary descriptive analysis of youth labor in Turkey conducted by the author of this study and presented in Chapter 5, this study assumes segmented labor markets and the analyses are run separately for rural and urban areas and for males and females. The specific research questions for this study, then, consider the role of individual supply factors such as education, family background factors such as parent education and characteristics of households such as number of persons living in the family controlling for unobserved and observed characteristics of the regions within Turkey, separately for urban females, urban males, rural females and rural males. Among the characteristics of regions that this study control for are economic and social characteristics of the regions. Individual supply characteristics and family background variables find their root in the human capital theories. The impact of social capital is considered within the scope of the study partially through parent and sibling characteristics. Institutions such as the general university exams and the military service requirement for males may intervene with youth transitions to work and adulthood and thus considered important in interpreting results.

The basic model for the study is: $Y_{it} = \beta_{0j} + \beta_1 X_{1ij} + \beta_2 X_{2ij} + \varepsilon_{ij}$

$$\beta_{0j} = \Gamma_0 + \Gamma_1 W_{1j} + \Gamma_2 W_{2j} + \Gamma_3 W_{3j} + \zeta_j$$

Y represents the latent propensity to be in one of two alternate conditions: employed vs. not employed; employed vs. unemployed; labor force participant vs. not a labor force participant and ‘Neither in Education nor in Employment’ (NEET) vs. non NEET. The model is estimated using logit. X_1 represents the human capital variables such as a person’s education and demographic characteristics. X_2 denotes social capital variables which are represented by family variables such as parent education or sibling employment including household characteristics. W_1 is contextual region-level variable which represents demographic characteristics of the region. W_2 stands for the region level variables which are associated with economic and social characteristics of the region. W_3 represents region level variables which are associated with economic outlook of the region. The ij subscripts on X show that its values vary from individual to individual within a group j. The W does not have an i subscript since its values do not vary from individual to individual, by definition, within a level 2 unit. The expectations with regard to the results of the sets of variables are presented below. In general, if the variables are significant, the null hypotheses that the coefficients on these variables will be equal to zero, should be rejected.

Education

The net effect of higher levels of education on labor outcomes for youth should be positive according to the basic human capital theory and based on empirical findings in advanced countries. However, the opposite has been observed for a number of developing countries (O'Higgins, 2001). The expectation for Turkey is in compliance with the latter for a number of reasons discussed in the literature review under alternative explanations and the theoretical framework chapter which discusses the intervening role of institutions. The results are expected to vary across regions and genders.

Marital Status

In Turkey, households are most often headed by males and many times males are the sole providers within the household; it is expected that married status will have a positive impact on male youth employment and labor force participation and a negative impact on unemployment and NEET regardless of the rural/urban divide. The opposite is expected for married females, once again, regardless of the rural/urban divide.

Parent Education & Employment Status

Parent education is expected to impact youth labor market outcomes in various and distinctive ways. As parent education goes up, it is likely that parent income goes up and this might create more opportunities to stay in education longer or it might prolong unemployment or inhibit labor force participation and vice versa. The impact on unemployment may be varied; if higher educated parents are also better connected, this

may increase the likelihood of children finding employment. Parents also shape their children's attitude toward work and education. Thus the expectation with regard to parent education is that it will be important, *ceteris paribus*, in the context of Turkey, but what the net effect will be is ambiguous and may vary across rural and urban areas and genders.

There are different ways in which parent employment status might play a role in a young person's employment situation. As Celik's (2008) study suggested, if a mother and father are unemployed or not in the labor force, the child, too, may be unemployed or NILF, as the resources, skills or the social capital required to get a job might be missing, and the opposite may be true for those whose parents are employed. On the other hand, if parents are unemployed, the child may try harder to be employed so as to make up for the lost income while if the parent is employed, then the child may be able to take more time to focus on improving their human capital and delaying work. Parent attitudes toward work, which are closely associated with the parent employment situation, will also impact their children. As suggested earlier the impact of these various factors will be mediated by spatial factors. Hence, the expectation is that these variables will be significant, controlling for other factors, but the net effect will vary depending upon such influences as rural and urban location and gender.

Sibling Education and Employment Status

Educated siblings may increase the likelihood of being in education. On the one hand, this might be considered shadowing; on the other hand, as siblings compete for the

same financial resources they may impede one another's education all together,. Siblings may also support and motivate one another or compete with each other. Once again, given the context of Turkey, these variables are expected to have a significant impact, but the net effect is ambiguous and is expected to vary across rural and urban areas and gender.

Household Characteristics

As the number of persons in the family increases, there are fewer resources for each, and this may impact the individual decisions and choices made with regard to participation in the labor market. A person may be obliged to work and may not have the chance to choose the type or condition of work; or, if there are other family members who can work, a person may have more choices about work. Hence, the relationship might go both ways. The same is true with regard to the number of male and female siblings. Household earnings may impact the probability of employment and participation in both positive and negative ways, holding other factors constant.

Regional Development Factors

Unobserved regional factors are expected to matter as well as the observed factors for which this study controls. When the regional economic conditions improve, the impact on youth labor outcomes is expected to be positive. Expectations regarding the impact of the educational background of the region are ambiguous given the context, however theory may suggest otherwise. The role of the regional youth population size is

expected to be the same as in the macro model: As the youth cohort gets larger, the employment opportunities deteriorate. Thus, the structure of the economy is expected to have a significant impact on youth labor market outcomes as theory suggests.

CHAPTER 4
METHODS, DATA AND SAMPLE SELECTION

I. Methods, Data and Sample Selection for Macro Study

Panel Fixed Effects Regression

The panel fixed effects method allows one to analyze the relationship of a dependent variable and a set of independent variables within an entity (in this case it is countries) (Stock & Watson, 2010). With time-series cross section data and using fixed effects one can control for country-specific factors which do not change over time. These factors might include cultural or institutional factors unique to each country and stable over time. These fixed effects may be related to cultural differences; what these differences *are* cannot be identified by the panel approach, but the magnitude of the differences can be measured by the panel approach. These factors might interfere with other predictor variables and bias their impact. Thus, fixed effects methods allow one to remove the effect of variables so that one can see the net effect (Stock & Watson, 2010). An important assumption of the fixed effects model is that the time-invariant factors are specific to the entity; they are not correlated with other individual factors. One can extend this analysis in order to integrate time-fixed effects to control for factors which change over time but do not vary across countries (Stock and Watson, 2010). The models in this study also control for this time fixed effects.

Following Stock and Watson (2010, p. 364) this study uses the standard errors that are valid if u_{it} is potentially heteroskedastic and potentially correlated over time within an entity called the “heteroskedasticity-and autocorrelation-consistent (HAC) standard errors” of the clustered type. Such standard errors “allow the regression errors to have an arbitrary correlation within a cluster, or grouping, but assume that the regression errors are uncorrelated across clusters” (Stock & Watson, 2010, p. 364).

This study uses the instrumental variable (IV) approach to remedy for the potential harmful effects of endogeneity of the relative cohort size variable (Korenman & Neumark, 1997, 2000). This approach utilizes an instrument which is correlated with the dependent variable, but is exogenous to the error term (u) in order to “isolate the movements in X that are uncorrelated with u , which in turn permit consistent estimation of the regression coefficients” (Stock & Watson, 2010, p. 419). The choice of instrument is lagged births; for each year included in the study, the years during which the 15–24 year cohorts were born, is determined and the number of births that took place during those years are added together to represent the observation for that year in the study. All variables included in the models are in natural logarithm form and thus coefficients can be interpreted as elasticity, that is, 1 percent change in X is expected to cause . . . percent change in Y . The study employs the quantitative analysis software STATA in analyzing the panel regressions.

Data, Sample Selection & Variable Definitions

The sample period is chosen as 1988–2009; 1988 is the first year youth labor market data for Turkey are available on a systematic basis and are comparable across years. There are 18 countries in the sample of advanced economies. The selection includes all countries included in the sample of Korenman and Neumark (2000) for comparison purposes and an additional three advanced economies —Greece, Israel and Switzerland. There are 23 countries in the sample of developing or transition economies. Average GDP per capita (PPP) for the period of the sample was used to assure there was variation in the sample and also to determine where countries stand in terms of development.¹² Countries at the economic development level of Turkey and those that were below and above are included in the model. Geographic proximity to Turkey and the demographics/population/size of a country played a role in the inclusion of some countries. Countries with economic dependence on natural resources and those with ongoing civil war/conflict were excluded from the sample except for a few.

Data Sources are ILO's Key Indicators of the Labor Market Database (KILM) and World Bank World Development Indicators (WDI). A table which includes a list of the variables together with sources and definitions and notes on comparability is included below. Summary statistics for variables included in the macro models are provided in Appendix A.

¹² In Appendix A, the average GDP per capita income for the sample period is provided for each country.

Table 2: Variable Definitions and Sources for Macro Study

Variable Name	Variable Definition (Variable definitions are obtained from the World Bank and KILM web-sites.*)	Variable Source	Special Notes on Comparability
Youth Unemployment Rate	The unemployment rate tells us the proportion of the labor force that does not have a job and is actively looking and available for work. Youth unemployment is an important policy issue for many countries, regardless of the stage of development. For the purpose of this indicator, the term “youth” covers persons aged 15 to 24.	KILM (National Estimates)	For limitations on comparability refer to KILM (2009) KILM 9 document which can be accessed at: http://kilm.ilo.org/KILMnetBeta/pdf/kilm09EN-2009.pdf
Youth Employment Rate	The employment-to-population ratio is defined as the proportion of a country’s working-age population that is employed. A high ratio means that a large proportion of a country’s population is employed, while a low ratio means that a large share of the population is not involved directly in market-related activities, because they are either unemployed or (more likely) out of the labor force altogether. “Youth” covers persons aged 15 to 24.	KILM (ILO Estimates)	The ILO estimates are harmonized to account for differences in national data collection and tabulation methodologies as well as for other country-specific factors such as military service requirements. The series includes both nationally reported and imputed data and only estimates that are national, meaning there are no geographic limitations in coverage.
Youth Labor Force Participation Rate	The labor force participation rate is a measure of the proportion of a country’s working-age population that engages actively in the labor market, either by working or looking for work. It provides an indication of the relative size of the supply of labor available to engage in the production of goods and services. “Youth” covers persons aged 15 to 24.	KILM (ILO Estimates)	ILO estimates of participation rates are harmonized to account for differences in national data collection and tabulation methodologies as well as for other country-specific factors such as military service requirements. The series includes both nationally reported and imputed data and only estimates that are national, meaning there are no geographic limitations in coverage.
Youth Inactivity Rate	The inactivity rate is a measure of the proportion of a country’s working-age population that is not engaged actively in the labor market, either by working or looking for work. “Youth” covers persons aged 15 to 24.	KILM (ILO Estimates)	ILO estimates of inactivity rates are harmonized to account for differences in national data collection and tabulation methodologies as well as for other country-specific factors such as military service requirements. The series includes both nationally reported and imputed data and only estimates that are national, meaning there are no geographic limitations in coverage.

Relative Youth Cohort Size/Youth Population Share	Youth Population defined as 15–24 divided by adult population defined as 25–54.	KILM	
Adult Unemployment Rate	The unemployment rate tells us the proportion of the labor force that does not have a job and is actively looking and available for work. “Adults” are defined as persons aged 25 and over.	KILM	
Adult Employment Rate	The employment-to-population ratio is defined as the proportion of a country’s working-age population that is employed. A high ratio means that a large proportion of a country’s population is employed, while a low ratio means that a large share of the population is not involved directly in market-related activities, because they are either unemployed or (more likely) out of the labor force altogether. “Adults” are defined as persons aged 25 and over.	KILM (ILO Estimates)	The ILO estimates are harmonized to account for differences in national data collection and tabulation methodologies as well as for other country-specific factors such as military service requirements. The series includes both nationally reported and imputed data and only estimates that are national, meaning there are no geographic limitations in coverage.
GDP Growth (%)	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2000 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	World Bank	
GDP per Capita	GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GDP as the U.S. dollar has in the United States. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2005 international dollars.	World Bank	
Gross Tertiary	Gross enrollment ratio is the ratio of total	World	

Enrollment	enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, successful completion of secondary education.	Bank	
Employment in Industry to Employment in Services Ratio	Employment in Industry (Employees are people who work for a public or private employer and receive remuneration in wages, salary, commission, tips, piece rates, or pay in kind. Industry corresponds to divisions 2-5 (ISIC revision 2) or tabulation categories C-F (ISIC revision 3) and includes mining and quarrying (including oil production), manufacturing, construction, and public utilities (electricity, gas, and water.) as a percentage of total employment divided by employment in services (Employees are people who work for a public or private employer and receive remuneration in wages, salary, commission, tips, piece rates, or pay in kind. Services correspond to divisions 6-9 (ISIC revision 2) or tabulation categories G-P (ISIC revision 3) and include wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services; and community, social, and personal services as a percentage of GDP.	World Bank	
Trade (% of GDP)	Exports and imports divided by the value of GDP.	World Bank	
Terms of Trade	Exports (% of GDP)/ Imports (% of GDP)	World Bank	
Gross Fixed Capital Formation (% of GDP)	Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.	World Bank	

*<http://data.worldbank.org/indicator/SE.SEC.ENRR> & <http://kilm.ilo.org/KILMnetBeta/default2.asp>

II. Methods, Data and Sample Selection for Micro Study

Hierarchical Modeling

Hierarchical or multi-level modeling is useful to analyze data with multiple structures such as individuals nested in geographical areas or institutions or repeated measurements of individuals over time. In this study, the analysis involves individuals within regions. The rationale for this type of analysis is that it is possible to expect, for example, that two randomly selected individuals from the same region may be more similar than two individuals selected from two different groups (LEMMA, 2011). In this case, for example, certain characteristics of the region such as the structural characteristics of the economy may impact the employment of individuals within that region. An alternative to control for group level effects is to fit a fixed-effects model with group dummies; but this approach does not allow one to include predictors at the group level, in this case, at the region level (LEMMA, 2011). In this study, multi-level modeling provides an opportunity not only to explore the nature of between-region variability, but also to examine the effects of group level characteristics on individual outcomes taking into account at the same time the unobserved characteristics of the region (LEMMA, 2011).

Hierarchical logistic regressions of Bernoulli type are used for this study as the outcome variables take the value of either 1 or zero. Hierarchical Linear and Nonlinear Modeling software (HLM6) is used for estimating the multilevel models. Exploratory diagnostics and manipulation of data is performed through the use of STATA software because HLM has only estimation capabilities.

Data and Sample

Household Labor Force Survey Micro data collected by the Turkish Statistical Agency (TurkStat) for the year 2008 are used for the purpose of analyzing the factors that explain the distribution of employment and unemployment among youth. Although labor market information in Turkey has been collected since 1966; HLFS in its current form, which allows for estimates at the national level, has been conducted by the Turkish Statistical Institute (TurkStat) only since 1988. HLFS's design, sample coverage and definitions have been revised regularly to comply with the latest international standards and definitions set by the ILO and EuroStat. Detailed information provided by TurkStat on the history and background of the HLFS is provided in Appendix B.

HLFS is designed to obtain information on the structure of the labor force in Turkey (TurkStat, 2008). It includes information on demographic characteristics of participants including economic activity, occupation, status in employment and hours worked for employed persons; and information on the duration of unemployment and occupation sought by the unemployed. HLFS follows a semi-panel design which tracks households four times during the year and covers all settlements in Turkey in its sample selection (The statistical unit is the household). In 2008, 129, 266 households and 481,154 persons were surveyed under the HLFS. Furthermore, the dataset used for this study was updated by TurkStat immediately prior to this study. The weights in the dataset were updated using the latest census whereas earlier versions included weight based on Census 2000. HLFS allows one to produce estimates at two different

geographical levels. Information on purpose, coverage and method of the HLFS is provided in Appendix C. HLFS captures information on informal employment at the individual level from social security agency registrations. Definitions, concepts and classifications in the HLFS are provided in Appendix D. A sample of the HLFS is provided in Appendix E.

Region in this study is determined by TurkStat’s classification at the lowest level which comprises a small number of contiguous provinces. TurkStat, using multiple socio-economic, demographic and development indicators, has clustered Turkey into 26 regions. Settlements with a population of 20, 001 and over are defined as URBAN. Settlements with a population of 20 000 or less are defined as RURAL. A table which includes a list of the variables constructed for the micro model and notes on limitations is included in below. Summary statistics for variables included in the micro models are provided in Appendix F.

Table 3: Variable Definitions and Sources for Micro Study

VARIABLE NAME	DEFINITION	LIMITATIONS/NOTES
Dependent Variables	(Based on the Status question in the HLFS included in Appendix E.)	
EMPLOYED	Dummy Variable Representing Employed as opposed to not employed	
NEET	Dummy Variable Representing NEET	
LABOR FORCE PARTICIPANT	Dummy Variable Representing Labor Force Participant	
EMPLOYED VS. UNEMPLOYED	Dummy Variable Representing Employed as opposed to	

	unemployed	
Education Variables	(Based on question S14 in the HLFS included in Appendix E.)	
ILLIT	Dummy for Illiterate	
NODIP	Dummy Variable for No Diploma	
PRIMARY	Dummy Variable for Primary Education	
MIDDLE	Dummy Variable for Middle School Education	
HIGH_GEN	Dummy Variable for General High School Education	
HIGH_V_T	Dummy Variable for Vocational/Technical High School Education	
COLL_UP	Dummy Variable for College Education	
ATSCHOOL	Dummy Variable for Attending School	
Marital Status Variables	(Based on question S19 in the HLFS included in Appendix E.)	
SINGLE	Dummy Variable for Single	
MARRIED	Dummy Variable for Married	
DIVORCED	Dummy Variable for Divorced	
WIDOWED	Dummy Variable for Widowed	
Relationship to the Reference Person		
REF_P	Dummy Variable for Reference Person	
REF_SPO	Dummy Variable for Reference Person's Spouse	
REF_DSLW	Dummy Variable for Reference Person's Spouse or Son In Law	
REF_GRC	Dummy Variable for Reference Person's Grandchild	
REF_OREL	Dummy Variable for Other Relatives	
REF_NREL	Dummy Variable for Non-Relatives	
Father & Mother Education Variables	(Based on question S14 & S11 & S3 in the HLFS included in Appendix E.)	These variables were constructed on information based upon relationship to the head of the household. Hence

		if a person is not a child of the reference person their information is lost. A little more than three quarters of all those aged 15-24 are listed as the child of the reference person and hence captured by the analysis. Eighty six percent of the remaining one quarter did not have a mother present in the household while 92 percent did not have a father present in the household and hence no parent or sibling information would be available in the survey.
F_ILL	Dummy variable for illiterate father	
F_NODIP	Dummy variable for father with no diploma	
F_PRIM	Dummy variable for father with primary school education	
F_MIDDLE	Dummy variable for father with middle school education	
F_HIGHR	Dummy variable for father with regular high school education	
F_HIGHV	Dummy variable for father with vocational/technical high school education	
F_COLL	Dummy variable for father with college education	
M_ILL	Dummy variable for illiterate mother	
M_NODIP	Dummy variable for mother with no diploma	
M_PRIM	Dummy variable for mother with primary school education	
M_MIDDLE	Dummy variable for mother with middle school education	
M_HIGHR	Dummy variable for mother with regular high school education	
M_HIGHV	Dummy variable for mother with vocational/technical high	

	school education	
M_COLL	Dummy variable for mother with college education	
C_R_P	Dummy variable indicating child of the reference person	
Father & Mother Employment Status Variables	(Based on question S11 & S3 and the Status question in the HLFS included in Appendix E.)	These variables were constructed on information based upon relationship to the head of the household. Hence if a person is not a child of the reference person their information is lost. A little more than three quarters of all those aged 15-24 are listed as the child of the reference person and hence captured by the analysis. Eighty six percent of the remaining one quarter did not have a mother present in the household while 92 percent did not have a father present in the household and hence no parent or sibling information would be available in the survey.
F_EMP	Dummy variable for employed father	
F_UNEMP	Dummy variable for unemployed father	
F_NILF	Dummy variable for father who is not in the labor force	
M_EMP	Dummy variable for employed mother	
M_UNEMP	Dummy variable for unemployed mother	
M_NILF	Dummy variable for mother who is not in the labor force	
Household Structure Variables	(Based on questions S3, S11, S12B, S12C, S78, S39 in the HLFS included in Appendix E.)	
I_NUMS_F	Number of female siblings	
I_NUMS_M	Number of male siblings	
N_IN_HH	Number of persons in	

	household	
HH_EARN	Earnings (income) of all household members.	In the code book this is wages and salaries and income from daily work only. It does not include income from self-employment or other sources.
INC_R_C	Dummy Variable which indicates if the household earns positive (>0) income from casual or regular employment	
C_R_P_NM	Child of Reference Person, mother not present	
C_R_P_NF	Child of Reference Person, father not present	
Sibling employment variables	(Based on the Status question and question S11 in the HLFS included in Appendix E.)	These variables were constructed on information based upon relationship to the head of the household. Hence if a person is not a child of the reference person their information is lost. A little more than three quarters of all those aged 15-24 are listed as the child of the reference person and hence captured by the analysis. Eighty six percent of the remaining one quarter did not have a mother present in the household while 92 percent did not have a father present in the household and hence no parent or sibling information would be available in the survey.
I_SEMP_M	# of male siblings employed	
I_SUNE_M	# of male siblings unemployed	
I_SNIL_M	# of male siblings not in the labor force	
I_SEMP_F	# of female siblings employed	
I_SUNE_F	# of female siblings unemployed	
I_SNIL_F	# of female siblings not in the labor force	
Sibling Education	(Based on question S14 & S11	These variables were

Variables	in the HLFS included in Appendix E.)	constructed on information based upon relationship to the head of the household. Hence if a person is not a child of the reference person their information is lost. A little more than three quarters of all those aged 15-24 are listed as the child of the reference person and hence captured by the analysis. Eighty six percent of the remaining one quarter did not have a mother present in the household while 92 percent did not have a father present in the household and hence no parent or sibling information would be available in the survey.
I_SOHS_M	Number of male siblings in the household with a general high school educational attainment who were in the same or an older age category.	
I_SOVC_M	Number of male siblings in the household with a vocational technical high school educational attainment who were in the same or an older age category.	
I_SOUN_M	Number of male siblings in the household with a university school educational attainment who were in the same or an older age category.	
I_SOHS_F	Number of female siblings in the household with a high school educational attainment who were in the same or an older age category.	
I_SOVC_F	Number of female siblings in the household with a vocational technical high school educational attainment who	

	were in the same or an older age category.	
I_SOUN_F	Number of male siblings in the household with a university school educational attainment who were in the same or an older age category.	
I_SYHS_M	Number of male siblings in the household with a high school educational attainment who were in a younger age category.	
I_SYV_M	Number of male siblings in the household with a vocational or technical high school educational attainment who were in a younger age category.	
I_SYUN_M	Number of male siblings in the household with a higher education educational attainment who were in a younger age category.	
I_SYHS_F	Number of female siblings in the household with a high school educational attainment who were in a younger age category.	
I_SYV_F	Number of female siblings in the household with a vocational or technical high school educational attainment who were in a younger age category.	
I_SYUN_F	Number of female siblings in the household with a higher education educational attainment who were in a younger age category.	
D_20_24	Dummy Variable for Age Category 20-24 based on Question S6 in the HLFS included in Appendix E.	
Region Level Variables	(Based on questions S6, S14, S33kod, S_108 and the NUTS2 variable in the HLFS included in Appendix E.)	

E_G0408	Employment growth of the region from 2004 to 2008	
INDUSTRY	Share of industry workforce in the region of residence	
AGRI	Share of agricultural workforce in the region of residence	
TRADE	Share of trade workforce in the region of residence	
SERVICES	Share of services workforce in the region of residence	
SH_T_IL	Share of adult illiterate population	
SH_T_ND	Share of adult population with no diploma	
SH_T_PR	Share of adult population with primary school attainment	
SH_T_MID	Share of adult population with middle school attainment	
SH_T_HG	Share of adult population with general high school attainment	
SH_T_HV	Share of adult population with vocational high school attainment	
SH_T_COL	Share of adult population with college and beyond attainment	
S_108U_4	Share of the current total unemployed population who were unemployed 1 year ago	
S_108E_4	Share of the current total employed population who were unemployed 1 year ago	
RYWF_T	Relative size of the total young workforce (15–24) to total adult workforce (25–64) in the region of residence	

CHAPTER 5

BACKGROUND AND HISTORY OF TURKEY

The purpose of this chapter is to provide the context for understanding the labor outcomes of youth in Turkey and also to establish a basis for the discussion of policy implications. The history and characteristics of the economy in Turkey will be discussed in the first section followed by an overview of Turkish youth labor provided by the author of this study having analyzed the 2008 Turkish HLFS micro data.

I. Overview of the Economy and the Labor Market

Size of the Economy

Turkey's population is approximately 75 million. Its gross domestic product (GDP) by PPP, makes it the 15th largest economy (World Bank, 2009) in the world. At the time of the writing of this report, its PPP adjusted GDP is estimated to have reached the barrier of a trillion dollars.¹³ The Gross National Income (GNI) per capita is 9,340 current U.S. dollars¹⁴ Turkey's GDP per capita grew at an annual average of 4.1 percent

¹³ International Monetary Fund, World Economic Outlook Database, Data for 2010

¹⁴ "Gross national income (GNI) in US\$ Atlas method: GNI is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. Data are in current U.S. dollars, converted from countries' respective national currencies using the Atlas method, which uses a three-year average of exchange rates to smooth effects of transitory exchange rate fluctuations" Information can be reached at: <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD>. Turkey at a Glance, 2008. Accessed at: <http://data.worldbank.org/data-catalog/at-a-glance-table>

during 1987–1997; 4.2 percent during 1997–2007 and 6.9 percent in 2006 and 4.5 percent in 2007.¹⁵

After 27 quarters of continuous growth, the last quarter of 2008, amidst the global financial crisis, was the first quarter the economy had a contraction. As a result, 2008's yearly growth stood at 0.8 percent and the next year, 2009, the economy contracted by 4.7 percent. However, the country recuperated from the crisis relatively quickly and had a 2010 first quarter growth of 11.7 percent and ended the year with a resulting economic growth figure of 7.8 percent.¹⁶

Sectoral Composition

In 2006, measured as a percent of the GDP, the agriculture sector was 10 percent while industry accounted for 29 percent (manufacturing 20 percent) and services 62 percent. The average annual growth of the agricultural sector for the 1997–2007 period was 1.3 while for industry it was 4.9 (for manufacturing 4.8), and for services it was 5.2.¹⁷ The share of the agricultural sector in employment is 28 percent, while industry accounts for 20 percent and services for 52 percent of employment.¹⁸ The share of the agricultural sector in employment has been in decline as manufacturing and services have experienced growth, with services accounting for the majority of new employment (World Bank, 2006). In 1980, the agricultural sector accounted for 9 million jobs (50 percent of total employment) whereas this number has fallen both in absolute and relative

¹⁵ Turkey at a Glance, 2008. Accessed at: <http://data.worldbank.org/data-catalog/at-a-glance-table>

¹⁶ Data accessed at: www.turkstat.gov.tr

¹⁷ Turkey at a Glance, 2008. Accessed at: <http://data.worldbank.org/data-catalog/at-a-glance-table>

¹⁸ Ninth Development Plan (2007–2013) State Planning Organization.

terms to 7.4 million (34 percent of total employment) (World Bank, 2006). Meanwhile, the share of those employed in services for the same period increased from 33 to 43 percent (World Bank, 2006).

Table 4 below presents the State Planning Organization's projections for employment indicators for the period between 2007 and 2013. Non-agricultural sectors have been projected to grow rapidly and generate the majority of employment while the share of the agricultural sector is expected to further decline from 28 percent to 19 percent.

Table 4*: Employment Indicators (Percent) and Projections

	2006	2013	Average
Labor Force Participation Rate	48.6	50.7	49.8
Female	25.4	29.6	27.8
Male	72.2	72.2	72.2
Growth Rate of Employment	2.3	3.3	2.7
Agriculture	-2.9	-2.9	-2.9
Non-Agriculture	4.4	4.9	4.5
Industry	3.6	2.0	2.5
Services	4.7	5.9	5.2
Sectoral Composition of Employment			
Agriculture	28.0	18.9	22.7
Non-Agriculture	72.0	81.1	77.3
Industry	19.7	19.4	19.8
Services	52.4	61.7	57.5
Employment Rate	43.6	46.8	45.1
Unemployment Rate	10.4	7.7	9.6

*Source: The Ninth Development Plan (2007–2013) State Planning Organization

Poverty

The country does not face an absolute poverty problem. In 2005, the percentage of population living on less than US\$ 1 per day was 0.01 percent while the rate of people living on less than US\$ 2.15 per day decreased by half from 3.04 percent to 1.55 percent during the period 2002–2005 (Ercan, 2007). However, a negative consequence of Turkey's post-1980 liberalization policies was an increase in relative poverty. Almost a quarter of the population now lives below the poverty line, and approximately 20 million people live below the general poverty line determined according to food and non-food expenditures calculated by TurkStat (Ercan, 2007). Relative poverty is closely related to one's employment status: 6.6 percent for regular workers, 32 percent for casual workers and 26.2 percent for the self-employed in 2005 (Ercan, 2007). While agriculture had the highest poverty rate (37.2 percent) among all sectors in 2005; poverty within the service sector was declining and was cut by half from 2003 to 2005 (16.8 percent to 8.7 percent) (Ercan, 2007). In the industrial sector the Poverty rates were lower in the industrial sector than in the agricultural or service sector—10 percent in 2005.

Urbanization and Unemployment

Turkey has been experiencing rapid urbanization in the last half century. The urban population increased from 20 percent of the total population in the 1950s to 64 percent in the 2000s. In the next half century, this share is expected to increase to 80 percent (World Bank, 2006). In the decade between 1990 and 2000, "the annual population growth rate was 2.68 percent in urban areas and just 0.42 percent in rural

areas”; the difference is attributed to migration from rural to urban areas (World Bank, 2008, p. 7). Studies note that these flows are dominated by young people: Between 1990 and 2000, 70 percent of the migrants to urban areas were between 10 and 29 years of age (World Bank, 2008, p. 7). The World Bank reports that “despite the growth, job creation in the cities has not been robust enough to inform the new entrants and potential immigrants from rural areas” and “urban employment of young people has been essentially stagnant since 1997” (World Bank, 2006, p. 60).

According to the OECD Labor Force Statistics,¹⁹ the unemployment rate in Turkey was 6.5 percent in 2000 and 8.4 percent in 2001 for persons aged 15 years and over. After the economic crisis that the country went through in 2001, described below, the unemployment rate for the same group reached 10.3 percent in 2002 and 10.5 percent in 2003. It dropped back to 10.3 percent in 2004 and 2005. During the same period, the unemployment rate for the total of G7 countries was 5.7 percent in 2000 and 6.3 percent in 2005 with a peak of 6.7 in 2003. The EU 15 rates were 8.2 in 2000 and 8.3 in 2005 with a peak in 2004 of 8.4. The OECD total was 6.1 in 2000 and 6.7 in 2005 with a peak of 7.0 in 2003.

Progression of the Economy and Repercussions on the Labor Market

Prior to 1980, Turkey based its economic strategy on an import substituting industrialization model (ISI) (Nas, 2008). However, it became apparent during the 1970s, that sustainability of economic growth under this model was no longer possible; large government spending and budget deficits together with a fixed exchange rate policy

¹⁹ Source: Labor Force Statistics, OECD, 1985–2005.

created a vulnerable structure prone to frequent financial bottlenecks. Turkey began to restructure its economy and move toward liberalization of its markets very early in the 1980s following the policy strategies which a decade later came to be known as the Washington Consensus.

In subsequent years, “substantial support for export manufacturing was granted, involving tax rebates, duty free allowances and subsidized credit.” Boratav, Yeldan and Kose (1999, p. 4) saw the ‘suppression of wage incomes’ as probably the most important policy in the early liberalization era, 1983 to 1987. According to the authors, the effect has been on both fronts, domestic demand has gone down as a result of suppression of wages and that has opened the path for export-led development (Boratav et al., 1999). Second, with labor costs reduced, the share of wage labor in both public and private manufacturing diminished. As in similar liberalization projects of the 1980s in economies around the world, public sector employment decreased relative to private sector employment (Boratav et al., 1999). Still, real wage erosion was a phenomenon observed in both private and public sector jobs (Boratav et al., 1999).

Efforts in the liberalization era included targeting lower inflation via tight monetary and fiscal policies, gradual relaxation of foreign-exchange restrictions, gradual liberalization of import and export regimes and creating incentives for export promotion and privatization (Nas, 2008). But the growth of the economy between 1980 and 2000 was greater than growth of jobs (World Bank, 2006). The World Bank found Turkey’s “sluggish labor market” puzzling. Between 2002 and 2005 the job growth was less than 3 percent while the economy grew at 7.5 percent annually (World Bank, 2008a, p. 97).

Recent Crises in the Economy

Turkey was not as successful in disciplining spending and controlling unemployment as it was in opening its economy to the world (Nas, 2008). It began accumulating huge budget and current account deficits. In 1994, the country went through a major financial crisis which came after excessive government borrowing at unsustainable levels resulting in devaluation of the Turkish lira (Nas, 2008). Turkey was able to stabilize the economy shortly after the crisis, but it was plagued with an inflation problem it could not resolve. After the 1997 Asian crisis, as an additional external shock, the 1998 Russian financial crisis also affected Turkey to a high degree, as Russia is one of Turkey's most important trade partners.²⁰ The inflation level even reached over 100 percent during late 1990s (Nas, 2008). Turkey decided to tackle its chronic inflation problem by shifting from a managed exchange rate regime to a "crawling peg" exchange rate regime, in which the exchange rate adjustments were announced before they were to happen, in hopes that changes in the exchange rate would become more predictable (Nas, 2008). Along with this shift in exchange rate model, the government practiced fiscal policy with an overvalued Turkish lira, low interest rates, and intentional price adjustments of the products and services of state-owned enterprises (Nas, 2008).

These policies did not alleviate Turkey's chronic inflation problem. Furthermore, they led to a back-to-back liquidity crisis in 2000–2001, after which corruption behind the banking and the financial system was revealed (Nas, 2008). The Turkish lira was

²⁰ Not during the crisis of 1998, since 2008: Russia is the number one trade partner of Turkey, measured by total trade volume. Republic of Turkey, Ministry of Industry and Trade.

devalued by almost 40 percent overnight.²¹ The 2000–2001 crises and the resulting deep recession was ground zero for the Turkish economy. Since then, Turkey followed an IMF supported model for restructuring its economy. The most significant feature of this model was the revamping of the banking system meaning formation and implementation of independent regulatory bodies concerning operations of all domestic banks. Second, Central Bank discipline intensified over monetary policy through adjusting interest rates to control for inflation expectations along with fiscal austerity (World Bank, 2008a).

This last round of stabilization policies has been successful in reducing the country's susceptibility to shocks, as its restructured banking system remained relatively unharmed during the last global economic crisis (World Bank, 2008a). Turkey's decades long chronic inflation has come down to single digits. Nevertheless, the continuous yet inconsistent battle with inflation has meant that public sector jobs (the sheer number of employees and wage rates) have always been an important item in the austerity measures taken following crises. Chronic inflation coupled with lack of compensatory wage adjustments during austerity measures has meant that real wages, especially for the public sector, have been adversely affected (Boratav et al., 1999). According to TurkStat, public sector jobs as of the end of 2010 total 2.13 million permanent personnel, 13 percent of all employed are in the public sector.²²

Turkey has a large current account deficit of approximately \$32 billion as of 2006 (Ercan, 2007). Ercan (2007) found that such a deficit would not be sustainable if it were not for the large foreign direct investment inflows; for example, in 2006 Turkey had

²¹ www.tcmb.gov.tr (Central Bank of the Republic of Turkey Archives).

²² www.turkstat.gov

almost \$18 billion of FDI, half the amount of its deficits (Ercan, 2007). He also stated that these flows might be expected to stay strong as long as there was macro-economic stability in the country. The EU candidacy process helps to sustain that stability (Ercan, 2007).²³ Since then, the current account indicator has shown a zigzag reaction to the worldwide financial crisis. First, due to depreciation of the currency and the recession of 2009, the current account deficit went down to \$14 billion, with the strong rebound from recession in 2010, the deficit has increased to \$48.5 billion. Turkey is heavily dependent on imports for intermediate goods, especially energy, and the growth of the economy in the last decade has strengthened domestic market preferences for imported finished goods. Among possible reasons for the next potential countrywide macroeconomic crisis is the current account deficit which is 6.1 percent of Turkey's current GDP (Ercan, 2007). Among the major developed and developing countries only Egypt has a higher deficit of 6.7 percent.²⁴ Energy costs are a major contributor to the current account deficit. On a microeconomic scale, to battle the rising costs of energy, firms may cut down on their labor costs by increased dependence on the informal economy.

Informal Economy & Labor Flexibility

Almost fifty percent of workers in Turkey are not registered and are therefore considered to be part of the informal economy (TurkStat, HLFS, 2009). Fifty percent of

²³ Turkey is an official candidate for the European Union. During the process of candidacy, Turkey is expected to work toward achieving the Copenhagen economic targets which include different criteria from price stability to a functional system of property rights for all candidates in order to become a full member. The details of the Copenhagen economic targets and more information can be found at:

http://ec.europa.eu/economy_finance/int_economic_issues/enlargement196_en.htm

²⁴ *The Economist*, March 5–11 2011, p.106.

informal employment is in the agricultural sector. Informal sector employment implies that people working in these jobs are not registered in the social security system²⁵ (World Bank, 2008a). One of the reasons for the lack of registration is that employers, for tax purposes, prefer not to report employees or they tend to underreport the number of work days within a month. There are a couple of other reasons that can illuminate the prevalence of the informal economy. A recent government report²⁶ points out that access to capital is crucial for small and medium sized enterprises (SMEs). Since Turkish SMEs have limited access to banking facilities, they tend to shift their activities to the informal sector in order to pay less tax and to some degree alleviate their access-to-capital problems.²⁷ Additionally, the expectation of tax amnesties decreases the propensity to obey the social security laws and results in under-representation of the number of workers and/or number of hours worked.²⁸

Boratav et al. (1999) viewed the post-1980 liberalization period as an informalization of labor period. According to the authors, the informalization intensified in the post-1989 period. In the manufacturing sector, what they refer to as ‘marginal labor’ as a proportion to total employment has risen from 41 percent in 1980 to 49 percent in 1994 (Boratav et al., 1999). They reported this form of employment as very prevalent in “traditional sectors like food processing, textiles, wood and furniture, and metal products, where small-scale enterprises have greater importance” (Boratav et al.,

²⁵ Social benefits like health and unemployment insurance and pensions are all linked to membership in the social security system.

²⁶ Action Plan Strategy for Fight against the Informal Economy (2008–2010) Ankara, April 2009. Presidency of Revenue Administration, Department of Strategy Development No:88.

²⁷ Ibid.

²⁸ Ibid.

p. 9). According to the government report mentioned above, growth elasticity of employment in 1994–2004 is only 0.08 percent.²⁹ The explanation the report makes is that on an individual level when income earned from formal employment is insufficient, it is supplemented by a second job which is more likely to be an informal form of employment³⁰ relative to the person’s primary job. Prolonged periods of inflation are a factor as employers adapt various tools of the informal economy, “in particular the informal employees,” to circumvent the costs associated with price instability.³¹

Bureaucratic formalities are another important factor that may possibly contribute to the presence of informality in the labor market. Doing Business, Turkey 2011 ranks Turkey 65th in the world in terms of average convenience of doing business. Within the subcategory of ‘difficulty of hiring,’ Turkey’s indicators are consistent with its general ranking.

Ercan (2007, p. 32) has asserted that, “Informal employment in today’s context need better be discussed within the framework of flexicurity (labor market flexibility and job security).” In 2003, Labor Act 4857 replaced previous Act 1475. The new labor code aimed to formalize flexibility and contest informal employment (Ercan, 2007). Part time employment, fixed term contracts and temporary employment were for the first time formally acknowledged. However, the new law kept Turkey’s existing strict employment protection codes intact (Ercan, 2007). For example, Ercan (2007) explicated that to circumvent severance compensation; low skilled registered workers were fired at the last day of contract and rehired with a new contract the following day. Hence the impact of

²⁹ Ibid.

³⁰ Ibid.

³¹ Ibid.

the new labor market legislation has been ambiguous since there is still motivation for employers to resort to the informal market (Ercan, 2007). It is conceivable that the new law's affect on the informal labor market will be muted especially for the youth.

Synopsis

The progression of Turkey's economy portrayed above is a tale of significant sectoral shifts in the economy, a high frequency of economic crises, and persistence of informal markets within a rapidly urbanizing country. The problematic existence of unemployment has planted itself as a constant in the collective mindsets of the public. Hence, joblessness has signified each alternating phase of the economy, such as jobless downturn, jobless recovery and jobless growth.

As it is important to analyze the increasingly insecure nature of youth employment through business cycles and crises, it is also important to take note of the blueprint of an economy that has been established in the last three decades, as all youth under analysis in this study have been born within this time frame. The established blueprint involves times of abrupt change; indeed the macroeconomic indicators are a representation of the rate and pace of change in this dynamic period. Youth under study have experienced every stage of this period through observation and participation within their families, neighborhoods and schools, in short through major social institutions relevant to their upbringing. Therefore, it is necessary to look at youth employment and unemployment through these lenses in order to capture the nuances of this tale.

II. Overview of Turkish Youth Labor

As mentioned earlier in the introduction, studies which analyze the Turkish youth labor market and labor market outcomes for youth are rare.³² On the basis of the findings of the ILO studies presented in the prior section which examine the characteristics of youth labor worldwide, a descriptive analysis of the data from Turkish Household Labor Force Survey was conducted by the author of this study. The purpose of this preliminary analysis has been twofold: first, to identify the specific features and constraints of the Turkish youth labor using some of the lenses offered by the ILO; second, to aid the analysis and interpretation of the second research question in this study (identification of the factors which determine who is employed and unemployed). The findings are presented below. A synopsis of these findings is included at the end of the section.

Demographic Characteristics of Youth

In 2008, there were 6,200,000 Turkish youth aged 15–19 and 5,300,000 youth aged 20–24 representing close to 9 and 8 percent of the country's total population

³² An analysis was conducted by Yenturk and Baslevent (2007) of the Istanbul Bilgi University Youth Studies Unit. This research center is the first to focus only on youth studies in Turkey. The English website is included below: http://www.genclikcalismalari.org/Genclik_Calismalar_Birimi/English.html. The study by Yenturk and Baslevent (2007) uses micro data from the Turkish Household Labor Force Surveys (HLFS) to provide a descriptive analysis of the youth labor market in Turkey. One problem associated with this analysis is that at the time when this study was conducted, the HLFS micro data had not been updated on the basis of the new census results which were published in 2007. Turkey has introduced a new system of collecting census data. The new census results according to this new system which is based on records of household addresses were released in 2007. The new Census results revealed that in the micro data there were important variations from the weights calculated based on the 2000 Census results. In 2007, the HLFS started updating the micro HLFS data on the basis of the new weights calculated using the most updated Census results. This study uses the updated 2008 micro data.

respectively. Furthermore, still a young society, about quarter of the total population in Turkey was below the age of 15.³³

The female and male youth population proportions were 51 and 49, respectively. One quarter of the youth lived in households with four members, 20 percent in households with five members while 17 percent lived in households with three members. Almost 80 percent of youth in Turkey live in households which have six members or less. The number of persons in the household might be representative of the family characteristics, as families with more members living in the same household tend to include extended family members. Often married children stay in their parents' house due to economic hardship, and such families tend to come from more traditional backgrounds as opposed to those nuclear families with fewer members who might represent a more modern type of household. The rural-urban distinction which could be correlated with the traditional-modern dichotomy might provide some evidence for this explanation. Indeed, 84 percent of urban youth lived in households with six members or less while 70 percent of youth living in rural areas lived in households with six members or less.

Seventy two percent of youth reside in urban areas.³⁴ Table 1 in Appendix G presents information on the distribution of the youth population across regions. Istanbul captured a significant portion of the youth population on its own with over two million

³³ Statistics reported in this section are based on the analysis of the HLFS in 2008. Appendixes B, C, D provide information on background, history, sampling and coverage and definitions used in the HLFS while Appendix E presents questions included in the HLFS.

³⁴ Statistics are reported at three different geographical levels in the HLFS. Rural/Urban, NUTS1 and NUTS2 levels. NUTS2 level is the most detailed geographical distinction covering provinces or clusters of two or more provinces.

youth. The top three regions after Istanbul were Aegean, Mediterranean, and Southeast Anatolia. Significant numbers of youth in Istanbul, Aegean, East Marmara and West Anatolia regions can partially be explained by the concentration of a significant number of universities in these regions.

The proportion of the youth population relative to the total population is examined next. Table 2 and 3 in Appendix G illustrate the relative youth cohort size of the female and male populations within regions by the lowest geographical unit available in the HLFS. Van-Muş-Bitlis-Hakkari; Gaziantep-Adıyaman-Kilis; Diyarbakır-Şanlıurfa are provinces in the Southeast of Turkey where the relative size of the female youth population to total female population are the highest. The same is true for the male population for Van-Muş-Bitlis-Hakkari; Gaziantep-Adıyaman-Kilis and Siirt-Mardin-Batman-Şırnak as listed in the table.

Marital Background

The current young generations of Turkey are not getting married early in their youth: the percentage of those who are single for every employment category was 80 percent or more for those who are 15–24 years old. For the age category 25–29, percentage of those who are single was 32.4. Results are presented in Table 4 in Appendix G.

Education and Skill Levels of Youth

In Turkey, primary education net and gross enrollment rates for 2006/2007 are 96 and 90 percent respectively^{35 36} (MEB, 2007). For secondary education, the same numbers are approximately 87 and 57 percent respectively (MEB, 2007). Turkey approved the eight-year compulsory Basic Education Law in 1997 and increased the supply of primary education classrooms by 30 percent (World Bank, 2005). Despite the passage of the 1997 compulsory education law, Turkey still has not reached the maximum primary enrollment rates for children who are in the appropriate school age. Furthermore, there are differences between genders for both secondary and primary enrollment. The net primary school enrollment rates for males and females are 92 and 88 percent respectively for the 2006/2007 period. There is a wider difference between the two genders for net secondary enrollment rates; 61 and 52 percent respectively for males and females.

The objectives of the 1997 reform along with increased participation rates included measures in improving the quality of education and helping more children to complete their education (World Bank, 2005). However, success in these areas has been limited (World Bank, 2005). 2006 PISA test results on learning outcomes for 15-year-

³⁵ Turkey has undergone 8-year compulsory education with law No. 4306 dated 18.08.1997 since 1997/'98 school year.

³⁶ "A high Net Enrollment Rate (NER) denotes a high degree of enrollment in education by the official school-age population. The NER is the number of pupils of the theoretical school-age group for a given level of education, expressed as a percentage of the total population in that age group. The theoretical maximum value is 100%. Total NERs below 100 percent provide a measure of the proportion of primary school age children who are out of school. When the NER is compared with the Gross Enrollment Rate (GER) the difference between the two ratios highlights the incidence of under-aged and over-aged enrollment. The GER is the number of pupils enrolled in a given level of education, regardless of age, expressed as a percentage of the population in the theoretical age group for the same level of education" (MDG, Web-site, 2009).

olds in math, reading, and science provide evidence on education quality (World Bank, 2007). Turkey ranks second to last on average achievement among OECD countries (same as 2003 results) (World Bank, 2007).

Furthermore, educational attainment and skill levels of youth are considered to be low according to their counterparts in the EU. For example, only 40 percent of those between the ages of 20 and 24 had a secondary education degree compared with 80 percent in EU 15 (World Bank, 2007a). Women had lower levels of secondary education completion than males 39 percent vs. 52 percent (World Bank, 2005). Both enrollment and education attainment levels of Eastern provinces are lower (World Bank, 2005). Thus there are huge regional inequalities in access to education and in the quality of education (World Bank, 2005; World Bank, 2008). Turkey's educational system is said to educate only a handful of students according to highest international standards (World Bank, 2005).

For higher education, the gross and net enrollment numbers are much lower, as one would expect, approximately and respectively 35 and 19 percent for the 2005/2006 period (MEB, 2007). The difference between males and females is smaller for gross enrollment in higher education, 30 percent for females and 39 percent for males in 2007 (World Bank, 2008). In terms of educational attainment Turkey is doing worse than most of the countries in its income level and much lower than countries with higher income levels (World Bank, 2008). Twelve percent of educational attainment between 25 –34 year olds is lower than Mexico's (18 percent) and much below the OECD average of 32 percent (World Bank, 2008, p.11–12). Furthermore, family background is an important

factor in who participates in higher education as the rates are higher for higher income families (World Bank, 2008).

Educational Attainment across Age Groups and by Geography

Educational attainment by age categories is illustrated in Figure 1 in Appendix H. The effects of the eight-year compulsory education law are evident as those with secondary education and higher were much larger in proportion than those in older cohorts. Considering also that almost 47 percent among the 15–19-year-olds and 19 percent among the 20–24-year-olds are still in education, one can confidently conclude that Turkey's youth is more educated compared to older cohorts. Among the 25–29-year-old youth, only five percent were still attending school at the time of the survey. Attendance in education was 43.5 percent for females vs. 50 percent for males for the age group of 15–19 and 15 percent for females vs. 23.5 for males for ages 20–24. The difference was higher for the 20–24 age group between males and females.

Forty eight percent of females aged 15–24 who have completed secondary school education were still attending school, the same was 37 percent for regular high school graduates, vs. 21 percent for vocational or technical high school graduates and 19 percent for those with college education. Fifty percent of young males who have completed secondary school education were still attending school; the same was 38 percent for regular high school graduates, vs. 30 percent for vocational or technical high school graduates and 26 percent for those with college education.

Table 5 in Appendix G presents the education status of workforce (employed plus unemployed) population for different age groups. Newer generations of the workforce are more educated than their predecessors: for example almost 23 percent of the workforce in the age group of 25–29 completed college education or higher as compared to 14 percent for those who are over the age of 30.

Included in Appendix H, Figure 2 is an illustration of attendance in education across regions. Data at the regional level reveals even more significant differences for females and males especially in the Northeast, Middle East and South East Anatolia.

Income

The income variable as defined by the HLFS captures only regular (wage or salary) or casual (seasonal or daily work) workers' income, but it does not capture income for those who are employers, self-employed, or unpaid family workers. The question in the HLFS asks the income earned from main job activity during the last month including extra income like bonus pay, premiums etc. on addition to salary, monthly or quarterly paid. Approximately 72 percent of youth are regular or casual workers hence have stated income information in the survey. Seven percent of both regular and casual young workers reported zero income. The average income for young casual workers was 302 YTLs with a standard error of 279 and median income was 300 YTL. This is lower than the official gross minimum wage of 729 YTL, (net 576, 57 YTL) set for people who are 16 years old or older. The average income for young regular workers was 541 with standard error of 311 and median income was 500 YTL.

Ninety-five percent of regular young workers earned less than 1000 YTL. For regular workers in the age group of 25–29, the average income was 839 with a standard error of 990 and median income was 700 YTL; the mean income for these workers was 423 with a standard error of 378 and the median income was 400 YTL. For regular workers above the age of 30, average income was 1015YTL with a standard error of 872 and median income was 800 YTL; casual workers in this age group earned on average 379 YTL with a standard error of 356 and median income of 350 YTL. Young female casual workers had a median income of 200 YTL, while young male casual workers’ median income was 300 YTL. The same statistics for regular young female and male workers were equal to 500 YTL. The median income for regular workers at the age category of 25–29 was higher for females than male workers, 750 YTL vs. 700 YTL. The same was true for people over the age of 30; female and male median incomes were 825 YTL vs. 800 YTL respectively.

Labor Force Status of Youth

Neither in Education nor in Employment (NEET)

As stated earlier NEET (“neither in education nor employment”) rate is considered to be a useful measure of “non-utilized labor potential of the youth population” (ILO, 2006). Overall the percentage of NEET, that is, everyone who is unemployed or not in the labor force and not attending education, for those in the age group of 15–24 is 40 percent. Seventy percent of the NEET are female: 28 percent of the NEET are females aged 15–19 and 40 percent are females aged 20–24. Fifty three

percent of females between the ages of 15–24 are NEET while only 25 percent of males are NEET.

Among the NEET, almost 57 percent of young females are not married; this is to note that the phenomenon of females moving out of the labor force or education due to marriage can only partially explain the situation.

NEET by Geography

Approximately 70 percent of young NEET males and females live in urban areas; Figure 3 in Appendix H presents NEET levels across regions. Most of the cities in Southeast and Middle East Anatolia had the highest rate of females and males who are NEET among their overall youth population as presented in the tables.

Labor Force Participation

Labor force participation rates (LFPR) of the youth between the ages of 15–24 in the late 1980s and early 1990s were approximately 56 percent. This number dropped to approximately 38 percent in 2008 while the number is approximately 47 percent for the total population of the country. When one examines the same across genders, there are large differences: the labor force participation rates for males between the ages of 15–24 during the late 1980s and early 1990s were around 70–73 percent, while the same number was 38–41 percent for females. In 2008, labor force participation rates for males were approximately 52 percent; while they were almost half for females (25 percent) and much lower than their counterparts in Developed Economies & European Union (48 percent) and in Latin America and the Caribbean (44 percent) (TurkStat HLFS Data). Only in the

Middle East and North Africa region was the labor force participation for females less than 25 percent in 2007 (ILO, 2008). The statistic for the Central & South-Eastern Europe (non-EU) & CIS region, which Turkey is part of, was approximately 34 percent and significantly above the Turkish rate.

The LFPR for ages 15–19 is almost one half of those at the ages of 20–24. On the other hand, LFPR is significantly higher for the 25–29 age group (approximately 63 percent) suggesting by the age of 25, youth are participating at levels closer to the adults in the following groups participate.

The overall LFPR for the total population of females is 24 percent, while for the total population of males it is 70 percent. The LFRP for females between the ages of 15–19 is 17 percent while it is 33 percent for females in the latter age group. The LFPR for males of age 15–19 is approximately 36 percent, while the number is 71 percent for the latter age group. By the age of 20, males are participating twice as much in the labor force both compared to their previous age group and to females in their own age group. The LFPR for different age groups for the overall population and then for males and females are presented in Figures 4 and 5 in Appendix H.

LFPR by Geography

Table 6 in Appendix G presents LFPR comparatively for urban and rural areas. Female rural participation rates were always higher than urban female rates across all age groups. The same was true for males except for the age group of 25–29. Most

significant differences between rural and urban areas were observed for young females, ages 15–19 with 10 percent higher rates for rural females than urban females.

LFPR across regions and genders for the age groups 15–19 and 20–24 are presented in Figure 6 in Appendix H. The only region which qualifies for top three across all genders and age groups is the West Black Sea.

LFPR by Education and Urban/Rural

Figures 7, 8, and 9 in Appendix H present LFPR by education separately for urban and region areas, for males and females and for different age groups. LFPRs for males and females are almost equal at the college level of education for all age groups through 15–29. Higher education is an equalizer for females in terms of LFPR who otherwise have much lower levels of LFPR than males. For the age group of 15–24, LFPR for both males and females are higher if a person has finished vocational or technical high school as opposed to regular high school. The same are higher for those with college education as opposed to any type of high school education. LFPR for females aged 15–24 or 25–29 are higher in rural areas than urban areas, but differences exist or are more pronounced at lower than high school levels of education. LFPR for rural males aged 15–24 with secondary or regular high school education are significantly higher than same aged urban males with the same levels of education. Young males aged 15–24 with primary school education have higher level of LFPR than any other education category for that age group of males both in urban and rural areas.

Employment

Employment rates by age groups and then by age groups and gender are presented in Figures 10 and 11 in Appendix H. Employment rates for the 20–24 age category is almost double the rates for those 15–19 years old. Employment rates for females are always lower than those for males for all age groups.

Employment by Economic Activity (NACE)

Distribution of employment across sectors varies by age groups as seen in Table 7 in Appendix G. Young people at the age of 15–19 are employed in the agriculture and industry (primarily manufacturing) sector. At the ages of 20–24, the young people's presence in the agricultural sector starts to diminish while their presence in the services sector increases to double those in the 15-19 year old category. Moving from 20–24 to 25–29 age category, the share of the service sector increases from 24 percent to 30 percent.

Figures 12–15 present employment by economic activity across genders and age groups for rural and urban areas. In rural areas young women in all three age categories are employed primarily in agriculture, almost twice as many as compared to males in the 20–24 and 25–29 categories. Still, in rural areas, agriculture is the major area of employment for young people regardless of gender. Manufacturing and community, social and personal services are the two other major categories for young females in rural areas. Young males are employed in manufacturing along with wholesale and retail trade, restaurants and hotels as major categories after agriculture. In urban areas,

manufacturing along with wholesale and retail trade, restaurants and hotels replace agriculture as the major areas of employment for both young males and females. In urban areas, the presence of manufacturing for females is most pronounced at the 15–19 age group, but diminishes with each successive age group. As young females age, community, social and personal services sector becomes a main area of employment. The presence of this sector increases also as urban males age; however the share of the community and social services category is not as high for males as it is for females.

Sectoral Division of Employment within Education Categories for Youth

Young females with a college education are employed primarily in the community, social and personal services sector (almost 44 percent), and then wholesale and retail trade and finance categories; approximately 19 percent each. Young males with higher education are employed primarily in the community, social and personal services sector by 27 percent, then comes manufacturing by 23 percent and then wholesale and retail trade category by 21 percent.

Fifteen to 24 year old females with a regular high school education are employed primarily in the wholesale and trade sector (43 percent) and then in the manufacturing (17 percent) and then the community services sector (15 percent), while their technical high school counterparts are employed in the community services sector (30 percent) and then in the wholesale and trade sector (27 percent) and then in the manufacturing sector (22 percent). A similar pattern for high school and technical school graduates in the 25–29 year old category females is observed.

Fifteen to 24 year old males with a regular high school education are employed primarily in the wholesale and trade sector (39 percent) and then in the manufacturing sector (21 percent) while their technical high school counterparts are employed in the manufacturing sector (34 percent) and then in the wholesale and trade sector (31 percent). A similar pattern for males in the high school and technical school graduates in the 25–29 year old category is observed.

Among young females who have lower than high school education for each category of education, at least half of the women are employed in the agricultural sector. Seventy-five percent of women who are illiterate are employed in the agricultural sector. The second largest category of employment for young females below high school education is manufacturing. For young males who are illiterate, with or without diploma, jobs are almost split evenly between agriculture and manufacturing; for young males with primary school or middle school education, manufacturing employs twice as many young people than agriculture.

Figure 16 provides an overview of the educational distribution of the workforce within each sector. Community et al. and Finance et al. services are those who employ college graduates the most. In general, primary school graduates are the highest in proportion in majority of the sectors. Turkish workforce is primarily made up of those with lower levels of education. Figures 17–20 in Appendix H present the employment sector of young persons within different categories of education separately for urban and rural areas. For young males in urban areas the two most important categories of employment are manufacturing and wholesale retail trade categories except for those

with college or higher education. In this latter case, manufacturing and wholesale retail trade category is still important, but community and social services category appears as a more important sector of employment. For young males in rural areas, agriculture is the single most important category of employment for all those who have less than college school education. For those with college education or higher, community and social services category is the most significant category. Agriculture's presence decreases as education level increases. For all levels of education manufacturing and wholesale and retail trade are the two other important categories of employment.

In urban areas, for those females with secondary education or less, the largest area of employment within each education category is manufacturing. Wholesale and retail trade is the most important category for high school graduates, while the community and social services category appears as the most important category for vocational or technical school and college or higher education graduates. In rural areas, young females in each category of education are employed primarily in the agricultural sector.

Job Status/Unpaid family Work

Overall 64 percent of the 15–24 employed population reported being regular workers. Nine, one, four and 22 percent reported being casual workers, employers, self employed or unpaid family workers respectively. In urban areas, three quarters of young males are regular workers and 9 percent are casual workers; on the other hand, approximately 87 percent of urban female youth are regular workers and 7 percent are casual workers. Incidences of being the employer or self-employed are very low for both

urban young males and females: 2 and 5 and .33 and 2 percent for males and females respectively. In rural areas, 37 percent of young males are regular workers; 13 percent are casual workers. Twenty one percent of rural young females are regular workers and 7 percent are casual workers. The incidence of being self employed is higher among young rural males, 7 percent and 2 percent among females. The incidence of being self employed is very low for both males and females in rural areas.

Agricultural employment brings together high incidences of unpaid family work. The percentage of unpaid family workers for the total of rural female population is approximately 68 percent. In rural areas, above sixty percent of female workers for the age categories of 15–19; 20–24 and 25–29 are listed as unpaid family workers. In urban areas, the incidence of unpaid family work for females is less common: hovering around three to six percent for the above age categories and 8 percent for the total urban female population. For males the incidence of unpaid family work in rural areas is lower than females and decreases as age increases; 52 percent for ages 15–19; 35 percent for ages 20–24; 20 percent for ages 25–29 and even lower for the total rural male population, approximately 12 percent. For urban males the incidence of unpaid family work is much lower than their female urban and rural male counterparts: Twelve, six and two percent for the above three categories respectively and two percent for the overall urban male population.

Informal Employment

Informal employment in the HLS can be captured by the incidence of not being registered with a social security institution. The table which illustrates informal employment across genders in rural and urban areas is included in Appendix G, Table 8. An overwhelming majority of young females in rural areas participate in informal employment. This is not unexpected as it complies with the findings of high incidence of agricultural and unpaid family work for this group. In urban areas, the incidence of informal work decreases for each successive group of young females. For males, informal work is more prevalent for the 15–19 age group in both rural and urban areas. The numbers for males decrease for latter age groups and are always lower than female levels. For the age group of 25–29, the difference in rural areas is especially striking for males and females with males 30 percent lower levels of informal employment than females.

Among 15–24 year olds, 70 percent of those with lower than high school education are not registered with a social security institution, while the same number is 34 percent for those who have high school education or higher.

Permanency of the Job:

In urban areas the majority of both young females and males are employed in permanent jobs (over 85 percent for all three youth categories). The same is true for the overall population, around 90 percent for urban male and females. In rural areas, both male and females aged 15–19 had the lowest levels of permanent work (around 60 percent levels and thus highest levels of temporary or seasonal work (around 35 percent

levels) as compared to the two consecutive age groups (around 80 percent for permanent work vs. around 20 percent of seasonal or temporary work). For the overall population, in rural areas, males had higher levels of permanent work as opposed to females 78 vs. 69 percent.

Status of Workplace/the Size of the Workplace

About three quarters of youth aged 15–24 indicated that they work at a regular workplace while 21 percent worked at a field or garden. Approximately 60 percent of youth aged 15–24 worked at places which employ less than 10 employees. Ten percent worked at places which employ 10–24 employees; a 12 percent worked at places which employ 25–49; another twelve at places which employ 50 to 249 employees. Six percent worked at places which employ 250 employees and more.

Type of Job/ Additional Job

The incidence of part-time jobs is not very high in Turkey as Turkey's regulations which would allow for flexible work arrangements have only recently been passed as discussed in the previous section. Ninety percent of young people had full time jobs while 9 percent had part time jobs. Thirty percent among young rural females had part time jobs as opposed to males whose share of part-time jobs was 12 percent. Part time jobs were lower for urban females with 6 percent and only three percent for males. Less than one percent of male and females were engaged in any other activity to earn income in cash or in kind.

Number of Hours Worked on Average on Main Job

The median and mean number of hours worked for 15–24 year old people was 52. Eighty percent of young workers worked 40 hours or more.

Satisfaction with Job and Working Hours

Young people 15–24 year old who were employed were not seeking to change jobs 94 percent of the time. Those who were seeking to change jobs stated that they were looking to earn more money, 69 percent; 19 percent indicated they wished to have better working conditions. An overwhelming majority, ninety seven percent indicated they were not looking to increase their working hours.

Unemployment

Unemployment rates for youth were around 15 percent levels during 1990s. In 2000s these levels reached almost 20 percent and over with 20.5 percent in 2008. This is significantly higher than the 2007 OECD and EU averages of approximately 13 percent and also the average of 18 percent for Central & South-Eastern Europe (non-EU) & CIS region which Turkey is listed under the ILO classification. This rate is comparable to that of the Middle Eastern region which was 20.4 percent in 2007. The only region with a higher average was North Africa with 23.8 percent. Unemployment rates for young males were around 16 percent levels during 1990s and during 2000s this number climbed to 20 percent ending in 20.1 percent in 2008. During 1990s, the unemployment of females was slightly lower than male rates fluctuating around 15 percent. During 2000s,

female youth unemployment was consistently above 20 percent and one percent level higher than males in 2008 with 21.2 percent.

Unemployment rate for the 15–19 age group is around 20 percent while for ages 20–24 it is a little higher, 21 percent. Unemployment for the 25–29 age group is much lower around 13 percent. However this number is still higher than for those adults 30 years old or older. This suggests transition into employment for youth is not totally complete until 30 years old. Unemployment decreases with each successive age group for later ages as illustrated in Figure 21 in Appendix H.

Table 9 in Appendix G presents unemployment rates by gender and urban-rural for different youth groups. Female rural youth unemployment rates are the lowest while urban rates for females are the highest. Unemployment levels for urban males aged 15–19 and rural males aged 20–24 are also high above 20 percent level. The labor force participation rates for females in the age group of 25–29 are very similar for urban and rural females (32.6-urban; 35.3 rural). However, the unemployment of urban females is almost as three times higher than their rural counterparts. Similarly LFPRs for females in the 20–24 age group are close; however, unemployment rates among urban females are more than two times higher. Although rural participation rates are much higher for the 15–19 age group, unemployment rates are almost three times higher for urban females.

Unemployment across regions is shown in Table 10 in Appendix G. There are significant differences across regions. Female unemployment rates reach over 30 percent for West Anatolia region. Among provinces, Ankara the capital, and Adana and Mersin,

(two of the biggest cities) and Malatya-Elazığ-Bingöl-Tunceli also significant provinces of Eastern Anatolia, the unemployment rates for females are all above 33 percent.

Unemployment by Education and Geography

Unemployment rates for rural females aged 15–24 is below two percent for those who have education below high school. Almost 50 percent of females aged 15–24 and who live in rural areas and who have higher education are unemployed. Young males in rural areas who have higher education also suffer from high unemployment, 31 percent. The situation is not much better in urban areas for females; almost 34 percent with higher education are unemployed. The same is true for females in urban areas with vocational or technical high school education and regular high school education; both 29 percent approximately. The situation improves for the consecutive age group however one can still observe unemployment bottlenecks at ages 25–29. Figures 22 and 23 in Appendix H illustrate unemployment by education and age groups presented separately for urban and rural areas.

Discouraged Workers

It is primarily those who are not in the labor force who state reasons for not looking for a job when asked during the survey. Among those unemployed, only a handful has not looked for a job in the past three months because they have a job and waiting for starting that job (these people are considered as unemployed by TurkStat). Among 15–24 year olds who are not in the labor force almost quarter million (235,816)

believe that there are no jobs in the area and state this as a reason for not looking for a job in the past three months (3.32 percent of all reasons listed). The ratio of those males who believe there are no jobs are higher among rural males than among those urban males (13 vs. 3 percent). Among male 15–24 year olds the ratio of those who don't believe there are jobs available in their region are larger than the female ratio (approximately 6 percent vs. 2 percent) and none of the males say they are not looking for a job because they are doing house chores. On the other hand, 46 percent of females list house chores as a reason not to look for a job.

When asked if they would be able to start a job in two weeks if a job had become available, only 18 percent among all replied as yes. Approximately 64 percent of those females who said no were NEET as compared to 28 percent of males. A striking 86 percent of males and females who said yes were NEET. Among those who said no, 56 percent said so because they are in education and training and 30 percent said so because they are involved in household chores.

The question about one's work situation one year before the survey can also shed light to some extent on the discouraged workers phenomenon. Over 200,000 youth, who are not in the labor force and not attending school at the time of the survey, were looking for a job one year ago.

Job Situation of the Unemployed One Year before the Survey/ Duration of Unemployment

An analysis of the job situation of those who were unemployed at the time of the survey showed that young males (Ages 15–24) who were unemployed at the time of the

survey were unemployed one year before the survey 40 percent of the time; they had a job 24 percent of the time; they were in education or training 16 percent of the time. Females who were unemployed at the time of the survey were unemployed one year before the survey, 30 percent of the time; they were housewives 21 percent of the time; they were in education or training 26 percent of the time and they were working 23 percent of the time.

Among the 25–29 year olds, 50 percent of males unemployed at the time of the survey were unemployed one year before the survey, while approximately 38 percent had a job. Females aged 25–29 who were unemployed at the time of the survey indicated that one year before the survey: they were unemployed, (almost 36 percent); they had job (28 percent) or were a housewife (29 percent).

Exploring the sectors that persons who were unemployed at the time of the survey, but were employed in one year before the survey, may reveal some significant information about the structural changes taking place in the market. For the age group of 15–24, females who were unemployed at the time of the survey and were working one year before the survey indicated they worked in manufacturing (33 percent) or wholesale and retail trade (33 percent) or community and social services sector (17 percent). For males the same numbers were manufacturing (31 percent), wholesale and retail trade (35 percent) and construction (16 percent).

Among those who had been looking for a job in the last three months (Unemployed and NILF), one third had been looking for a job for six months or more.

Past Work Experience

Among the unemployed and NILF; only 23 percent had some past work experience. Those who did work left their job because the job was temporary and came to an end (21 percent); was working seasonally (14.5 percent); dismissed/liquidated/bankrupted (10.5 percent); was not satisfied with job (18 percent); due to marriage (10 percent); education or training (11 percent). Twenty four percent has worked previously in the agricultural sector; 25 percent in the manufacturing sector and 27 percent in the wholesale and trade sector. Among those who left their job because they were not satisfied with their job almost forty percent were employed in the wholesale and retail trade sector; and 33 percent were in the manufacturing sector. Those who left their job because it was temporary and came to an end had been employed in the agriculture sector, 26 percent; manufacturing almost 15 percent; construction almost 20 percent; wholesale and retail trade almost 20 percent. Persons who stated that they left their job because it was seasonal were employed primarily in the agricultural sector, 80 percent.

The Prevalence of Full-Time or Part-Time Job

The majority (86 percent) of youth wanted to find a full time job and the rest stated the following other options: for seven percent full time job is sought, but if not available part time job will be accepted; only one percent is looking for a part time job; one percent seeks self employment; less than one percent sought a part time job, but

would accept a full time job if not available; 3 percent would accept a part time or a full time job.

Job Search Methods and Types of Jobs Searched

Young people rarely use the Turkish Employment Organization (TEO) or private employment offices for looking for a job. The majority of those who were *employed* at the time of the survey stated that they found the job on their own (70 percent), 28 percent stated they found the job through relatives and friends, etc. and less than one percent stated contacting the TEO.

Individual questions related to job search were asked to *those who were looking for a job in the last three months*; for example, the question asked if the person applied to the employer directly and the answer was structured as yes or no. According to the answers given to these job search related questions 71 percent applied to the employer directly; almost 92 percent asked family friends, etc. (most popular); only 10 percent contacted the TEO and 10 percent contacted private employment offices. Thirty percent looked up advertisements in newspapers and journals; 10 percent placed ads or replied to any ads in newspapers and journals; 25 percent looked for a job via the internet; 9 percent entered written or oral exams or participated in interviews; less than one percent tried to acquire land, premises or equipment to establish their own business; less than one percent looked for permits, licenses or financial resources to establish their own business; 6 percent waited a call from the Turkish employment office; 42 percent waited for the results of an application for a job; 6 percent waited for the results of an exam for

recruitment for the public sector; less than one percent used other methods to look for a job.

Table 11 in Appendix G presents the types of jobs the employed have and the types of jobs the unemployed said they were seeking. Approximately 43 percent of youth sought jobs as clerks and service workers whereas the skilled agricultural and fishery workers category was the least popular with 0.23 percent.

Synopsis

- Backgrounds of youth today are different than their predecessors.
 - They are more educated.
 - They are getting married later in life.
 - Still there are huge gaps across regions in terms of education of youth.

- Forty percent of young people are NEET, but 70 percent of NEET are females.
 - There is a large unutilized young human labor potential which is predominantly female.
 - Most of these young females are engaged in house work.
 - Some regions have very high (e.g. three-quarters) shares of young NEET females.

- Labor force participation rates of young females are much lower than their male counterparts.

- College level education is an equalizer in terms of labor force participation across genders; however attendance in education of 20–24 year old females is only 15 percent.
 - For the age group 15–24, women with vocational or technical high school degrees as opposed to regular high school degrees participate in employment at higher levels.
- One third of females who are employed are employed in the agricultural sector: majority of these females living in rural areas and with low levels of education are employed as unpaid family workers and are predominantly employed in the informal sector without any social protection.
 - The transition of young and highly educated males and females into work seems to take some time. The unemployment levels are very high for both urban and rural males and females with above high school education for the ages of 15–24.
 - The LFPR for males for 15–19 age group is more than double that for females. This implies females have less work experience on average as compared to males in their age group. By the time they reach their 20s; females start participating at higher levels, however the unemployment levels remain high during 20–24, as compared to their male counterparts.

- In urban areas, there are unemployment bottlenecks for young females who are illiterate and also those with secondary level education; furthermore graduates of vocational or technical high school graduates still have above 20 percent levels of unemployment at the ages of 25–29.
- In rural areas, there are unemployment bottlenecks for those with high school education and especially for those with regular high school education.
- Females with education above high school are employed mainly in the services sector, especially community, social and personal services sector; the same is true for females with vocational and technical school education.
- The incidence of part-time work is small; furthermore, working hours are long.
 - Youth are primarily seeking full-time jobs. The concept of part-time job is not very well established or maybe even known.
- Job search among young people is conducted through informal channels.
 - TEO is rarely used for job search.
 - One quarter use the internet for searching for jobs.
- There are a considerable number of youth, almost a quarter million who are discouraged because they believe there are no jobs in the market.

- Youth are pessimistic about opportunities and they lack information about jobs.

CHAPTER 6

EMPIRICAL ANALYSIS OF THE MACRO STUDY

Preliminary Analysis of the Time Series Evidence

Appendix I, Figures 1–12 display time series data on relative youth cohort size, youth and adult unemployment and employment and tertiary enrollment rates in advanced and developing countries. During the past two decades among advanced countries youth population shares were declining for Ireland, Italy, Japan, Spain, Portugal, and Greece and to some degree in Israel. Other countries experienced increases in their youth population shares or declines in the first decade and then increases again in the second decade. Most of the developing countries, on the other hand, experienced declines or rather small changes in youth population shares in the past two decades. Shares are expected to decline further in many of the developing countries including Turkey (Lam, 2006, p. 14).

When youth population shares are observed along with youth unemployment in advanced countries where the shares were in decline, youth unemployment rates moved together at least for a portion of the latter decade after which again unemployment rates started to rise. Despite such synchronicity for a period of the time, by examining the still high rates of unemployment in these countries, one could conclude that other factors were at play in determining the ultimate rates of youth unemployment. In many of the

developing countries on the other hand, the youth population shares and unemployment rates moved independently of one another or in opposite directions.

Youth employment rates in advanced as well as developing countries moved independently of youth population shares during the observed period. For many advanced and developing countries during this period youth employment rates moved in opposition to the tertiary enrollment rates. During the past two decades youth and adult unemployment rates, then again, followed very similar paths in both groups of countries. The same could be said of adult employment rates and youth employment rates in lower income countries, but not so much in high income countries.

Basic Panel Regressions for Economically Advanced and Developing Economies

In this section results will be presented, the discussion of the results will follow in the latter section. In Table 5 below, the country and time fixed effects models with corrected standard errors are presented together with incrementing for the relative cohort size using lagged births as an instrument (Panel A) and then using lagged birth rates divided by adult population as an instrument (Panel B). The instruments of choice are the same as that of Korenman and Neumark's (2000). Furthermore the models were tested using the first stage regressions. The F tests resulting from these models which have the relative cohort size as the dependent variable indicate that both instruments of choice are appropriate. Although the lagged births divided by population is a stronger instrument (a better proxy), following Korenman and Neumark (2000), this study employs lagged births as the instrument of choice since it is expected to do a better job of overcoming the

endogeneity problem than the other one in the following sets of analyses. However, the results using both instruments are presented below.

For high income countries youth population share has a positive sign, but it is not significant at the 5 percent level in youth unemployment regressions using either of the instruments. These results are in contrast to the corresponding results in the Korenman and Neumark (1997) study. The same is true for adult employment variable: the sign is negative and in the right direction and the coefficient not significant again in contrast to Korenman and Neumark (1997) who find a significant coefficient with a value of approximately 1. Adult unemployment rate is significant with the expected sign in both specifications and one percent increase in the adult unemployment rate leads to around .70 percent increase in youth unemployment. This result is very similar to that Korenman and Neumark (1997): They find the adult unemployment to be significant with a coefficient of .695. In their models, instrumenting reinforces the significance of the youth population variable although adult rates still have more weight than this variable. The effect of instrumentation in this study is the opposite; the youth population shares are no longer significant after instrumentation.

For advanced economies after instrumenting for the share of the youth population and for *youth employment* regressions, the youth population share variable is not significant and both adult factors are significant with the expected signs although the effect of the adult employment variable is stronger in both model specifications. These are results are almost identical to that of Korenman and Neumark's (1997) except for the

size of the coefficients; -.15 vs. -.05 for adult unemployment rates and .64 vs. 1.3 for adult employment variables respectively.

For lower income countries the relative cohort size is not significantly related to youth unemployment rate using either of the instruments while taking the expected positive sign when the latter instrument is used. The adult employment and unemployment rates are both significant and both have positive signs again using either of the instruments; adult employment rates presenting an anomaly due to the direction of the relationship which may be caused by multicollienarity.

Youth employment in lower income countries is significantly related to youth population shares using only the first instrument and not the latter; however the sign is positive opposite of what one would expect. The adult unemployment rate in these regressions is only significant using the latter instrument and not the first one with the expected negative sign. The adult employment rate is significant in both regressions and has a positive sign and relatively strong impact with one percent increase in adult employment rates leading to one percent increase in youth employment rates. It is especially important to control for the impact of youth enrollment rates in the youth employment regressions and the next section presents results controlling for enrollment rates.

Table 5: Unemployment & Employment Fixed Year and Country Effects Estimates with Robust Standard Errors

Dependent Variable	Independent Variables			Adult Employment Rates	Number of Groups; Number of Observations
		Youth Population/Adult Population	Adult Unemployment Rates		

A. Using Lagged Births as an Instrument					
Youth Unemployment Rate	High Income Countries	.270 (0.180)	.677** (0.000)	-.609 (0.165)	17; 306 ³⁷
	Lower Income Countries	-.048 0.911	.727** (0.000)	.673** (0.018)	20; 251 ³⁸
Youth Employment Rates	High Income Countries	.013 (0.921)	-.145** (0.001)	.642** (0.036)	17; 306
	Lower Income Countries	.794* (0.104)	-.057 (0.137)	.987** (0.004)	20; 251
B. Using Lagged Births/Adult Population as an Instrument					
Youth Unemployment Rate	High Income Countries	.324 (0.125)	.687** (0.000)	-.527 (0.196)	17; 306
	Lower Income Countries	.069 (0.811)	.726** (0.000)	.656** (0.012)	20; 251
Youth Employment Rates	High Income Countries	.095 (0.398)	-.129** (0.001)	.767** (0.014)	17; 306
	Lower Income Countries	.238 (0.351)	-.053* (0.092)	1.071** (0.000)	20; 251

Notes: **Significant at the five percent level; *Significant at the ten percent level. P-values are included in parentheses. Time dummies are collectively significant for all models in Panel A & B.

Adding Tertiary School Enrollment Rate as an Additional Control

As compared to results included in Panel A above, the results for youth unemployment models both in developing and advanced countries stay almost the same when gross tertiary enrollment rates are added. Slight changes in coefficients are observed, but there are no changes in the significance of the results and gross tertiary enrollment rates are not significant in either of the models. The results for youth

³⁷ Observations are lost as adult employment to population rates is available for 18 years; 1988-1990 and 2009 are missing. Observations for Germany are lost due to missing lagged births data.

³⁸ Observations are lost as adult employment to population rates are available for 18 years; 1988-1990 and 2009 are missing. Data for all years are not available for every country. China and India are totally out of the regression due to missing data. Observations for Croatia are lost due to missing lagged births data.

employment rates in advanced countries stay put as well after adding the gross tertiary enrollment rates and the added variable is not significant. The results for employment rates in lower income countries are different as the coefficient for youth population share is no longer significant; the coefficient for adult unemployment increases from .057 to .075 and is significant in the latter enhanced model; the coefficient for adult employment rate decreases from .987 to 0.772 and is still significant. Gross tertiary enrollment for this model is significant at the five percent level with a coefficient of -.185. As enrollment rates go up, youth employment rates drop as one might expect.

Table 6: Unemployment & Employment: Fixed Year and Country Effects Estimates with Robust Standard Errors Controlling for Tertiary Enrollment

Dependent Variable	Independent Variables				Gross Tertiary Enrollment Rate	Number of Groups; Number of Observations
		Youth Population/ Adult Population	Adult Unemployment Rate	Adult Employment Rate		
Youth Unemployment Rate	High Income Countries	.220	.692**	-.556	-.081	17;280 ³⁹
	Lower Income Countries	.210	.725**	.669**	.025	19; 209 ⁴⁰
Youth Employment Rates	High Income Countries	-.069	-.144**	.572**	-.043	17;280
	Lower Income Countries	.191	-.075**	.772**	-.185**	19; 209

Notes: **Significant at the five percent level; *Significant at the ten percent level. Time dummies are collectively significant for all models.

³⁹ Additional observations are lost as compared to the models included in the previous tables as due to missing tertiary enrollment data for some countries and some years.

⁴⁰ Ibid. South Africa is out of the model in addition to the countries lost for models in the previous table.

Other Cyclical Controls

In the following set of regressions in Table 7 below the results for alternative controls for aggregate demand factors are presented. As discussed in an earlier chapter the idea is to see the likely effects of including cyclical controls which do not pose a problem of endogeneity with the youth unemployment and employment rate as is the case with adult unemployment and employment rates since adult employment and unemployment might both be affected by changing youth population shares. In addition, factors impacting the youth rates might be impacting adult rates simultaneously.

These alternative cyclical or macroeconomic controls along with youth population share and gross tertiary enrollment include, lagged GDP growth, GDP per capita, ratio of employment in industry to employment in services,⁴¹ trade, terms of trade, and gross fixed capital formation. These variables were tested in multiple model specifications using other controls and step-wise inclusion and the results were robust to changes in the number of variables. Among the other macroeconomic variables which entered regressions and were found to be insignificant across the board are: inflation (both lagged and current and corrected for hyperinflation); real interest rate; and foreign direct investment. These variables were excluded from the final analyses.

⁴¹ These variables were entered into the regressions separately, i.e. as the share of industry in total employment and share of services in total employment leaving agriculture out. The services variable was significantly and positively associated with changes in youth unemployment in developing countries leaving agriculture out. The same was true although the coefficient was not quite significant at the ten percent level (p value: 0.105). The choice of the ratio variables as the one that enters the final models is a conscious one as this variable can be assumed to capture a more continuously evolving change; one which is less impacted by the cyclical fluctuations as can be observed in the graphical analysis presented in Appendix I. Furthermore this version of the variable may also capture the long term changes between the dominance of industry vs. services in the economy than when these variables are entered into the regressions individually.

GDP per capita and gross fixed capital formation and gross tertiary enrollment stand out as significant variables for both advanced and lower income economies for youth unemployment regressions. Lagged GDP growth is significant for lower income economies as well as the relative cohort size, which however, is significant at the percent level. Positive changes in GDP per capita and gross fixed capital formation lead to decreases in youth unemployment for both groups of countries as one could expect. Growth is associated with lower levels of unemployment in lower income countries and with a rather high coefficient relative to others; 1.777. It is difficult to interpret the results for tertiary enrollment as there might be a multicollinearity problem as enrollment is highly correlated with GDP per capita. Plus, the relationship between youth unemployment rate and enrollment rates might be simultaneously determined since higher rates may prompt youth to enroll in higher education at higher levels. In advanced economies, youth employment rates are significantly and positively impacted by GDP per capita and gross fixed capital formation as one might expect. In lower income countries, then again, the only significant variable is industry to services ratio and it is positively related to youth employment. The interpretation of the significance of these variables will be presented in the discussion section.

Table 7: Unemployment & Employment: Fixed Year and Country Effects Estimates with Robust Standard Errors Using Alternative Macroeconomic Controls

Dependent Variable	Independent Variables								
		Youth Population/ Adult Population	Lagged GDP Growth Rate	GDP per capita (PPP)	Gross Tertiary Enrollment Rate	Employment in Industry (ratio of GDP)/Employment in Services (ratio of GDP)	Trade (Sum of exports and imports as a ratio of GDP)	Terms of Trade (Exports/Imports)	Gross Fixed Capital Formation as a ratio of GDP
Youth Unemployment Rate	High Income Countries 17;291 ⁴²	.313	-.241	-1.108**	.330*	.0112	.174	-.224	-1.408**
	Lower Income Countries 19;195 ⁴³	.951*	-1.777**	-.746**	.442**	-.415	-.262	-.008	-.723**
Youth Employment Rates	High Income Countries 17; 274 ⁴⁴	-.138	.250	.338*	-.149	.069	-.075	.107	.341*
	Lower Income Countries 20;246 ⁴⁵	.596	.011	.212	-.080	.474**	-.025	.042	-.026

Notes: **Significant at the five percent level; *Significant at the ten percent level. Time dummies are collectively significant for all models.

⁴² Data for all years for every country are not available. Observations for Germany are lost due to missing lagged births data.

⁴³ Data for all years for every country are not available. Data for Croatia, India and South Africa are lost all together.

⁴⁴ Data for all years for every country are not available. Observations for Germany are lost due to missing lagged births data.

⁴⁵ Data for all years for every country are not available. Data for China, Croatia, India and South Africa are lost all together.

Results Disaggregated by Gender

The results disaggregated by gender for regressions including the adult controls together with enrollment rates are presented in Table 8. When the dependent variable of interest is youth unemployment for both males and females and higher and lower income countries adult unemployment is significant with a positive sign as expected. Relative youth cohort size is not significant in any of the models. Unemployment for young females in lower income countries is also significantly related to adult employment, but has a positive sign defying expectations probably due to multicollinearity. The gross tertiary enrollment is only significant in the male youth unemployment regression with a negative sign.

Male and female employment in higher income countries and male employment in lower income countries are significantly and adversely impacted by adult unemployment rates. Both female and male youth employment in lower income countries and female employment rates in high income countries are significantly and positively impacted by changes in adult employment rates. Tertiary enrollment rates are negatively and significantly associated with youth employment rates for males in lower incomes and not for any of the other groups.

In the next table, Table 9, results with alternative macroeconomic controls are displayed for both sexes and the two sets of countries and for youth unemployment and employment rates. The results for youth unemployment will be laid out first and employment will be next. Relative youth cohort size is only significant (at the ten percent level) for male regressions in lower income countries with a positive sign across

two groups of countries and genders. Lagged GDP growth, on the other hand, is significant for both females and males in lower income countries with negative coefficients of 1.6 and 1.9. GDP per capita is significant with a negative sign and a coefficient of around 1 for all groups except for females in lower income countries. Tertiary enrollment rate is significant and the sign is positive around .50 for lower income male and female sub-groups and not the high income countries. Industry to service ratio and terms of trade variables are not significant in any of these models. Trade variable is significant for males in lower income countries with a negative sign. Gross fixed capital formation, on the other hand, is significant with a negative sign for females in high income countries and males in high and lower income countries.

In high income countries, female youth employment rates are significantly related to gross fixed capital formation with a positive sign. For females in lower income countries the two variables of significance are youth population share and with a positive sign and industry to services ratio with a positive sign. For male youth employment in advanced economies, GDP per capita is the only significant variable with a positive sign. For male youth employment in lower income countries, the only variable of significance is industry to services ratio and that is with a positive sign.

Table 8: Unemployment & Employment by Gender: Fixed Year and Country Effects
Estimates with Robust Standard Errors Controlling for Tertiary Enrollment

Dependent Variable	Independent Variables					Number of Groups; Number of Observations
		Youth Population/ Adult Population	Adult Unemployment Rate	Adult Employment Rate	Gross Tertiary Enrollment Rate	
Female Youth Unemployment Rate	High Income Countries	.297	.638**	-.479	-.048	17;280 ⁴⁶
	Lower Income Countries	-.261	.708**	.893**	.042	19; 209 ⁴⁷
Male Youth Unemployment Rate	High Income Countries	.068	.738**	-.565	-.144*	17;280 ⁴⁸
	Lower Income Countries	.483	.730**	.361	-.008	19; 209 ⁴⁹
Female Youth Employment Rates	High Income Countries	-.049	-.120**	.749**	-.056	17;280 ⁵⁰
	Lower Income Countries	.555	-.036	1.10**	-.157	19; 209 ⁵¹
Male Youth Employment Rates	High Income Countries	-.103	-.162**	.442	-.033	17;280 ⁵²
	Lower Income Countries	.0159	-.100**	.634*	-.188**	19; 209 ⁵³

Notes: **Significant at the five percent level; *Significant at the ten percent level. Time dummies are collectively significant for all models.

⁴⁶ Observations are the same as those listed for the counterpart total models.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

⁵³ Ibid.

Table 9: Unemployment & Employment by Gender: Fixed Year and Country Effects Estimates with Robust Standard Errors Using Alternative Macroeconomic Controls

Dependent Variable	Independent Variables								
		Youth Population/ Adult Population	Lagged GDP Growth Rate	GDP per capita (PPP)	Gross Tertiary Enrollment Rate	Employment in Industry (ratio of GDP)/Employment in Services (ratio of GDP)	Trade (Sum of exports and imports as a ratio of GDP)	Terms of Trade (Exports/Imports)	Gross Fixed Capital Formation as a ratio of GDP
Female Youth Unemployment Rate	High Income Countries 17; 291 ⁵⁴	.323	.202	-1.058**	.310	-.021	.076	-.261	-1.286**
	Lower Income Countries 19; 194 ⁵⁵	1.573	-1.620**	-.637	.441*	-.142	-.460	.213	-.631
Male Youth Unemployment Rate	High Income Countries 17; 291 ⁵⁶	.209	-.950	-1.291**	.315	-.167	.159	-.208	-1.312**
	Lower Income Countries	1.000*	-1.913**	-.938**	.474**	-.561	-.308*	-.064	-.702**

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Ibid.

	19; 194 ⁵⁷								
Female Youth Employment Rates	High Income Countries 17; 274 ⁵⁸	-.125	.055	.151	-.156	-.059	-.089	.201	.509**
	Lower Income Countries 20; 246 ⁵⁹	.888**	-.139	.323	-.036	.545**	-.043	.069	-.063
Male Youth Employment Rates	High Income Countries 17;274 ⁶⁰	-.163	.440	.479**	-.144	.173	-.058	.027	.220
	Lower Income Countries 20; 246 ⁶¹	.382	.129	.103	-.107	.408**	-.004	.003	.008

Notes: **Significant at the five percent level; *Significant at the ten percent level. Time dummies are collectively significant for all models.

⁵⁷ Ibid.

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ Ibid.

Labor Force Participation and Inactivity Rates

Table 10 below display the results of the regressions for total, female and male youth labor force participation and inactivity rates controlling for youth population share and adult employment unemployment and tertiary enrollment rates. The next table, Table 11, presents the results this time including alternative cyclical controls.

In Table 10, population shares explain youth LFPR only in lower income countries, for the total and females and not the males. The sign is positive indicating that as youth population shares increase controlling for other factors youth labor force participation increases. Adult unemployment is only significant in the regression for female youth in lower income countries; as it increases, the female youth LFPR increases with a coefficient of .085. Adult employment rates, alternatively, significantly impact youth LFPR across all groups in a positive way except for male youth LFPR in lower income countries for which the coefficient is not significant. The impact on females is relatively stronger. Enrollment rates are significant for the male sub-group in lower income countries only and hence the observed significance for the total rates.

Female youth inactivity rates are negatively and significantly related to youth population shares in lower income countries and have no impact for males and for both genders in advanced countries. The same is true with adult unemployment rates; as adult unemployment rates increase female youth inactivity in lower income countries decreases. Adult employment rates, in contrast, are negatively and significantly related to youth inactivity rates for all groups except for males in lower income countries.

In the next Table 11, results for youth LFPR and inactivity are presented using alternative controls. The impact of youth population share on youth LFPR are significant for both females and males in lower income countries and also for the total population of youth using these alternative controls. The signs are positive and the impact is the largest for females with a coefficient of .955. Lagged GDP growth is not significantly associated with youth LFPR in these models with alternative controls, *ceteris paribus*. Total, female and male youth LFPR in high income countries is significantly and positively associated with GDP per capita and not in low income countries. There are similar results for gross tertiary enrollment, but the signs are negative. Industry to service ratio, on the other hand, is significantly and positively related to youth LFPR in lower income countries for total and both sub-groups of youth. LFPR for young females in high income countries and young males in lower income countries is negatively impacted by increases in trade controlling for other factors; the coefficients are significant for the total youth as well. Terms of trade is positively and significantly associated with youth LFPR in high income countries for female and not for male youth. Gross fixed capital formation is not significantly associated with youth LFPR at any level using these alternative controls.

Using these alternative controls, population share is significantly related to male youth inactivity in high income countries and female and total youth inactivity in lower income countries, *ceteris paribus*, with positive and negative coefficients respectively. Lagged GDP growth explains total youth inactivity rates in lower income countries with a weak sign, it is however, not significantly associated with youth inactivity in high

income countries holding other factors constant. GDP per capita is not significantly associated with youth inactivity controlling for other factors for any of the groups, neither is gross tertiary enrollment. In lower income countries, industry to service ratio has explanatory power for female and total youth inactivity rates. As the ratio increases, the inactivity rates decrease. Increases in trade are positively related to total female and male youth inactivity in lower income countries and female youth inactivity in high income countries. Positive changes in terms of trade negatively impact youth inactivity in high income countries for female youth, holding other factors constant. Gross fixed capital formation is not significantly related to youth inactivity rates in any of the models.

Table 10: LFPR & Inactivity, Total and by Gender: Fixed Year and Country Effects Estimates with Robust Standard Errors Controlling for Tertiary Enrollment

Dependent Variable	Independent Variables				Gross Tertiary Enrollment Rate	Number of Groups; Number of Observations
		Youth Population/Adult Population	Adult Unemployment Rate	Adult Employment Rate		
Total Youth LFPR	High Income Countries	.065	-.009	.686**	-.089	17,280 ⁶²
	Lower Income Countries	.544*	.043	.453**	-.137*	19, 209 ⁶³
Female Youth LFPR	High Income Countries	.193	.012	.849**	-.076	17,280 ⁶⁴
	Lower Income Countries	.839*	.085**	.938**	-.099	19, 209 ⁶⁵
Male Youth LFPR	High Income Countries	-.044	-.026	.555*	-.099	17,280 ⁶⁶
	Lower Income Countries	.412	.019	.187	-.144**	19, 209 ⁶⁷
Total Youth Inactivity Rate	High Income Countries	.041	.014	-.718*	.089	17,280 ⁶⁸
	Lower Income Countries	-.161	-.035	-.320**	.068**	19, 209 ⁶⁹
Female Youth Inactivity Rate	High Income Countries	-.056	.012	-.714*	.081	17,280 ⁷⁰
	Lower	-.400**	-.049**	-.479**	.053	19, 209 ⁷¹

⁶² Observations are the same as those listed for the counterpart employment and unemployment models.

⁶³ Ibid.

⁶⁴ Ibid.

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ Ibid.

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ Ibid.

	Income Countries					
Male Youth Inactivity Rate	High Income Countries	.141	.015	-.735*	.100	17;280 ⁷²
	Lower Income Countries	.242	-.014	-.027	.082**	19; 209 ⁷³

Notes: **Significant at the five percent level; *Significant at the ten percent level. Time dummies are collectively significant for all models.

⁷² Ibid.

⁷³ Ibid.

Table 11: LFPR & Inactivity, Total and by Gender: Fixed Year and Country Effects Estimates with Robust Standard Errors Using Alternative Macroeconomic Controls:

Dependent Variable	Independent Variables								
		Youth Population/Adult Population	Lagged GDP Growth Rate	GDP per capita (PPP)	Gross Tertiary Enrollment Rate	Employment in Industry (% of GDP)/Employment in Services (% of GDP)	Trade (Sum of exports and imports as a ratio of GDP)	Terms of Trade (Exports/Imports)	Gross Fixed Capital Formation as a ratio of GDP
Total Youth LFPR	High Income Countries 17; 291 ⁷⁴	-.098	.038	.318*	-.176**	-.071	-.135**	.163	.057
	Lower Income Countries 20; 259 ⁷⁵	.686**	-.148	.103	-.040	.303**	-.105**	.102	-.055
Female Youth LFPR	High Income Countries 17; 266 ⁷⁶	-.012	.142	.362*	-.178**	-.129	-.179**	.224**	.061
	Lower Income Countries 20; 259 ⁷⁷	.955**	-.322	.173	-.014	.393**	-.087	.107	-.064
Male Youth	High	-.173	-.051	.289*	-.175**	-.023	-.097	.105	.049

⁷⁴ Observations are the same as the counterpart youth employment and unemployment models.

⁷⁵ Data for all years for every country are not available. Croatia, India and South Africa are dropped from the models due to missing data.

⁷⁶ Ibid.

⁷⁷ Ibid.

LFPR	Income Countries 17;291 ⁷⁸								
	Lower Income Countries 20; 259 ⁷⁹	.510**	-.030	.034	-.058	.233**	-.120**	.089	-.036
Total Youth Inactivity Rate	High Income Countries 17;291 ⁸⁰	.238	.070	-.342	.189	.004	.169*	-.231	-.016
	Lower Income Countries 20; 259 ⁸¹	-.528**	.017**	.115	.022	-.201**	.101**	-.054	-.017
Female Youth Inactivity Rate	High Income Countries 17;291 ⁸²	.148	-.049	-.371	.182	.006	.219**	-.228*	.013
	Lower Income Countries 20; 259 ⁸³	-.670**	.137	.112	-.001	-.268**	.082*	-.045	-.020
Male Youth	High	.336**	.215	-.316	.202	.001	.110	-.250	-.050

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Ibid.

⁸² Ibid.

⁸³ Ibid.

Inactivity Rate	Income Countries 17; 266								
	Lower Income Countries 20; 259 ⁸⁴	-.330	-.155	.069	.048	-.090	.123*	-.086	-.006

Notes: **Significant at the five percent level; *Significant at the ten percent level. Time dummies are collectively significant for all models.

⁸⁴ Ibid.

Youth unemployment Rate Response to the Economic Cycle: The Case of Turkey

The magnitude of the cyclical effect on Turkey's youth unemployment rate can be estimated by evaluating the model in Table 7 with typical changes in the economic variables during an economic downturn. A time series graphical analysis of the variables included in the models for Turkey are presented in Appendix J. The years of economic crisis which impacted Turkey were: 1994, 1998 (Russian financial crisis); 2001 (Banking Crisis); 2008 (Worldwide financial crisis). Below is the equation which includes the coefficients for lower income countries using the alternative cyclical controls?

$$\ln(YUR) = .951 \ln(RYC) - 1.777 (\text{LaggedGDPgrowth}) - .746 \ln(\text{GDPperCapita}) + .442 \ln(\text{GTerE}) - .415 \ln(I/S) - .262 \ln(\text{Trade}) - .008 \ln(\text{TermsofT}) - .723 \ln(\text{GFCF})$$

Average percentage change in variables is calculated and the estimated total impact for cyclical variables is calculated to be 31 percent; that is the expected increase in youth unemployment rate in an average bust cycle. For example, if youth unemployment rates were 20%, the evaluation implies that youth unemployment would only rise to a little over 26% in a typical "crisis."

*Average Change during the Crises Years*Impact on YUR:*

$$\text{GDP Growth: } -.04 * -1.777 = (+) 0.07$$

$$\text{GDP per Capita: } -.06 * -.442 = (+) 0.03$$

$$\text{Industry/Services: } -.04 * -.415 = (+) 0.02$$

$$\text{Trade: } -.15 * -.262 = (+) 0.04$$

$$\text{Terms of Trade: } -.15 * -.008 = (+) 0.001$$

$$\text{Gross Fixed Capital Formation: } -.15 * -.723 = (+) .11$$

$$\text{Total Impact of Cyclical Factors} = \exp(0.271) - 1 = 0.31$$

How does Turkey Compare to Other Countries in its Sample?

Differences in the fixed effects estimates between countries reflect unobserved factors such as culture and institutions that vary between countries and affect the level of the youth unemployment rate. How Turkey compares with other low income countries is presented in Tables 12 and 13. Countries which have higher unemployment rates than Turkey due to these unobserved factors include: Bulgaria, Croatia, Egypt, Indonesia, Malaysia, Poland, Romania, and South Africa. The range of differences vary from Mexico, which has youth unemployment rates 37 percent lower than Turkey ($.37 = 1 - \exp(-.46)$) to Egypt, which has youth unemployment rates 93% higher than Turkey ($.93 = 1 - \exp(.66)$). When total youth unemployment model with alternative independent variables is run with country dummies excluding Turkey, all country dummies except for Bulgaria, Croatia, Hungary, Poland, Romania, and Poland, have positive coefficients meaning that these countries as opposed to Turkey are performing worse than Turkey. Turkey is positioned somewhere in the middle among this sample of developing countries.

Table 12: Regression with Adult Controls and Country and Time Dummies Leaving Turkey Out as the Reference Category

Youth Unemployment	Coef.	P-Value
Relative Cohort Size	-0.02	0.84
Adult Unemployment	0.73	0.00
Adult Employment	0.78	0.00
Argentina	-0.05	0.34
Brazil	-0.17	0.01
Bulgaria	0.01	0.92
Chile	-0.01	0.88
China	(dropped)	

Croatia	0.30	0.00
Egypt	0.66	0.00
Hungary	-0.07	0.32
India	-0.13	0.13
Indonesia	0.46	0.00
Korea	-0.17	0.04
Malaysia	0.28	0.00
Mexico	-0.46	0.00
Morocco	-0.24	0.00
Pakistan	-0.35	0.00
Philippines	-0.16	0.04
Poland	0.09	0.13
Romania	0.17	0.01
Russian Federation	-0.19	0.01
South Africa	0.16	0.02
Thailand	-0.29	0.01
Ukraine	-0.28	0.01

Table 13: Regression with Alternative Controls and Country and Time Dummies Leaving Turkey Out as the Reference Category

Youth Unemployment Rate	Coef.	P-Value
Relative Cohort Size	0.23	0.38
Lagged Growth	-1.60	0.00
GDP per Capita	-0.65	0.01
Tertiary Enrollment	0.32	0.01
Industry/Services	-0.48	0.02
Terms of Trade	-0.05	0.75
Trade	-0.11	0.33
Gross Fixed Capital Formation	-0.68	0.00
Argentina	-0.21	0.20
Brazil	-0.45	0.00
Bulgaria	0.40	0.02
Chile	-0.18	0.19
China	(dropped)	
Croatia	0.99	0.00
Egypt	-0.35	0.22
Hungary	0.23	0.14
India	(dropped)	
Indonesia	-0.25	0.43

Korea	-0.14	0.44
Malaysia	-0.28	0.14
Mexico	-0.98	0.00
Morocco	-0.23	0.44
Pakistan	-1.26	0.00
Philippines	-1.11	0.01
Poland	0.64	0.00
Romania	0.32	0.02
Russian Federation	-0.25	0.08
South Africa	(dropped)	
Thailand	-1.36	0.00
Ukraine	-0.69	0.02

Discussion of the Results of the Macro Study

The preferred results of this study are based on the model which uses lagged births as an instrument presented in Table 5, Panel A for the youth unemployment model and the results included in Table 6 for the youth employment model. The main conclusions to be drawn from this panel study relate to the role of the relative youth cohort size versus aggregate demand factors in explaining the aggregate levels of employment and unemployment in both advanced and developing countries over the past two decades. Recent evidence as presented in this study suggests conclusions that contradict what other studies which rely on earlier data have found. Changes in the population age structure have played no role in determining the aggregate levels of youth unemployment in both advanced and developing, countries controlling for other factors. The evidence with regard to the role of the relative youth cohort size in relation to youth employment in advanced and developing countries is similar; after controlling for tertiary enrollment, this factor played no role in determining youth employment. Moreover, the conclusions with regard to the role of the relative cohort size variable are robust as they stay the same when controls other than adult unemployment and employment rates are used.

The evidence with regard to the role of aggregate demand factors is very similar to that of earlier studies. These variables, when assessed together, represent the macroeconomic conditions. Higher adult unemployment rates are significantly associated with higher youth unemployment rates in both economically advanced and developing countries and they are negatively associated with youth employment rates in both sets of countries. Adult employment rates, too, are significantly and strongly related

to youth employment rates in both advanced and developing countries, positively impacting the rates for youth.

A few differences can be observed when analysis is conducted separately for males and females; nonetheless, the main conclusions hold. In countries where youth population shares have been in decline, an ameliorating role of declining youth population shares should not be expected according to this recent evidence. These results have important policy implications in many countries where youth labor market outcomes have been deteriorating. Policy makers will need to rely on macroeconomic policy in dealing with problems of youth employment and unemployment as the role of changes in the population age structure which could have been helpful no longer seem to be in effect.

A second set of main conclusions to be drawn from this study has to do with the role of relative youth cohort size vs. aggregate demand factors represented by adult rates in determining youth labor force participation and inactivity. Youth LFPR is significantly and positively impacted by youth population shares only in lower income countries. Youth inactivity rates, on the other hand, are negatively and significantly related to youth population shares for total and female youth in lower income countries and not for any of the other groups. Adult employment rates are important in determining youth labor force participation and inactivity across the board positively and negatively, respectively, except for males in lower income countries.

Examining the role of the alternative aggregate demand factors such as growth or GDP per capita, in determining youth labor outcomes, has not been the focus of study. However, results are interesting and are useful for contemplating future studies. Positive

changes in GDP per capita and gross fixed capital formation lead to decreases in unemployment and amelioration of youth employment rates in both advanced and developing countries. GDP per capita impacted youth LFPR positively in advanced economies. Long-term changes in GDP per capita signify changes in the level of development of a country; and these results indicate that, controlling for other factors, positive changes are beneficial for the condition of youth, regardless of whether the country is an advanced economy or a developing economy. The results in relation to the impact of gross fixed capital formation are also interesting: This variable may reflect the level of confidence in the country's macroeconomic situation as actors will choose to invest more when they feel the prospects of getting returns on investment are better.

Growth rate was negatively and strongly associated with youth unemployment only in lower income countries. It had no impact on youth employment rates across all countries controlling for other factors. Another interesting result may have to do with the role of structural changes in the economy: Positive changes in the industry to services ratio were significantly related to higher employment rates for both males and females in lower income countries. Since in many lower income countries, the services sector is expected grow faster than the industry sector in the coming decades, negative changes in this variable may lead to further pressures for youth employment in developing countries. Moreover, industry to services ratio impacted youth LFPR positively and youth inactivity negatively in low income countries. These results, too, are interesting and deserve further investigation to determine the effects of structural changes in the economy on youth labor market outcomes.

Other interesting results have to do with the role of trade. Increases in trade were associated with lower male unemployment rates in lower income countries. However, trade was also associated with higher inactivity rates for males and females in lower income countries and for females in advanced economies.

Gross tertiary enrollment is significantly and negatively related to youth employment rates for males and females in advanced countries controlling for other factors which confirm the expectation that rising education levels is an intervening factor for youth labor market outcomes.

When alternative controls are used, an important observation to be made is the scarcity of aggregate demand factors which can significantly explain change in employment of young males and females in high and lower income countries, especially when compared to the results of the unemployment regressions. Thus an examination of the role of structural changes on youth employment outcomes calls for further research as these changes might be in effect what is driving the change in youth employment rates.

CHAPTER 7

EMPRICAL ANALYSIS OF THE MICRO STUDY

Models that pertain to four different labor market outcomes for youth are presented in the tables included in Appendix K. The first set of models explores the state of being employed as opposed to not being employed, which includes being unemployed or not in the labor force. The second set of models examines employed versus unemployed individuals. The third set displays the factors that are related to being in the labor force as opposed to not being in the labor force. The last set of models includes the state of being NEET (neither in education nor in employment [unemployed or not in the labor force] as opposed to being in education and/or employment as a point of focus. In each table, results are first presented for urban females, then for rural females followed by urban males and rural males. The findings are presented by groups of variables together with a visual summary display of the results included for education and family variables. A table that summarizes important results together with main and alternative theoretical explanations is also included at the end of this chapter.

Education

In general, lower levels of educational attainment are associated with less labor force participation and employment controlling for other factors. Lack of formal education impacts rural labor force participation and employment negatively (male and

female), *ceteris paribus*. Lack of formal education impacts urban male employment similarly. Urban and rural females who have a primary school as opposed to a middle school education are expected to participate in the labor market at a lower level, too. On the other hand, higher levels of education except for general high school education is associated with better chances of employment and participation in the labor force with a few exceptions. Controlling for other factors, employment chances are higher for females and males in urban areas who have vocational/technical degrees, while college educated females have higher chances in both rural and urban areas. Vocational/technical education also increases the participation of females in both rural and urban areas. Those who are college educated, across the board, have higher chances of participating in the labor force, but, strikingly, higher odds are at play for females. Results for those with a general high school education are somewhat different than other higher levels of education: A general high school education is not significantly associated with higher levels of employment or labor force participation for rural females and males and urban males holding other factors constant, but it makes a positive difference for females in urban areas.

Comparing the results above with the results for the employed versus the unemployed, we find that females with lower than middle school levels of education are more likely to be employed than unemployed in both rural and urban areas. Having a general high school diploma is associated with significantly higher probabilities of unemployment for all groups except for rural males. Vocational education does not decrease the chances of unemployment of women in urban and rural areas, neither does higher education for any of the groups, controlling for other factors.

Age

Being in the 20–24 age category is positively associated with employment and labor force participation and negatively associated with NEET status except for rural males. It increases the probabilities of unemployment for rural males.

Table 14: Summary of Results for Education and Age Variables

	Employed Versus Not Employed				Employed Versus Unemployed				Labor Force Participant Versus Not a Participant				NEET Versus Non-NEET			
	Female		Male		Female		Male		Female		Male		Female		Male	
	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R
<i>Middle School</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-
<i>Illiterate</i>		-	■	■	+	+			-	-	■	■	N/A	N/A	N/A	N/A
<i>Literate with no diploma</i>			-	-	+	+	-			-		-	N/A	N/A	N/A	N/A
<i>Primary School</i>					+	+			-	-			N/A	N/A	N/A	N/A
<i>High School-General</i>	+	-	-	-	-	■	-		+	-	-	-	N/A	N/A	N/A	N/A
<i>High School-Vocational/Technical</i>	+		+		-	■			+	+			N/A	N/A	N/A	N/A
<i>College and beyond</i>	+	+		-	-	■	-	-	+	+	+	+	N/A	N/A	N/A	N/A
<i>Attendance In Education</i>	-	■	■	■	+	-	+	+	■	■	■	■	N/A	N/A	N/A	N/A
<i>Age Dummy 20-24</i>	+	+		+	+	+	+	-	+	+	+	+	-	-	-	+

R: Rural; U: Urban ; Middle school is the reference category for all models other than NEET.; (+): significant at the ten percent level with a positive sign, font size varies according to the odds ratio: + (odds ratio 1& <2); + (odds ratio 2 & <3); + (odds ratio 3 or more); (-): significant at the ten percent level with a negative sign, font size varies according to the odds ratio: ■ (odds ratio 0.00& <0.30); ■ (odds ratio 0.30 & <0.60); - (odds ratio 0.60-1.00)

Results for Family Variables

Relationships

Being the head of household or reference person in the house increases the probability of being employed for all groups except for rural females. In urban areas, it decreases the chances of being unemployed; and significantly decreases the chances of being NEET for all groups except for rural females. Being head of the household (or the reference person), negatively impacts female labor force participation, while it positively impacts male participation, regardless of the urban rural divide controlling for other factors. Females, regardless of the rural/urban divide, are less likely to be employed, to participate in the labor force and more likely to be NEET, if they are the spouse or cohabitating partner of the reference person.

Marriage for males is associated with increased likelihood of employment, labor force participation and decreased likelihood of being unemployed and NEET, as expected. Urban married females are less likely to be employed and be labor force participants, while both urban and rural females have higher chances of being NEET. Divorced urban and rural females, on the other hand, are more likely to participate in the labor force. Divorced urban males and females have higher chances of being NEET or being unemployed; Divorced rural females also have higher chances of being unemployed.

Parent and Sibling Education

Table 15 displays results for all models across all groups for parent and sibling education variables. Three main patterns can be observed. First, lower education of

fathers (lower than middle school) is positively associated with employment and labor force participation of a large number of males and females holding other factors constant. Second, educated mothers and fathers (higher than middle school) in urban areas have a negative impact on their children's employment and labor force participation regardless of gender. An increase in the number of same age or older female and male siblings with higher than middle school education whether with general or vocational/technical high school or college level education, decreases the probability of being employed or participating in the labor force, complying with the results of that of parent education. To reiterate; in more educated households, the probability of employment or labor force participation of youth are lower holding other factors constant.

Third pattern is related to parents' and siblings' impact on NEET status of youth. Mothers with less education contribute to their children's NEET status positively almost across all groups except for rural males for which there is no impact controlling for other factors. Having a more educated mother significantly contributes to a non-NEET status only in urban areas controlling for other variables. Fathers with lower levels of education have a positive impact primarily on NEET status of females, *ceteris paribus*. Having same age or older male siblings with high school (both types) and college degrees decreases rural females' probability of being NEET. Similarly, having younger male siblings with higher than middle school education, decreases the chances of being NEET for both urban and rural males; while having younger female siblings with the same qualities decreases the chances of being NEET for rural females.

There are several other noteworthy results. Less educated mothers have a positive impact on rural males' labor force participation and employment while they have a

negative impact on rural females' participation and employment, holding other factors constant. Mothers' educational attainment plays no role on the chances of being unemployed while fathers with college education contribute to higher likelihood of unemployment for urban males and females. Fathers who are more educated contribute positively to urban males' NEET status as well. Another noteworthy result is: having younger male siblings with higher levels of education is significantly related to employment and participation of males in urban areas, holding other factors constant.

Parent and Sibling Employment Status

The first set of results reported is related to how parents' outcomes impact the youth in urban versus rural areas. For the most part, in urban areas, fathers who are unemployed or not in the labor force contribute to higher probabilities of employment and labor force participation of their children for both genders, while at the same time decreasing the chances of NEET status. Father's negative outcomes decrease the likelihood of unemployment of urban females. In urban areas, mothers who have negative labor market outcomes increase the chances of participation of their children, too. On the contrary, in rural areas, fathers' and mothers' negative labor market outcomes have a negative impact on a large portion of youth's labor market outcomes; in general, negative labor market outcomes of fathers and mothers increase the likelihood of unemployment.

A second set of results concerns the distinct impact of male sibling employment in rural versus urban areas. The impact on employment and labor force participation of an increase in the number of employed male siblings is negative in urban areas and

positive in rural areas regardless of gender. An increase in the same variable increases the probabilities of unemployment for urban females and decreases the probabilities of unemployment of rural males. Higher numbers of employed male siblings positively contribute to NEET status of urban males and females and negatively impacts rural males' NEET status.

A third set of results has to do with the consistent and significant impact of negative labor outcomes of male siblings on youth outcomes. Having an increase in the number of male siblings who are not in the labor force is consistently associated with the labor market situation of youth across all groups in the forms of lower probabilities of employment, labor force participation and higher probabilities of unemployment and NEET status. Having higher numbers of unemployed male siblings, too, decreases the chances of employment and increases the chances of unemployment and NEET status. It impacts rural females' labor force participation negatively and while it impacts rural and urban males' participation significantly and positively controlling for other factors.

The fourth set of results is with regard to the impact of female siblings' outcomes. Higher number of employed female siblings is related to higher chances of employment and labor force participation for all except urban males. It lowers the chances of unemployment for rural males and females and increases chances of unemployment for urban males. An increase in the number of employed female siblings lowers the probabilities of being NEET for all groups except for urban males. Higher number of unemployed female siblings is related positively with urban female employment and negatively with rural male employment. It is associated with higher unemployment and participation for individuals across all groups except rural males for

which the impact is insignificant. Having an increase in the number of female siblings who are not in the labor force is related negatively to employment and labor force participation of individuals across all groups except for urban males. It is also related positively to NEET status in rural areas.

Table 15: Summary of Results for Parent and Sibling Education Variables:

	Employed Vs. Not Employed				Employed Vs. Unemployed				LFP Vs. NILF				NEET Vs. Non-NEET			
	Female		Male		Female		Male		Female		Male		Female		Male	
	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R
Father																
<i>Illiterate</i>	+	+							+	+			+			
<i>Literate with no diploma</i>	+		+				+						+	+		
<i>Primary School</i>	+	+	+	+					+	+	+	+		+	+	
<i>High School-General</i>			-	-					-		-	-			+	
<i>High School-VT</i>	-		-		-				-		-				+	
<i>College and beyond</i>	-		-	-	-	+	-		-		-	-		-	+	
Mother																
<i>Illiterate</i>			+	+							+	+	+	+	+	
<i>Literate with no diploma</i>	+	-								-		+	+	+	+	
<i>Primary School</i>		-								-		+	+	+	+	
<i>High School-General</i>			-						-		-		-			
<i>High School-VT</i>	-	-	-						-		-	+	-			
<i>College and beyond</i>	-	-	-		-				-	-	-				-	
Older Female Siblings																
<i>High School-General</i>	-	-	-		-		+		-	-	-	-	-			-
<i>High School-VT</i>	-	-	-				-		-		-				+	
<i>College and beyond</i>	-	-	-	-			-	+	-	-	-					+
Older Male Siblings																
<i>High School-General</i>	-		-						-		-	-		-	-	
<i>High School-VT</i>	-		-	-					-		-	-		-		
<i>College and beyond</i>	-	+	-	-			-		-	+	-	-		-	-	
Younger Female Siblings																
<i>High School-General</i>		+								+				-		
<i>High School-VT</i>											-	+		-		
<i>College and beyond</i>																
Younger Male Siblings																
<i>High School-General</i>	-		+						-		+				-	-
<i>High School-VT</i>			+								+				-	-
<i>College and beyond</i>																

R: Rural; U: Urban ; (+): significant at the ten percent level with a positive sign, (-): significant at the ten percent level with a negative sign. Reference category for parent education variable is *Middle School*.

Table 16: Summary of Results for Parent and Sibling Employment Status Variables

	Employed Versus Not Employed				Employed Versus Unemployed				Labor Force Participant Versus Not a Participant				NEET Versus Non-NEET			
	Female		Male		Female		Male		Female		Male		Female		Male	
	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R
Father																
<i>Unemployed</i>	+	-		-	+	-	-	-	+		+	+	-	+		+
<i>NILF</i>	+		+	-	+			-	+		+	-	-		-	+
Mother																
<i>Unemployed</i>				-	-	-	-	-	+		+	-			+	+
<i>NILF</i>	-	-		-		-	-	-	+	-		-	+	+		+
Female Siblings																
<i># of siblings employed</i>	+	+	-	+		+	-	+	+	+		+	-	-		-
<i># of siblings unemployed</i>	+		-		-	-	-		+	+	+			+		
<i># of siblings not in the labor force</i>	-	-		-	+				-	-		-		+		+
Male Siblings																
<i># of siblings employed</i>	-	+		+	-			+	-	+		+	+		+	-
<i># of siblings unemployed</i>	-	-	-	-	-	-	-	-		-	+	+	+	+	+	+
<i># of siblings not in the labor force</i>	-	-	-	-	-	-		-	-	-	-	-	+	+	+	+

R: Rural; U: Urban ; (+): significant at the ten percent level with a positive sign, (-): significant at the ten percent level with a negative sign. Reference category for parent employment variable is *Employed*.

Household Structure

An increase in the number of persons living in the household has a negative impact on labor force participation and employment and positive impact on NEET status of individuals across all groups except for rural females. The same factor decreases the chances for being unemployed for rural females while it increases it for rural males. An increase in the number male or female siblings increases the probability of employment and labor force participation and decreases the chances of NEET status primarily in urban areas. An increase in the number of female siblings has a positive impact on unemployment of rural females and negative impact on unemployment of urban males. Higher numbers of male siblings lower the chances of unemployment of urban females.

Mother's or father's absence in the house increases the chances of unemployment in rural areas; it decreases the chances of employment of rural males. Father's absence in urban areas increases the probability of employment and labor force participation for females and males in urban areas and it decreases the chances of unemployment of females. Absences of father or mother contribute to NEET status of urban males positively in urban areas. Mother's absence has positive impact for urban females' NEET status and father's absence has the same impact for rural males.

The presence of positive income in the household from casual and regular employment increases the chances of participating in the labor force and employment and decreases the chances of being unemployed for individuals across all groups, while decreasing the chance of being NEET for all except rural females. The increase in

income from these categories of employment is associated in the exact same way with the different outcome variables.

Region Level Variables

Overall, there is significant region-level variation in youth labor market outcomes. Thus, it is important to estimate a multi-level model to control for this clustering. Region-level variables do a moderate job of explaining the variation caused by regions' diversity. Relative cohort size does not have the significant and expected impact except for labor force participation of males with which it is associated positively. Among the economic structure variables: agricultural employment relative to industry increases the labor force participation and employment of urban and rural females and urban males and decreases the NEET status of females.

The impact of an increase in services relative to industry's share is significant for females; it decreases their participation in rural areas; negatively impacts their employment in urban and rural areas and contributes positively to their NEET status in urban areas. It is difficult to decipher the impact of the education structure of the region; one could say however that a significant impact is present although it may also be spurious.

Discussion of the Results of the Micro Study

This section discusses the results in light of different explanations offered in the Chapters 2, 3 and 5. A table summarizes important results together with theoretical explanations at the end of this section.

What Education Can Do

Education had a varying impact for those who had lower vs. higher levels of education. This section discusses the impact of education on young people who lacked formal education or those who had lower than high school levels of education. The results, which imply lower levels of employment for youth who have lower levels of education, should not come as a surprise as the decline of the agricultural sector has been in effect in the past three decades, and over the years this trend has significantly lowered employment opportunities for those who have less or no formal education. On the other hand, it is very apparent that vocational/technical high school and college education open up opportunities for participation of females in the labor market as implied by higher labor force participation and employment outcomes.

Perhaps one of the more expected results of this study is that having completed middle school, education decreases the chances of the state of being NEET, pointing to the importance of the implementation of the 1997 eight-year compulsory education act discussed in earlier chapters. Attending school is negatively associated with being employed, participating in the labor force, and with being unemployed (except for rural

females) when controlling for the regional and other factors. This result is also expected as youth in Turkey rarely combine education with work as discussed earlier.

Higher Unemployment Rates for the Educated: To Worry or Not to Worry, When to Worry?

As discussed earlier, higher unemployment rates were obtained for college graduates at all levels not complying with the theory. The results for most of the college graduates may not be of great concern if the unemployment does not continue to be an issue in later ages. Some other authors have suggested that college graduates in developing countries may take a longer time to look for a job, their expectations might also be higher which leads to a longer job search unemployment (O'Higgins, 2001). They may also have a higher reservation wage (Tansel & Tasci, 2010). An alternative and simultaneous explanation for higher unemployment rates among college graduates might be that by the time one graduates from college he/she reaches the age of 22 and that is if all goes well; so by the age of 24 the college graduates are fresh out of college and may still be transitioning into the labor market and may not have had that much time to look for a job. In contrast, a vocational school graduate might have been in the labor market for a much longer time (O'Higgins, 2001). This is not to undermine the issue of unemployment among the college graduates as longer spells of unemployment have long-term negative consequences for all. However, the scale of the problem might be larger and more challenging for other groups, so equal attention should be paid to those as well (O'Higgins, 2001).

Higher unemployment rates for females with both types of high school degrees were observed. Preliminary analysis illustrated that rural or urban females with general high school education are observed to have higher levels of unemployment at the ages of 25–29. The results for female vocational school graduates are also striking since their unemployment continues to be significantly higher than that of adults in the ages of 25–29 both in urban and rural areas. Furthermore, for females with college degrees in urban areas, unemployment continues to be an issue into the ages of 25–29 while one does not observe the same prolongation for males for neither of the education levels. Hence the higher probabilities of unemployment for females with high school (both types) and college degrees in urban areas deserve more attention. While further education undoubtedly increases opportunities for females, there are also bottlenecks of unemployment for more educated females. There may be four different explanations at play here: educated females’ preferences for public sector or certain types of employment where there are not enough jobs to accommodate all (Celik, 2008); higher reservation wages for educated females as suggested by other studies (Tansel & Tasci, 2010); gender discrimination where female penetration into certain sectors in the economy may be limited both due to social structures which inhibit their entry and due to lack of demand for female labor due to the same societal structures (Tansel & Tasci, 2010); and/or lack of work experience on the part of females as illustrated in the preliminary descriptive analysis. The results may imply a combination of all four and will be discussed in greater detail below.

At a first glance, the results of the qualitative study conducted by Celik (2008) are suggestive. Celik (2008) argued that educated females and their families were especially selective in their choices of employment. Females were thought to be better off to stay at home than take on jobs which do not suit their level of education (Celik, 2008). A reminder of the employed females' sectoral distribution presented in Chapter 5 may shed further light on this phenomenon. The results of Chapter 5 discussed that in urban areas, almost 50 percent of females with general high school education were employed in the wholesale and retail trade and the hotels and restaurants sector, while the agricultural sector still provided close to half of the employment of rural females with the same level of education. Female graduates of vocational school and college in urban areas were largely employed in the community, social and personal services sector and then came wholesale and retail trade. For urban female college graduates, 'financial, insurance real estate and business services sector was the leading sector of employment. The prevalence of larger numbers of educated females in the labor force is a more recent phenomenon in Turkey and female education levels are continuing to rise: Furthermore, during the past couple of decades, Turkey went through rapid structural changes in its economy in which the agricultural sector experienced a sharp decline and the services sector has been on the rise. Especially in rural areas with the agricultural sector shedding jobs, the opportunities for general high school graduates will even be fewer and females will be competing with their male counterparts for jobs in the wholesale and retail trade sector as well as in manufacturing. On the other hand, absorption of the female graduates

of both vocational schools and colleges primarily by community and social services sectors in urban areas seems to be problematic as large proportions remain unemployed.

Preliminary analysis conducted by this author illustrated that Turkish youth in general lack work experience and work experience is particularly lacking for female youth. As mentioned earlier, the incidences of combining work with education especially at the high school level has traditionally been lacking.

The results of a survey conducted among youth and employers in Turkey offered some insights into high unemployment rates among the more educated youth (TEPAV, 2007). Employers reported skill deficiencies of university graduates, graduates of vocational colleges and graduates of vocational and technical high schools (TEPAV, 2007). Employers and youth alike stated that there may be a skills mismatch in the labor market (TEPAV, 2007; World Bank, 2008). Although these findings deserve attention, results from this study may also favor the discrimination; higher reservation wages; preference for certain types of employment and lack of experience scenarios especially since higher unemployment rates for males with these categories of education are not observed in later ages.

Varied Results for General High School Education Graduates: A Problem of Transitions?

The results which imply lower levels of employment and participation for general high school education deserve attention. There may be dual effects of the two phenomena discussed in the theoretical section at play here: preparation for general

college entrance exams for all and military service requirement for males. As discussed earlier, each year youth in their senior year of high school enter the university exam and those who do not make it the first time enter it a second time or even a third time, the next year or the following year. In 2010, 1,487,626 people entered the level one of college entrance exams: Among these the ratio of those who took the exam in their senior year was 44.35 while ratio of older graduates was 31.45 lower than previous years.⁸⁵ Taking the university exam multiple times has traditionally been less common for vocational high school graduates who are disincentivized to enter these exams as they would start out with lower multiplication coefficients than their general school counterparts especially when they choose to study in areas other than their field of study at the high school. This regulation, which penalized vocational high school graduates who wanted to enter university programs outside of their areas of study, has been changed in the past five years, but the negative impact may still be there. Furthermore, analyses in Chapter 5 showed that general high school graduates have lower levels of labor force participation than their vocational/technical counterparts, pointing to different choices.

The next couple of years, for general high school graduates who cannot make it to the university in their first attempt, but who are still seeking to enter a second time, work is almost always of secondary importance. Following such a track is of course related also to the availability of family resources, however, many families even those with restricted means strive to provide for opportunities for their children to prepare for these

⁸⁵ CnnTurk. 2010. YGS sonuçları açıklandı.
<http://www.cnnturk.com/2010/turkiye/04/30/ygs.sonuclari.aciklandi/574144.0/index.html>

exams by sending them to private preparation agencies called *Dershane* or even by hiring private tutors. The story of a mother who took out loans to send her child to the *Dershane* and who ended up in prison because she could not pay those loans back was a headline story in Turkey a couple of years ago, albeit not a surprising one to anyone.⁸⁶

The results, which imply a lack of participation or lower probabilities of employment for male graduates of general high schools, could also partially be explained by the military service requirement for males which comes at the age of 20. A person typically graduates from high school around the ages of 17 or 18, maybe even 19. For males who are not seeking to continue to college or for those who could not make it to college in their first attempt, the next couple of years are most often difficult times loaded with uncertainty. It is difficult for them to make a firm decision about taking on employment since the military service requirement will intervene even if they find employment. On the other hand, employers often seek candidates who have completed their military service requirements when they are hiring. Hence the couple years prior to enrolling in the military service for those who are not going to college and who are unemployed or not in the labor force is mostly a period of transition where there is a lot of dependency on family resources. For vocational/technical high school graduates the results may be less dramatic as the uncertainty component may be a little lower with higher expected levels of employment.

⁸⁶ San, Oner. (2010). "Oğul bir ayım kalmıştı niye beni beklemedin." Sabah Daily Newspaper. Later, the 18 year old son committed suicide and died while his mother was in prison. This headline is taken from his mother's outcry who was released from prison after her son's death: "Son, I had only one month in prison, why didn't you wait for me?"

Going to high school or college and engaging in work simultaneously is a much less common occurrence in Turkey than in some advanced economies. As mentioned earlier, youth spend a considerable amount of time transitioning into college or waiting for the military service requirement, not engaging in the work world in significant ways for a significant portion of this time. Throughout this time, youth live with their families; and are deprived of the of independence which could be brought about by gainful employment.

Results for Family Variables

Division of Labor within the Household

The results are strikingly different for females and males, but perhaps are expected. For married youth, gender roles seem to be clearly defined. The results suggest that females who get married in their youth sever their relationship with the labor market, perhaps taking care of children, perhaps engaging in production of piecemeal work which is completed in the house and exchanged in informal ways. Married young males, on the other hand, seem to take on the responsibilities of providing for the household and thus are more likely to be employed and to participate in the labor force.

Parent and Sibling Education:

The children of educated families in urban areas are generally less likely to be employed and to participate in the labor force. These results are not unexpected as families with higher education backgrounds are more likely to have the financial and

other resources to support their children to stay out of the labor market or be unemployed for longer periods perhaps to take alternative routes or to find a better job. (Here, too, time and resources spent for preparing for the college entrance exams may be a larger intervening factor for educated families.) It also complies with the human capital theory in that educated parents have higher expectation in terms of education for their children. The fact that these results are only meaningful in urban areas is also worth considering. The results of sibling education comply with results of parent education. To reiterate; in more educated households, the probability of employment or labor force participation of youth are lower. Together, these results provide evidence for the human capital theory. There may be qualities to a family, e.g. if education is valued and provided; it is shadowed and is not always a matter of competition due to lack of resources in the family.

Fathers with lower levels of education have positive impact on the employment and labor force participation of their children regardless of gender. One could assume there may be cultural factors at play; for example, a father or a mother with lower levels of education may be preventing the daughter's participation in the labor market or in education because the parents deem women's participation outside the home to be inappropriate. These results show to the contrary. Dynamics other than the traditional role of the family are at play in determining females' employment and participation. One could speculate that lower education implies lower financial means and thus the need to participate in the labor market.

The positive contribution of parents' and siblings' lower level of education to the NEET status of a large number of youth is also a meaningful and complies with the theories and expectations: children may be shadowing the educational choices made by their parents or parents may lack the background resources or connections to provide better opportunities for their children.

On the other hand, the higher chances of labor force participation and employment status of males who have younger male siblings in urban areas may be alluding to the cost of education and the sharing of the burden by older siblings.

Parent and Sibling Employment Status

As discussed earlier in the theoretical section, father's and mother's employment status can impact their children's employment in various ways; through the ability to provide social capital and networks which ease their transition to the labor market; or resources so that young people take their time to make decisions and choices; also through their attitudes to work and employment; or the need for substituting for lost income if the parents are not employed. These factors come together in different ways in urban and rural areas; the push-pull dynamics differ in urban and rural areas. There is a negative impact of father or mother's unemployment or non participation in the labor market, on the chances of employment in rural areas. The difference in results for urban females who are more likely to be employed than not employed if the father is unemployed or not in the labor force, is hence quite telling. It may be speaking more to the domination of the substitution effect where the young person has to compensate for

the lost income. The positive results for labor force participation and employment of youth in urban areas for both mothers and fathers who are unemployed or are not participating in the labor force, are also supporting the distinct nature of families' interactions with the labor market in urban vs. rural areas.

In rural areas, in general, negative labor market outcomes of fathers and mothers increase the likelihood of unemployment and these results are perhaps reflecting more the effects of lack of social capital or networks. It is not surprising that these types of connections or networks matter more in rural areas where traditional structures to support them may still be in place. The only exceptions to these results are observed in urban areas and for females with fathers who are unemployed or not in the labor force; females are less likely to be unemployed. This result, once again, illustrates the importance of context.

Sibling employment status results comply with some earlier studies. First "unemployment breeds unemployment" as may be suggested by the social capital theory and Celik's (2008) findings. The same is true with regard to labor force participation. Second, dynamics are different for urban and rural areas. For example: The impact on employment and labor force participation of an increase in the number of employed male siblings is negative in urban areas and positive in rural areas regardless of gender. An increase in the same variable increases the probabilities of unemployment for urban females and decreases the probabilities of unemployment of rural males. These different results for urban and rural areas may be reflecting the different context of the labor market in these settings: In rural areas, when opportunities are existent, everyone can

take advantage; and alternatively when the opportunities are limited everyone is impacted negatively in the same way. On the other hand, competition seems to be tougher in urban areas; not everyone can or will have a job and the effect of social capital may not be as impactful as it is in rural areas.

Household Structure

Results with regard to the father's or mother's absence in the house were distinct in urban and rural areas. For the rural set of results, perhaps what Celik (2008) terms as social dependence is at play. When parents are absent, the social capital required to find a job is lacking. In urban areas, absence of a father seems to trigger the substitution effect where children are required to work for subsistence.

Region Level Variables

Controlling for the clustering across regions has been appropriate according to the results. Region-level variables do a moderate job of explaining the variation caused by regions' diversity. Economic structure variables were significantly explaining outcomes. Among the most noteworthy is the negative impact of services' sectors' presence on various female outcomes. These results comply with the secondary results of the macroeconomic analysis. Changes in favor of the industry relative to services increased the chances of employment for both males and females in lower income countries. Further research in this topic would prove beneficial especially since the result from the

macro study favored explanations other than the changes in the relative cohort size for aggregate outcomes of youth.

Table 17: Summary of Results for Micro Study

Results	Explanation	Expected/Not Expected	Alternative/Complementary Explanations
<i>The varying impact of education</i>			
Lack of formal education is related to lack participation and employment.	Lack of human capital	Expected	Structural transformation in the wider economy; the decline of the agricultural sector employment
High school degrees associated with higher unemployment rates for urban and rural females—unemployment stays high in later ages.	Cannot be explained by human capital theories	Unexpected	1) Preference by females for certain types of employment 2) Gender discrimination 3) High reservation wages 4) Lack of experience of females illustrated in preliminary analysis
College Degrees associated with higher unemployment for all groups.	Cannot be explained by human capital theories	Not Unexpected for developing countries	1) Longer job search 2) Higher reservation wages 3) For some groups of youth, lack of work experience may be a factor
General high school graduates less likely to be employed and to participate in the labor force, females with this degree more likely to be unemployed continued into later ages.	Can only partially be explained by human capital theories	Expected and Unexpected	1) Military service requirement for males delay transition 2) General university entrance exams delay transition 3) Youth have less experience as they start to participate in the labor market later as shown in preliminary analysis
<i>Parent and Sibling Education</i>			
Fathers with lower levels of education increase the	Cannot be explained by human or social	Expected and Unexpected	Low education may reflect lower levels of income and youth may need to

chances of employment and labor force participation for youth.	capital theories		compensate for father's lack of income or lower income
In more educated households, the probability of employment or labor force participation of youth are lower.	Human Capital & Social Capital	Expected	1) Parents set higher expectations for their children 2) Resources are available to delay labor market entry
Mothers with lower levels of education increases the chances of being NEET for a large portion of youth.	Human Capital & Social Capital	Expected	
<i>Parent and Sibling Employment</i>			
In rural areas, having unemployed parents and siblings increases chances of being unemployed.	Social Capital	Expected	1) For example, family networks and connections may be important especially in rural contexts where such relationships may matter more.
In urban areas, there are higher chances of participation and employment for youth whose parents are unemployed or not in the labor force.	Social Capital	Expected & Unexpected	1) Children need to compensate for lost income as urban conditions require that members work for sustainability of the family
Negative labor outcomes of siblings have a negative impact on youth outcomes. For example: Regardless of rural/urban, having	Social Capital	Expected	

siblings who are not in the labor force impacts labor force outcomes negatively.			
Higher number of employed male siblings have distinct impact in urban and rural areas, e.g. increases chances of unemployment and decreases chances of employment and labor force participation in urban areas and the opposite is true in rural areas.	Social Capital	Expected & Unexpected	<p>1) In urban areas, there may not be enough jobs everyone; Tougher competition in urban areas</p> <p>2) In rural areas, when opportunities are there they are present for everyone.</p>
Regional Factors			
Economic structure of the region matters: agricultural employment as opposed industry helps females; while an increases in services' share as opposed to industry impacts female outcomes negatively.	Structural characteristics of the region	Expected and unexpected	1) Services sector may present difficulties for females defying expectations, although it is a relatively new developing sector in the context of Turkey and it may take time to mature.

CHAPTER 8

CONCLUSIONS

Analysis of time series data across countries has illustrated that youth unemployment will continue to be a challenge in both advanced and developing countries in the coming decades. In the past twenty years, in both advanced and developing countries, changes in the population age structures (declining youth cohort sizes), which theoretically should have helped youth labor market outcomes, did not appear to be significant. These results do not encourage optimism about the future of youth labor markets, especially in developing countries where further expected declines in youth shares might create false expectations. Without thoughtfully crafted growth and employment policies, improvement in outcomes will likely not be forthcoming. What may be the reason that favorable changes in population age structure did not have a positive impact? The question has not been the focus of this study, however, secondary analysis of this macro study and the results of this micro study hint that structural changes within the economy such as the rising share of the services sector in labor markets may have played an important role, dominating other factors. Hence, one of the main conclusions of this study is the importance of further investigation of the impact of these structural changes on labor markets and youth labor markets in particular, in

developing economies. The role of macroeconomic policy should be considered within this light.

Results of the micro analysis support the importance of understanding the context specific features of youth labor markets in crafting thoughtful policies. Higher levels of education do not always produce favorable outcomes. For example, females whose employment and participation outcomes are improved by higher levels of education suffer high unemployment despite their higher levels of education. Moreover, unemployment of females with higher levels of education continues into their later ages drawing attention to questions of how gender plays into the equation. Another important result concerns the young graduates of general high schools who have less chance of employment and participation than those with lower levels of education. These results point to the significance of youth transitions into labor markets and adulthood; some groups have harder transitions than others. The role of the general university exams and the military service requirement in these transitions need careful consideration.

This study was among the first in Turkey to consider the role of the family on youth outcomes using rather empirical techniques: Family background is important in determining youth labor market outcomes; Sibling-related factors mattered as much as parent-related factors; Higher-educated parents or siblings consistently decreased the probabilities of employment and labor force participation of both male and female youth, perhaps due to the availability of resources within such families for investing in developing human capital. Lower educated fathers, on the other hand, increased the chances of being employed and to participate in the labor force especially for females in

urban areas. Notably, mothers with lower levels of education contributed to the NEET status of their children, pointing to the other ways in which family members impacted one another.

Because negative outcomes of family members were most often associated with negative outcomes of youth, this research supports the importance of social capital. However, what was also striking is the distinct impact of family factors on youth labor market outcomes in urban vs. rural areas. Social capital seemed to matter where it is perhaps expected to matter most, in rural areas where traditional structures may still be in place; unemployment indeed bred unemployment. On the other hand, in urban areas, where parents were unemployed or not in the labor force, youth were more likely to work or participate in the labor force. Results suggested that siblings supported one another; older siblings were likely to work when they had younger siblings in the household who were still in school. Siblings in urban areas may also be in competition with each other for jobs whereas in rural areas, employed siblings increased the chances of employment for the other siblings.

In sum, looking at the results of the micro-level analysis, one can attest to the dynamic interaction of place or locale with the family characteristics and to the “other than provider” role that families may be playing for their children. Young people may be shadowing the education and employment choices made by their parents, but also, equally important, those made by their siblings. In addition, having access to both material and non-material resources, offers the background and ability to provide educational and employment choices for children. In urban areas, unemployment or non-

participation of parents result in employment and participation of youth. In urban areas, where competition for jobs may be tougher, siblings may be competing with one another.

Thus, the results of the micro data painted a more complex picture about family dynamics and how families interact with their context to shape their lives than the ‘dependent youth’ explanation preferred by some of the literature. Not only were parents providing for their children, but when necessary, youth helped to sustain the family by participating in the labor market. Multiple factors related to family members’ relationships to one another, and their education and employment status seem to be at work together in creating a push and pull dynamic which works differently in different contexts, perhaps, suggesting that there is great fluidity in how these factors relate to youth’s labor market outcomes and lives. At times though, the devastating impact of unemployment affects not only the lives of young individuals, but the whole family. Unraveling these micro specificities together with the macro dynamics can help to identify thoughtful and meaningful policies to support youth in the labor market. These results suggest supporting youth may have a multiplier effect through which a locality and even a society might be transformed. Policy and research implications that emerge from this study are discussed next.

CHAPTER 9

POLICY AND RESEARCH IMPLICATIONS

Studying youth and issues related to their labor market experiences is a challenging task. Given a rapidly changing and closely connected world, a cross-disciplinary approach is needed to unfold many layers of complex and intertwined phenomena. Studying youth labor within a developing country context, as the present study has done, deepens our understanding; few prior studies have had such a focus. Furthermore, this research has direct implications for public policy decisions for developing and advanced countries, particularly in the areas of economic, education and workforce development policy. In light of the findings of this study, this chapter discusses the implications for policy and research audiences.

I. Implications for Policy Makers

Macro Challenges: Growth and Employment Creation

There is no easy way of addressing youth issues around youth employment and unemployment. There were declines in the relative size of the youth cohort in many advanced and developing countries during the years under study, and one might have expected these changes to improve the labor outcomes of youth; they didn't. The implications of these new sets of results for the developing world are particularly

important since continuing declines in the relative size of the youth cohort may create a false expectation of favorable future labor market outcomes for youth. Moreover, recurrent global economic crises which impact youth negatively and persistently complicate policy formulation, implementation and success.

First, this study suggests that expansionary macroeconomic policies which generate growth help reduce the unemployment rates of youth in lower income countries. However, short term economic growth may not suffice to remedy the long term challenges. Secondary results of this study point to the significance of increases in GDP per capita and gross fixed capital formation in ameliorating outcomes of youth in both developing and advanced economies. Both these measures relate to well being and stability of the economy in the longer term and are associated with sustainable growth. As discussed in earlier chapters, in developing countries, including Turkey where structural adjustment policies which promoted strict fiscal austerity, privatization and changes in the structure of the economy were in effect for the larger part of the last three decades, there have been signs of “jobless growth.” The extent to which these phenomena were relevant for each developing country may be varied and has not been the focus of this study. However, this research with regard to youth labor markets calls into question the effectiveness and sustainability of the past and ongoing strategies, especially in employment creation. An examination of the impact of structural changes on youth labor market outcomes perhaps using a comparative international lens could prove useful. For example, examining the experiences of those countries that went through the structural adjustment policies (Latin American countries) as opposed to those

that did not (countries in East Asia) especially with regard to youth labor outcomes may provide policy makers with useful information as to how these strategies should be assessed.

Youth employment rates have been declining in many advanced and developing countries, part of the decline can be explained by increasing enrollment in both secondary and tertiary education. However, after controlling for enrollment rates, none of the alternative macroeconomic variables (those other than adult employment and unemployment rates) account for changes in the employment rates in advanced countries. In developing countries, the only variable which explains some of the variation in youth employment rates is the industry to services ratio. A decline in the relative importance of the industry sectors' role in total employment affects youth employment negatively. What makes this result even more evocative is evidence from micro data that shows that an increased services' sector share in employment relative to industry negatively impacts female youth labor market outcomes. These results need to be evaluated concurrently. Further increases in the share of the services sector are expected in many developing countries; more attention should be paid to the why and how the services sector might provide more opportunities for youth.

In the Turkish case, the negative impact of the services sector role is observed for females in both urban and rural areas. There may be different explanations as to why the sector is unable to absorb female youth labor. Investigation of both what the causes and the potential remedies may be was beyond the scope of this research. However, these issues should be on the agenda of policy makers as female participation rates are

expected only to rise with increases in levels of education. An examination of which sectors and sub-sectors are expected to be the drivers of growth in Turkey together with the implications on employment creation in general and for youth in particular can be crucial. Furthermore, this study suggests a conscious effort to understand the specific impact of different policies for different segments of the youth labor market, both in terms of gender and urban and rural locale and for those with different education outcomes would prove useful. This study has made an initial attempt to lay out these specificities and these will be discussed in the next section.

Micro Perspectives: Specific Features, Constraints and Opportunities of the Turkish Case

Youth unemployment and inactivity is not only a problem because it can lead to unrest within a society, but because youth is a stage of human development which is formative. In Turkey, where there are large numbers of youth and where absolute numbers of youth are expected to rise in the next couple of decades, youth present an important opportunity for the development of the country. If issues of youth are neglected, substantial challenges to the overall well being of the economy can be expected. A discussion of the special attention paid by European Union countries to youth transitions and the country experiences were presented in Chapter 2. Experiences from the European Union suggest that youth transition policies should be in tune with the socio-economic and socio-cultural changes that are taking place. Interventions should prepare youth according to the skill set requirements of the new century as global and local economic contexts change. Different policy areas such as social and education

policies should be considered in conjunction with one another. Furthermore, policy approaches will impact various age and gender groups differently; and young women's employment deserves specific attention. The findings from this study attest to the importance of the learnings from European experiences of making youth transitions right.

The Role of Education: What Education Can and Cannot Do

Micro analysis illustrates the beneficial impact of education and especially higher than middle school levels of education for large numbers of youth, particularly young women. Lack of formal education is associated with poor labor outcomes in general. College and vocational/technical education are significantly beneficial for females. Nevertheless, when results for employed versus the unemployed are examined, higher unemployment probabilities are observed for a large number of youth with high school (both types) and college education. These results deserve the attention of policy makers: Measures solely focused upon increasing levels of education, and buttressing human capital, won't address the problems that youth are facing if the economy and the labor market are not able to provide opportunities for the young and educated. A conscious effort which goes beyond focusing on human capital and one that is determined to identify the specific ways in which different groups of youth can contribute to the labor market and the economy has proved to be a better solution as suggested by earlier studies. Thus, for example, the interventions aimed to help females with lower levels of education must be different from those aimed to help females with higher levels of education, but

policy makers should take into account what the labor market is able to offer to each of these groups and measures should be determined accordingly.

Furthermore, young females with higher levels of education continue to have higher unemployment rates in later ages (25–29) while their male counterparts do not. Different explanations for this phenomenon were offered and discussed in an earlier chapter include discrimination, higher reservation wages, and preferences for certain types of work. An investigation of institutional structures that impede female advancement would prove beneficial.

Lack of Experience

One other explanation for the negative outcomes of females discussed in the above section might be their lack of experience, and work experience opportunities benefit both male and female youth. Earlier analysis also illustrated that a mere 25 percent among the unemployed and those who are not in the labor force (NILF) had prior work experience. Very few youth worked part time and most of the youth were not interested in taking part-time jobs. Measures in this regard should involve multiple actors; collaborations and partnerships between public, university and private parties have proved beneficial in other contexts. Employers in Turkey have traditionally been reluctant to train young workers or to offer traineeships. Incentives to encourage employers to work with youth might be beneficial for both Turkish youth and employers, especially those who have pointed out the skill deficiencies of youth. Involvement of youth can bring dynamism to the private sector. Youth adapt new technologies and

systems at a faster pace than adults, and they contribute to the improvement of technologies when they have the opportunity.

Transitions

The negative outcomes of general high school graduates, as discussed earlier, may to some degree be associated with problems of transition into the world of work, made more difficult by the uncertainty of college entrance exams and military service requirements. Policy makers need to reassess these two institutional constraints in the light of pathways and transitions of youth into the world of work and adulthood. Policies, in general, should aim to ease the transitions and facilitate better transitions for youth. Such policies would also be beneficial for the overall economy. In their current form, these institutions may be making transitions harder for those who can't make it to college, as these youth are deprived of any experience in the labor market throughout this period. Neither can a large number of youth use this time productively to focus on developing forms of human capital other than college education, as they are financially dependent on their families. This also has social and psychological bearing on healthy transitions into adulthood.

The Significance of the Family and Family Dynamics

Evidence from this study suggests that in Turkey, family is indeed a significant factor for labor outcomes of youth in both urban and rural areas. Families still act as a unit, sharing the burden of sustaining a family; complementing one another,

compensating for one another and supporting one another. There are indications from this research that when faced with multiple challenges, the families seem to fail together and the opposite is true when opportunities are abundant. For example, unemployment in both rural and urban areas is almost contagious: Having unemployed parents or siblings results in a higher chance of unemployment for a large number of youth. Remedies require understanding the sources of disadvantage. There are not many studies which examine what constitutes disadvantage. This research has also restricted evidence due to the limitations of the data. Although there is no absolute poverty problem in Turkey, studies point to a high prevalence of relative poverty which is more prevalent for casual and self employed work than regular work. Youth in disadvantaged households may benefit from interventions which are aimed at the family unit.

Evidence from this research suggests also that not only fathers and mothers provide for their children, but also children of the family compensate for their mothers and fathers and provide for their siblings and the whole family. These results suggest that policy interventions aimed at youth, if successful, have a potential to create a multiplier effect, in that outcomes for the family as a whole are improved. As discussed in Chapter 3, prior studies found that, in general, interventions aimed at youth in developing countries were more successful than those in advanced countries. Active Labor Market Policies that target youth who may be most disadvantaged will be effective; especially since currently ALMP is still very limited in its reach and focuses primarily on training. Training offered under ALMP should be in line with the state of the economy. Improving job search options and providing current and useful information on the labor

market are useful measures to consider as well, particularly since evidence from this research suggest youth underutilize formal channels of job search.

Education and labor market outcomes of both parents and siblings are important for the labor market outcomes and NEET status of youth. This is the case for both urban and rural areas, although the dynamics are somewhat different in the two areas for the two genders. Results suggest that educated households prefer to provide better education and employment opportunities for their members; youth seem to shadow the education choices made by their parents and their siblings. Youth in educated families can afford to be unemployed for longer periods of time; however, there are minimal opportunities for them to be financially independent throughout this period. Again, creating part-time work and traineeship opportunities are important.

With meager provisions by the State in Turkey for those who are unemployed and for youth in particular, lack of productive participation in the work world may lead to social exclusion and marginalization of large numbers of youth, as experiences from the European Union suggest. Given these considerations, social policies should be constructed and re-constructed to support those who are unemployed, including the young unemployed. In Turkey, unemployment insurance reaches only a very restricted portion of the society since there are very strict eligibility requirements. Other types of support such as health insurance have similarly strict eligibility requirements, although youth can benefit from their parent's health insurance. Adults who are employed in the informal sector are less likely to have health insurance; considering the large numbers employed in the informal sector, the provision of health services and insurance is an

important issue to consider with respect to the youth in these families. Deteriorating labor outcomes for youth without accompanying social supports are not only detrimental at the individual level, but also at the societal level.

Regional Gaps in Labor Outcomes of Youth and the Challenges of Urbanization

Overall, one of the most significant results of this study is that region, whether in the form of clusters of provinces or rural and urban areas, matters for the outcomes of youth. Some of the variation in youth outcomes can be explained by structural differences of the economy across regions as mentioned earlier in this section. Regional differences in labor outcomes of youth are especially pronounced in certain areas. Unemployment levels are high in important groups of provinces such as Ankara (the capital city), Adana and Mersin which are urban centers that receive a large number of immigrants. Although the pace of urbanization is expected to slow, it is still expected to continue for many developing countries in the coming decades. These results suggest that the problems of youth employment and unemployment may further be accentuated in these urban centers. Policy makers should take heed to understand and address regional differences and the challenges of urban unemployment.

NEET are highly concentrated among females and especially in Southeast and Middle-east Anatolia where they reach 80 percent levels. Education policies directed at female youth in these areas will be important. There have been attempts to remedy lower education levels of youth in these areas both by the public and the private sector either through creating public awareness via the use of the media or through sanctions or

incentives for families to increase female youth participation in education. The efforts have been successful to some degree; however, as pointed out earlier, focusing on education without paying attention to the employment opportunities at large may open up further challenges. Furthermore, one-third of female work is concentrated in the agricultural sector (one-sixth of male work is in agriculture). Agricultural work is accompanied by higher incidences of unpaid family work and informal work with no insurance. Education helps women in these aspects, too. Once again though, supporting females through the use of other social supports may be important.

Including Youth

Any strategy or intervention aimed at improving outcomes of youth will be incomplete and deficient without genuine participation of the youth in the decision-making processes. Agencies such as the UN or the World Bank underlie the importance of participation of youth in multiple spheres of life and pronounce the value of youth's contributions to policymaking in studies and within their discourse. Nonetheless, it is disheartening to see that most often these emphases do not go beyond discourse in developing country contexts. Economic freedom and well-being and the ability to participate in the world of work are pressing issues for youth and are intertwined with their capability to participate in other spheres of the society. Improving youth outcomes in one area requires simultaneous improvements in other areas. There is no sequence and priority of economic well-being over the others. It is worthy to provide spaces for youth to engage in conversations about issues that directly impact their lives. Youth need to

have voice in determining the kind of societies that they will live in and the economic systems which are compatible with these societies. This can only be achieved through participatory and deliberative processes. Policy makers should increase their efforts to open up spaces for youth to make their contributions. Recent experiences of countries such as Egypt and Tunisia suggest that youth will claim these spaces when they feel they are oppressed. The peaceful regime changes which took place in these countries illustrate that youth themselves are a positive force behind increased freedom and wider economic and political opportunities for all.

II. Implications for Researchers

This study has implications for the work of policy researchers not only those who do work related to developing countries, but also policy researchers who use quantitative methods to understand complex policy issues. It has implications for the work of economists, especially those who study labor markets, but also those who are interested in the economies of developing countries. It relates to the work of those from various disciplines including psychology and sociology, who are interested in studying youth. It has direct implications for the work of scholars interested in education and social policy, those who are in population studies, also those who are interested in gender studies.

Implications for Economic Policy Research

These results suggest that more attention should be paid into the impact of structural changes of the economy on youth labor market outcomes in developing

countries. Youth employment outcomes are not responsive to macroeconomic changes within countries over the years and these results also call for further investigation. Sectors of employment which are more likely to be the generators of “growth with employment” should be identified. This may imply that more deliberate strategies in terms of sectoral policies could be effective rather than *laissez-faire* approaches to economic development, and this should be researched using comparative analysis across countries. As other areas of further research, the skill set requirements of the sectors which are expected to grow fast might be determined along with the skill sets that the current education systems provide the youth.

The Importance of Local Context and Gender

The importance of the local context is undeniable. In this research, regions defined as clusters of provinces and areas defined as urban and rural mattered, and much is learned from running analyses separately for urban and rural areas. Hierarchical modeling tests the impact of some of the aggregate economic variables relying on the variation across regions. Such analysis is important especially in the absence of time series evidence. Within this research, hierarchical analysis provided an opportunity to verify the results from the macro analysis. Although this has not been the focus of this research, it is important to conduct the regional analysis using software which allows mapping and visual display of results, and using time series evidence whenever available.

One other implication has to do with how the gender analysis is conducted; in this case the results for males and females were significantly varied, and to run the results

separately was appropriate and practical. The same may be true for other developing country contexts.

The Larger Picture: Bringing the Macro and Micro Perspectives Together

Combining macro with micro analysis opens up new perspectives and opportunities as results not only complement one another, but the process of the analysis is sustained by each. There is a tendency among policy researchers to develop tunnel vision because they get so closely involved in the microcosms of the specific topic that they are examining. When this is the case, larger national or global dynamics are neglected. In today's world, localities interact with these larger dynamics, in their own ways with their specific constraints and opportunities. An understanding of these interactions requires the concurrent analyses of the macro together with the micro perspectives.

How the Quantitative and Qualitative Worlds Come Together

Most often the questions which can be answered using qualitative or quantitative methods are distinct however complementary. For policy researchers who often tackle complex phenomena that are inherently multi-disciplinary, using a mixed method approach may be ideal in order to be able to cover larger ground. However, it is not always possible due to various limitations such as high costs of qualitative studies or lack of available data for quantitative studies. Even when a pure quantitative approach is chosen, one can benefit from using qualitative studies in forming hypotheses and

interpreting results. This study has attempted to do both; qualitative research has enriched the meaning of the results that are captured using quantitative data, especially when established theory did little to resolve the puzzles. There are many questions which arise out of this study which can primarily be answered using qualitative methods. For example, research which explores the puzzling results with regard to the bottlenecks of unemployment for educated females in both urban and rural areas may very well be carried out using a primarily qualitative methodology. As discussed earlier, in recent times, participatory approaches to understanding youth issues have been on the rise. If such a participatory approach is chosen and promoted, it is only customary that qualitative methods which are better suited to such processes gain prominence.

Public Policy and Analysis of Complex Problems

Public policy as a discipline is uniquely positioned to explore and contribute to the solutions of complex issues that plague our societies today. The advantage of Public Policy lies, perhaps, not so much in its approaches which most often intend to bridge disciplines and methodologies, but its focus on problem definition. It is not surprising that where the intent is to contribute to solutions for societal problems and to catalyze change as much it is to contribute to scholarly debate, problem definition lies at the core and drives the research. Societies can be considered as dynamic living organisms that are constantly evolving. Individuals within these societies are adapting and reacting to these changes, reshaping and communicating with their environments and relating to one

another. Focusing on problem definition brings about a commitment to understand this complexity and dynamism and to acknowledge the presence of human connections.

APPENDIX A

TABLES OF SUMMARY STATISTICS FOR MACRO STUDY

Table A1: GDP per Capita PPP: High Income Economies

Country Name	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
Portugal	22	19222	2390	14625	21993
Greece	22	20809	3552	17058	27123
Israel	22	21397	2610	17246	25740
Spain	22	23625	3421	18240	28519
Finland	22	26117	4329	20493	33626
Italy	22	26235	1973	22569	28766
France	22	27062	2513	23099	30651
Sweden	22	28047	3992	23075	34782
United Kingdom	22	28206	3995	23118	34099
Ireland	22	28220	8985	15284	41136
Japan	22	28251	1967	23665	31660
Australia	22	28398	4027	23016	34522
Germany	22	29208	2769	23863	33758
Canada	22	30717	3693	25929	36074
Netherlands	22	31371	4233	24466	38065
Switzerland	22	34085	2020	31464	38086
United States	22	37268	4515	30900	43662
Norway	22	40914	6132	31440	49070

Table A2: GDP per Capita PPP: Lower Income Economies

Country Name	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
India	22	1804	551	1163	2970
Pakistan	22	1947	227	1610	2369
Philippines	22	2612	322	2266	3240
China	22	2792	1560	1050	6200
Indonesia	22	2810	532	1816	3813
Morocco	22	3080	469	2585	4081
Egypt	22	3844	636	3016	5151
Ukraine	22	5447	1684	3430	8629
Thailand	22	5601	1198	3265	7469
Brazil	22	7991	712	7022	9559
South Africa	22	8063	688	7346	9604
Romania	22	8124	1581	6348	11782
Bulgaria	22	8125	1816	6189	11993
Turkey	22	9279	1465	7270	11973
Malaysia	22	9729	2161	5917	13163
Chile	22	9937	2279	5947	13390
Argentina	22	10089	1566	7492	13220
Russian Federation	21	10450	2398	7329	14766
Mexico	22	11402	1183	9603	13434
Poland	20	11482	2934	7574	16705
Croatia	20	12812	2559	8800	17219
Hungary	22	13654	2655	10446	18004
Republic of Korea	22	17866	4959	9977	25517

Table A3: Youth (15–24) Population/Adult (25–54) Population: High Income Economies

Country Name	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
Germany	22	0.27	0.03	0.25	0.35
Switzerland	22	0.28	0.02	0.26	0.34
Netherlands	22	0.29	0.04	0.26	0.38
Finland	22	0.30	0.01	0.28	0.32
Italy	22	0.30	0.06	0.23	0.40
Canada	22	0.31	0.02	0.29	0.36
Sweden	22	0.31	0.02	0.28	0.35
Japan	22	0.31	0.04	0.26	0.36
United Kingdom	22	0.32	0.03	0.28	0.39
Norway	22	0.32	0.04	0.28	0.40
France	22	0.33	0.03	0.30	0.38
United States	22	0.33	0.01	0.31	0.36
Greece	22	0.34	0.05	0.24	0.39
Australia	22	0.34	0.03	0.31	0.40
Spain	22	0.35	0.07	0.23	0.44
Portugal	22	0.35	0.06	0.25	0.43
Ireland	22	0.41	0.06	0.30	0.49
Israel	22	0.46	0.03	0.41	0.50

Table A4: Youth (15–24) Population/Adult (25–54) Population: Lower Income Economies

Country Name	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
Croatia	22	0.32	0.01	0.29	0.33
Bulgaria	22	0.34	0.02	0.29	0.36
Hungary	22	0.34	0.03	0.29	0.38
Russian Federation	22	0.35	0.02	0.31	0.38
Ukraine	22	0.35	0.01	0.33	0.37
Poland	22	0.37	0.02	0.33	0.40
Korea	22	0.38	0.08	0.28	0.51
Romania	22	0.39	0.04	0.32	0.44
Chile	22	0.42	0.04	0.39	0.52
China	22	0.43	0.09	0.34	0.61
Thailand	22	0.43	0.08	0.34	0.58
Argentina	22	0.46	0.02	0.43	0.49
Brazil	22	0.50	0.04	0.41	0.56
Malaysia	22	0.50	0.03	0.47	0.57
Indonesia	22	0.53	0.06	0.42	0.62
Turkey	22	0.54	0.07	0.41	0.62
India	22	0.54	0.02	0.50	0.57
South Africa	22	0.56	0.03	0.52	0.62
Mexico	22	0.58	0.10	0.44	0.71
Philippines	22	0.60	0.03	0.55	0.65
Morocco	22	0.60	0.05	0.50	0.65
Egypt	22	0.62	0.02	0.57	0.64
Pakistan	22	0.65	0.01	0.63	0.66

Table A5: Youth Unemployment Rate, National Estimates: High Income Economies

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Switzerland	20	0.06	0.02	0.03	0.09
Japan	22	0.07	0.02	0.04	0.10
Netherlands	22	0.08	0.02	0.04	0.12
Germany	19	0.10	0.03	0.06	0.15
Norway	22	0.11	0.02	0.07	0.14
United States	22	0.12	0.02	0.09	0.18
Portugal	22	0.13	0.03	0.09	0.20
United Kingdom	22	0.13	0.02	0.10	0.19
Australia	22	0.14	0.03	0.09	0.19
Canada	22	0.14	0.02	0.11	0.17
Ireland	22	0.15	0.07	0.06	0.25
Sweden	22	0.16	0.07	0.04	0.25
Israel	22	0.18	0.03	0.13	0.23
France	22	0.22	0.03	0.18	0.28
Finland	22	0.25	0.10	0.08	0.42
Greece	22	0.27	0.03	0.22	0.31
Italy	22	0.29	0.04	0.20	0.34
Spain	22	0.30	0.08	0.18	0.43

Table A6: Youth Unemployment Rate, National Estimates: Lower Income Economies

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Thailand	17	0.05	0.02	0.02	0.08
Mexico	20	0.07	0.02	0.04	0.11
Pakistan	15	0.09	0.03	0.05	0.13
Korea	22	0.09	0.02	0.06	0.16
India	3	0.10	0.01	0.08	0.11
Malaysia	5	0.10	0.01	0.08	0.11
Brazil	18	0.15	0.05	0.06	0.26
Ukraine	2	0.15	0.01	0.15	0.16
Chile	22	0.16	0.04	0.11	0.23
Turkey	22	0.17	0.03	0.13	0.25
Hungary	18	0.17	0.04	0.11	0.26
Philippines	22	0.18	0.02	0.14	0.22
Russian Federation	18	0.18	0.04	0.13	0.27
Romania	16	0.20	0.02	0.17	0.22
Morocco	13	0.20	0.06	0.15	0.35
Indonesia	15	0.22	0.08	0.09	0.32
Argentina	18	0.23	0.07	0.11	0.35
Bulgaria	10	0.25	0.09	0.13	0.39
Egypt	7	0.27	0.05	0.20	0.34
Poland	18	0.31	0.08	0.17	0.44
Croatia	10	0.33	0.07	0.22	0.45
South Africa	8	0.49	0.05	0.44	0.57
China					

Table A7: Youth Employment Rate, ILO Estimates: High Income Economies

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
France	18	0.25	0.03	0.21	0.29
Italy	18	0.27	0.02	0.25	0.30
Israel	18	0.27	0.02	0.24	0.30
Greece	18	0.28	0.01	0.26	0.31
Spain	18	0.34	0.05	0.26	0.42
Finland	18	0.38	0.05	0.29	0.45
Portugal	18	0.40	0.05	0.35	0.53
Ireland	18	0.42	0.05	0.33	0.48
Japan	18	0.43	0.02	0.40	0.45
Sweden	18	0.44	0.05	0.38	0.59
Germany	18	0.47	0.05	0.42	0.58
Norway	18	0.53	0.04	0.46	0.57
United States	18	0.55	0.03	0.51	0.59
Canada	18	0.56	0.03	0.52	0.61
United Kingdom	18	0.59	0.02	0.56	0.66
Australia	18	0.61	0.03	0.56	0.64
Netherlands	18	0.62	0.05	0.55	0.67
Switzerland	18	0.64	0.02	0.60	0.69

Table A8: Youth Employment Rate, ILO Estimates: Lower Income Economies

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
South Africa	18	0.16	0.03	0.11	0.22
Egypt	18	0.23	0.02	0.20	0.28
Bulgaria	18	0.25	0.04	0.18	0.34
Poland	18	0.25	0.04	0.19	0.33
Croatia	18	0.29	0.02	0.26	0.33
Chile	18	0.29	0.05	0.24	0.37
Hungary	18	0.29	0.05	0.20	0.37
Korea	18	0.32	0.03	0.28	0.36
Russian Federation	18	0.33	0.02	0.30	0.37
Romania	18	0.35	0.07	0.24	0.45
Ukraine	18	0.36	0.03	0.32	0.41
Argentina	18	0.36	0.03	0.31	0.42
Morocco	18	0.38	0.03	0.34	0.41
Turkey	18	0.38	0.06	0.31	0.48
Pakistan	18	0.39	0.02	0.36	0.44
Philippines	18	0.41	0.02	0.37	0.44
Indonesia	18	0.42	0.03	0.37	0.47
Mexico	18	0.48	0.03	0.42	0.52
Brazil	18	0.54	0.03	0.51	0.60
Thailand	18	0.54	0.08	0.46	0.70
China	18	0.62	0.06	0.54	0.71

Table A9: Youth LFPR, ILO Estimates: High Income Economies

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Greece	22	0.38	0.04	0.30	0.42
Israel	22	0.38	0.01	0.36	0.40
Italy	22	0.39	0.06	0.31	0.49
France	22	0.39	0.03	0.35	0.46
Spain	22	0.45	0.03	0.41	0.50
Japan	22	0.46	0.02	0.42	0.48
Portugal	22	0.48	0.07	0.40	0.62
Ireland	22	0.50	0.03	0.44	0.54
Germany	22	0.54	0.04	0.47	0.61
Sweden	22	0.55	0.06	0.48	0.68
Finland	22	0.55	0.06	0.47	0.63
Norway	22	0.61	0.04	0.54	0.66
United States	22	0.63	0.03	0.56	0.68
United Kingdom	22	0.65	0.04	0.61	0.73
Canada	22	0.66	0.03	0.62	0.71
Netherlands	22	0.66	0.06	0.58	0.74
Switzerland	22	0.68	0.02	0.66	0.71
Australia	22	0.71	0.01	0.69	0.72

Table A10: Youth LFPR, ILO Estimates: Lower Income Economies

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
South Africa	22	0.29	0.01	0.29	0.31
Egypt	22	0.35	0.01	0.33	0.37
Korea	22	0.35	0.03	0.28	0.39
Chile	22	0.36	0.04	0.31	0.42
Hungary	22	0.37	0.09	0.24	0.53
Poland	22	0.38	0.04	0.32	0.45
Bulgaria	22	0.39	0.06	0.30	0.47
Croatia	22	0.41	0.03	0.34	0.45
Romania	22	0.41	0.07	0.29	0.49
Ukraine	22	0.42	0.01	0.39	0.44
Pakistan	22	0.43	0.02	0.40	0.47
Russian Federation	22	0.43	0.05	0.38	0.55
Morocco	22	0.46	0.03	0.41	0.49
Turkey	22	0.47	0.07	0.37	0.58
India	22	0.48	0.02	0.44	0.52
Malaysia	22	0.49	0.01	0.47	0.51
Philippines	22	0.49	0.02	0.44	0.52
Argentina	22	0.51	0.04	0.44	0.56
Mexico	22	0.52	0.03	0.47	0.55
Indonesia	22	0.53	0.02	0.47	0.56
Thailand	22	0.60	0.11	0.48	0.80
Brazil	22	0.64	0.01	0.62	0.67
China	22	0.70	0.07	0.60	0.80

Table A11: Youth Inactivity, ILO Estimates: High Income Economies

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Australia	22	0.29	0.01	0.28	0.31
Switzerland	22	0.32	0.02	0.29	0.34
Netherlands	22	0.34	0.06	0.26	0.42
Canada	22	0.34	0.03	0.29	0.38
United Kingdom	22	0.35	0.04	0.27	0.39
United States	22	0.37	0.03	0.32	0.44
Finland	22	0.45	0.06	0.37	0.53
Sweden	22	0.45	0.06	0.32	0.52
Germany	22	0.46	0.04	0.39	0.53
Ireland	22	0.50	0.03	0.46	0.56
Portugal	22	0.52	0.07	0.38	0.60
Japan	22	0.54	0.02	0.52	0.58
Spain	22	0.55	0.03	0.50	0.59
France	22	0.61	0.03	0.54	0.65
Italy	22	0.61	0.06	0.51	0.69
Israel	22	0.62	0.01	0.60	0.64
Greece	22	0.62	0.04	0.58	0.70

Table A12: Youth Inactivity, ILO Estimates: Lower Income Economies

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
China	22	0.30	0.07	0.20	0.40
Brazil	22	0.36	0.01	0.33	0.38
Thailand	22	0.40	0.11	0.20	0.52
Indonesia	22	0.47	0.02	0.45	0.53
Mexico	22	0.48	0.03	0.45	0.53
Argentina	22	0.49	0.04	0.44	0.56
Philippines	22	0.51	0.03	0.48	0.56
Malaysia	22	0.51	0.01	0.49	0.53
India	22	0.52	0.02	0.48	0.56
Turkey	22	0.53	0.07	0.42	0.63
Morocco	22	0.54	0.03	0.51	0.59
Russian Federation	22	0.57	0.05	0.45	0.62
Pakistan	22	0.57	0.02	0.53	0.60
Ukraine	22	0.58	0.01	0.56	0.61
Romania	22	0.59	0.07	0.51	0.71
Croatia	22	0.59	0.03	0.55	0.66
Bulgaria	22	0.61	0.06	0.53	0.70
Poland	22	0.62	0.04	0.55	0.68
Hungary	22	0.63	0.09	0.47	0.76
Chile	22	0.64	0.04	0.58	0.69
Korea	22	0.65	0.03	0.61	0.72
Egypt	22	0.65	0.01	0.63	0.67
South Africa	22	0.71	0.01	0.69	0.71

Table A13: Relative Youth Unemployment: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Germany	19	1.17	0.20	0.94	1.51
Ireland	22	1.97	0.34	1.52	2.60
Canada	22	2.00	0.24	1.64	2.28
Switzerland	20	2.14	0.35	1.41	2.84
Netherlands	22	2.14	0.30	1.63	2.62
Japan	22	2.24	0.15	1.95	2.65
Spain	22	2.32	0.18	2.10	2.72
Australia	22	2.55	0.22	2.14	2.91
Israel	22	2.57	0.29	2.22	3.36
France	22	2.58	0.20	2.29	3.03
United Kingdom	22	2.60	0.76	1.57	3.94
Portugal	22	2.70	0.25	2.33	3.21
United States	22	2.73	0.26	2.22	3.15
Finland	22	3.18	0.56	2.15	4.37
Sweden	22	3.25	0.77	1.88	4.88
Norway	22	3.66	0.52	2.97	4.40
Greece	22	3.99	0.80	3.11	5.28
Italy	22	4.01	0.38	3.59	4.92

Table A14: Relative Youth Unemployment: Lower Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Morocco	13	2.10	0.46	1.65	3.01
Ukraine	2	2.30	0.27	2.10	2.49
South Africa	8	2.34	0.24	1.96	2.62
Pakistan	15	2.38	0.42	1.75	3.19
Bulgaria	10	2.39	0.17	2.19	2.68
Hungary	18	2.49	0.38	2.01	3.16
Russian Federation	18	2.59	0.30	2.11	3.33
Mexico	20	2.63	0.26	2.12	3.04
Poland	18	2.69	0.17	2.47	3.06
Argentina	18	2.73	0.55	1.96	3.63
Turkey	22	2.86	0.41	2.19	3.69
Brazil	18	2.88	0.19	2.36	3.25
Philippines	22	3.05	0.38	2.51	3.83
Chile	22	3.29	0.26	2.92	3.92
Croatia	10	3.45	0.97	2.71	6.10
India	3	3.52	0.45	3.02	3.86
Korea	22	3.74	0.70	2.63	5.03
Romania	16	4.02	0.56	3.28	5.38
Thailand	17	4.76	1.69	2.65	7.70
Egypt	7	5.95	1.17	4.72	8.24
Malaysia	5	6.65	0.77	5.83	7.77
Indonesia	15	7.05	1.99	4.83	11.98
China					

Table A15: Youth as Percentage of Total Unemployment: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Germany	19	13.57	1.96	11.09	16.63
France	22	22.51	3.40	17.43	29.31
Japan	22	22.60	3.95	15.62	29.10
Switzerland	20	26.67	3.29	19.53	31.82
Canada	22	29.06	1.61	26.08	31.07
Spain	22	29.31	6.20	20.28	43.51
Netherlands	22	30.22	2.06	26.96	34.65
Israel	22	30.51	3.87	23.40	38.44
Ireland	22	30.63	1.88	25.88	34.30
Portugal	22	31.01	8.63	17.66	47.25
Sweden	22	31.07	7.48	16.52	42.17
Finland	22	32.88	5.68	22.25	43.75
Greece	22	33.19	8.84	18.95	45.35
United Kingdom	22	33.28	4.48	28.30	42.05
United States	22	33.97	2.61	26.35	37.50
Italy	22	35.48	9.65	23.14	52.37
Norway	22	37.47	3.67	32.71	47.06
Australia	22	39.50	2.13	36.95	44.78

Table A16: Youth as Percentage of Total Unemployment: Lower Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Bulgaria	17	22.56	4.08	18.39	30.54
Hungary	18	24.16	3.51	18.46	27.97
Poland	18	26.42	1.45	23.27	28.66
Ukraine	14	27.84	2.57	23.47	33.26
Russian Federation	18	28.81	2.70	25.65	36.40
Korea	22	31.01	9.56	16.63	45.80
South Africa	12	32.55	1.67	28.46	34.39
Croatia	14	32.68	6.36	25.82	48.85
Chile	22	37.36	5.86	30.66	49.10
Romania	17	37.52	9.02	28.93	60.99
Argentina	19	38.45	3.87	31.36	44.01
Morocco	18	40.13	2.92	34.32	45.50
Turkey	22	46.91	9.09	32.44	60.29
Mexico	20	47.45	5.17	38.80	59.32
Philippines	22	47.77	1.89	44.79	51.12
Pakistan	21	48.19	3.67	43.55	54.91
Brazil	20	50.14	2.87	45.28	57.19
India	3	50.61	4.20	45.80	53.58
Thailand	22	51.30	3.65	43.25	59.30
Egypt	11	63.51	5.00	57.05	71.94
Indonesia	16	64.77	7.26	53.55	77.44
Malaysia	14	66.60	2.75	62.20	72.33
China					

Table A17: Adult Unemployment: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Switzerland	20	0.03	0.01	0.01	0.04
Norway	22	0.03	0.01	0.02	0.05
Japan	22	0.03	0.01	0.02	0.05
Netherlands	22	0.04	0.02	0.02	0.07
United States	22	0.04	0.01	0.03	0.08
Portugal	22	0.05	0.02	0.03	0.09
Sweden	22	0.05	0.02	0.01	0.09
Australia	22	0.05	0.02	0.03	0.09
United Kingdom	22	0.06	0.02	0.03	0.09
Greece	22	0.07	0.01	0.04	0.09
Canada	22	0.07	0.02	0.05	0.10
Israel	22	0.07	0.01	0.05	0.09
Italy	22	0.07	0.01	0.05	0.09
Finland	22	0.08	0.04	0.02	0.14
Ireland	22	0.08	0.04	0.03	0.15
Germany	19	0.08	0.01	0.05	0.11
France	22	0.09	0.01	0.06	0.11
Spain	22	0.13	0.04	0.07	0.20

Table A18: Adult Unemployment: Lower Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Thailand	17	0.01	0.01	0.01	0.02
Malaysia	5	0.01	0.00	0.01	0.02
Mexico	20	0.03	0.01	0.02	0.05
Korea	22	0.03	0.01	0.01	0.06
India	3	0.03	0.01	0.02	0.03
Indonesia	15	0.03	0.02	0.01	0.05
Pakistan	15	0.04	0.01	0.02	0.06
Egypt	7	0.05	0.01	0.04	0.06
Chile	22	0.05	0.01	0.03	0.08
Romania	16	0.05	0.01	0.04	0.06
Brazil	18	0.05	0.02	0.02	0.11
Philippines	22	0.06	0.01	0.04	0.08
Turkey	22	0.06	0.02	0.04	0.12
Ukraine	2	0.07	0.01	0.06	0.07
Hungary	18	0.07	0.02	0.05	0.10
Russian Federation	18	0.07	0.02	0.04	0.11
Argentina	18	0.09	0.04	0.04	0.16
Morocco	13	0.10	0.02	0.07	0.15
Croatia	10	0.10	0.03	0.07	0.17
Bulgaria	10	0.10	0.04	0.05	0.18
Poland	18	0.12	0.03	0.06	0.17
South Africa	8	0.21	0.02	0.18	0.25
China					

Table A19: Adult Employment: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Italy	18	0.44	0.01	0.42	0.46
Spain	18	0.45	0.04	0.39	0.52
Greece	18	0.49	0.01	0.47	0.51
France	18	0.51	0.01	0.50	0.52
Germany	18	0.52	0.01	0.51	0.53
Ireland	18	0.54	0.06	0.45	0.61
Israel	18	0.54	0.01	0.52	0.57
United Kingdom	18	0.55	0.02	0.52	0.57
Finland	18	0.55	0.02	0.52	0.59
Netherlands	18	0.55	0.03	0.51	0.58
Australia	18	0.56	0.02	0.54	0.59
Sweden	18	0.59	0.02	0.56	0.63
Portugal	18	0.59	0.01	0.57	0.60
Canada	18	0.59	0.02	0.56	0.61
Japan	18	0.61	0.03	0.56	0.65
United States	18	0.61	0.01	0.60	0.63
Norway	18	0.62	0.02	0.59	0.64
Switzerland	18	0.62	0.01	0.61	0.64

Table A20: Adult Employment: Low Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Bulgaria	14	0.47	0.02	0.42	0.50
Hungary	18	0.48	0.02	0.45	0.51
Croatia	18	0.50	0.02	0.47	0.54
Morocco	18	0.50	0.01	0.49	0.51
South Africa	18	0.50	0.02	0.47	0.54
Turkey	18	0.50	0.03	0.46	0.55
Egypt	18	0.51	0.01	0.51	0.52
Pakistan	18	0.53	0.01	0.52	0.55
Poland	18	0.53	0.03	0.49	0.58
Argentina	18	0.56	0.03	0.50	0.62
Chile	18	0.57	0.01	0.56	0.59
Ukraine	18	0.57	0.03	0.52	0.61
Russian Federation	18	0.60	0.03	0.55	0.65
Romania	18	0.60	0.05	0.53	0.66
Mexico	18	0.61	0.01	0.59	0.64
India	18	0.63	0.01	0.62	0.64
Brazil	18	0.63	0.03	0.57	0.67
Korea	18	0.65	0.02	0.63	0.68
Malaysia	18	0.66	0.00	0.65	0.67
Philippines	18	0.69	0.01	0.68	0.70
Indonesia	18	0.70	0.01	0.67	0.71
China	18	0.77	0.01	0.75	0.77
Thailand	18	0.79	0.01	0.77	0.80

Table A21: Gross Tertiary Enrollment: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Switzerland	17	0.38	0.08	0.26	0.49
Germany	7	0.41	0.05	0.34	0.47
Portugal	16	0.43	0.13	0.19	0.57
Japan	17	0.45	0.10	0.29	0.58
Ireland	19	0.46	0.11	0.28	0.61
Italy	17	0.48	0.12	0.29	0.67
Israel	15	0.49	0.10	0.33	0.60
France	18	0.51	0.06	0.37	0.55
Netherlands	18	0.51	0.07	0.36	0.61
United Kingdom	19	0.51	0.12	0.27	0.63
Spain	18	0.55	0.12	0.36	0.71
Greece	18	0.55	0.22	0.25	0.95
Sweden	18	0.59	0.19	0.31	0.83
Norway	19	0.64	0.13	0.39	0.79
Australia	19	0.66	0.13	0.35	0.78
Finland	19	0.76	0.16	0.45	0.94
United States	18	0.77	0.05	0.68	0.83
Canada	12	0.78	0.16	0.59	0.98

Table A22: Gross Tertiary Enrollment: Lower Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Pakistan	8	0.04	0.01	0.02	0.05
India	13	0.09	0.03	0.06	0.13
China	18	0.10	0.07	0.03	0.23
Morocco	18	0.11	0.01	0.09	0.12
South Africa	5	0.13	0.01	0.12	0.15
Indonesia	15	0.14	0.04	0.09	0.21
Brazil	14	0.19	0.08	0.11	0.34
Mexico	18	0.19	0.05	0.14	0.27
Malaysia	16	0.21	0.10	0.07	0.32
Turkey	18	0.24	0.08	0.12	0.38
Egypt	9	0.26	0.08	0.12	0.35
Philippines	13	0.28	0.02	0.24	0.30
Romania	18	0.29	0.17	0.09	0.66
Croatia	16	0.32	0.08	0.23	0.47
Thailand	17	0.33	0.11	0.16	0.46
Chile	16	0.36	0.09	0.21	0.52
Hungary	19	0.37	0.20	0.14	0.67
Bulgaria	18	0.40	0.07	0.26	0.51
Poland	18	0.44	0.17	0.20	0.67
Ukraine	17	0.55	0.13	0.41	0.79
Argentina	12	0.56	0.11	0.37	0.68
Russian Federation	12	0.60	0.13	0.43	0.77
Korea	19	0.69	0.22	0.37	0.98

Table A23: Industry to Services Ratio: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Canada	20	0.31	0.02	0.28	0.36
Netherlands	21	0.31	0.04	0.25	0.38
Norway	21	0.31	0.03	0.27	0.38
Australia	20	0.31	0.03	0.28	0.39
United States	20	0.32	0.04	0.26	0.39
Sweden	20	0.35	0.05	0.28	0.44
Israel	20	0.36	0.06	0.28	0.43
United Kingdom	21	0.38	0.08	0.28	0.51
France	21	0.39	0.05	0.32	0.47
Switzerland	20	0.40	0.07	0.33	0.55
Finland	21	0.41	0.04	0.36	0.50
Greece	21	0.42	0.08	0.33	0.59
Ireland	21	0.45	0.03	0.38	0.50
Spain	21	0.51	0.06	0.41	0.62
Japan	20	0.52	0.07	0.42	0.59
Italy	21	0.52	0.04	0.45	0.60
Germany	18	0.54	0.09	0.43	0.74
Portugal	21	0.61	0.08	0.49	0.78

Table A24: Industry to Services Ratio: Lower Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Argentina	17	0.36	0.07	0.26	0.49
Philippines	20	0.36	0.04	0.31	0.42
Brazil	17	0.38	0.03	0.34	0.45
South Africa	8	0.40	0.01	0.38	0.42
Chile	20	0.42	0.05	0.33	0.49
Mexico	17	0.45	0.05	0.40	0.60
Indonesia	20	0.46	0.05	0.27	0.53
Egypt	18	0.48	0.05	0.39	0.57
Croatia	12	0.55	0.02	0.51	0.58
Korea	20	0.56	0.14	0.39	0.78
Pakistan	20	0.57	0.06	0.48	0.69
Thailand	20	0.57	0.05	0.50	0.65
Morocco	16	0.58	0.04	0.49	0.64
Malaysia	19	0.61	0.06	0.48	0.69
Russian Federation	18	0.61	0.16	0.47	0.88
Turkey	21	0.61	0.06	0.53	0.69
Hungary	21	0.61	0.12	0.51	0.90
Poland	19	0.71	0.19	0.54	1.07
Bulgaria	20	0.77	0.21	0.57	1.21
Ukraine	20	1.03	0.68	0.40	2.14
Romania	21	1.06	0.29	0.79	1.67
China	15	1.65	0.28	1.10	2.02
India					

Table A25: Trade as a Ratio of GDP: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Japan	22.00	0.22	0.05	0.16	0.35
United States	22.00	0.24	0.03	0.20	0.31
Australia	21.00	0.37	0.04	0.32	0.44
Italy	22.00	0.47	0.07	0.36	0.58
France	22.00	0.49	0.05	0.41	0.56
Spain	22.00	0.49	0.10	0.35	0.61
Greece	22.00	0.51	0.06	0.43	0.63
United Kingdom	22.00	0.54	0.04	0.47	0.61
Germany	22.00	0.62	0.14	0.45	0.89
Portugal	22.00	0.65	0.05	0.55	0.75
Finland	22.00	0.68	0.13	0.44	0.90
Canada	22.00	0.68	0.11	0.51	0.85
Norway	22.00	0.72	0.03	0.67	0.77
Israel	22.00	0.76	0.08	0.63	0.87
Sweden	22.00	0.77	0.13	0.54	1.00
Switzerland	22.00	0.80	0.12	0.67	1.02
Netherlands	22.00	1.21	0.12	1.04	1.45
Ireland	22.00	1.45	0.23	1.09	1.85

Table A26: Trade as a Ratio of GDP: Lower Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Brazil	22	0.21	0.05	0.14	0.29
Argentina	22	0.28	0.12	0.14	0.45
India	22	0.28	0.11	0.14	0.52
Pakistan	22	0.34	0.03	0.27	0.39
Turkey	22	0.43	0.08	0.30	0.55
China	22	0.46	0.14	0.29	0.71
South Africa	22	0.51	0.09	0.39	0.74
Mexico	22	0.52	0.11	0.34	0.64
Egypt	22	0.52	0.09	0.38	0.72
Russian Federation	21	0.56	0.16	0.26	1.11
Indonesia	22	0.57	0.11	0.45	0.96
Poland	20	0.61	0.15	0.44	0.84
Morocco	22	0.62	0.09	0.51	0.88
Chile	22	0.65	0.09	0.55	0.85
Romania	20	0.65	0.12	0.39	0.81
Korea	22	0.69	0.14	0.53	1.07
Philippines	22	0.85	0.19	0.55	1.11
Ukraine	21	0.88	0.22	0.46	1.20
Croatia	19	0.93	0.20	0.74	1.64
Bulgaria	22	1.06	0.18	0.70	1.40
Thailand	22	1.07	0.28	0.67	1.50
Hungary	21	1.10	0.37	0.60	1.62
Malaysia	22	1.84	0.28	1.23	2.20

Table A27: Terms of Trade: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Greece	22	0.65	0.03	0.59	0.71
Portugal	22	0.77	0.03	0.72	0.83
United States	22	0.80	0.10	0.64	0.96
Israel	22	0.87	0.13	0.66	1.08
Spain	22	0.91	0.07	0.80	1.03
United Kingdom	22	0.94	0.04	0.87	1.02
Australia	21	0.94	0.05	0.87	1.02
France	22	1.01	0.06	0.92	1.13
Italy	22	1.06	0.08	0.97	1.23
Canada	22	1.06	0.06	0.94	1.15
Germany	22	1.06	0.07	0.98	1.18
Netherlands	22	1.10	0.02	1.05	1.14
Finland	22	1.15	0.12	0.93	1.31
Sweden	22	1.15	0.06	1.02	1.22
Switzerland	22	1.15	0.06	1.04	1.27
Japan	22	1.15	0.09	1.01	1.32
Ireland	22	1.16	0.04	1.09	1.24
Norway	22	1.35	0.21	0.98	1.65

Table A28: Terms of Trade: Lower Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Egypt	22	0.78	0.13	0.49	0.95
Romania	20	0.80	0.06	0.64	0.92
Pakistan	22	0.83	0.14	0.63	1.07
Morocco	22	0.85	0.06	0.72	0.99
Croatia	19	0.88	0.08	0.73	1.10
India	22	0.89	0.06	0.81	1.00
Turkey	22	0.90	0.12	0.71	1.18
Bulgaria	22	0.90	0.11	0.73	1.11
Philippines	22	0.92	0.08	0.79	1.05
Mexico	22	0.94	0.09	0.75	1.10
Poland	20	0.96	0.12	0.80	1.33
Hungary	21	0.98	0.08	0.76	1.10
Ukraine	21	1.00	0.08	0.87	1.14
Thailand	22	1.03	0.15	0.82	1.37
Korea	22	1.05	0.11	0.89	1.39
South Africa	22	1.10	0.12	0.91	1.29
Brazil	22	1.11	0.28	0.76	1.91
Chile	22	1.13	0.15	0.89	1.49
China	22	1.13	0.12	0.88	1.30
Malaysia	22	1.14	0.12	0.96	1.29
Indonesia	22	1.14	0.11	0.95	1.35
Argentina	22	1.24	0.45	0.71	2.24
Russian Federation	21	1.35	0.23	1.01	1.83

Table A29: Gross Fixed Capital Formation as a Ratio of GDP: High Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
United Kingdom	22	0.17	0.02	0.15	0.22
United States	22	0.18	0.01	0.15	0.20
Sweden	22	0.18	0.02	0.16	0.24
France	22	0.20	0.01	0.17	0.22
Greece	22	0.20	0.02	0.17	0.23
Canada	22	0.20	0.02	0.18	0.23
Italy	22	0.20	0.01	0.18	0.22
Israel	22	0.20	0.03	0.17	0.25
Ireland	22	0.20	0.04	0.15	0.27
Germany	22	0.20	0.02	0.17	0.24
Finland	22	0.21	0.03	0.16	0.29
Norway	22	0.21	0.03	0.17	0.28
Netherlands	22	0.21	0.01	0.19	0.23
Switzerland	22	0.23	0.03	0.20	0.29
Australia	21	0.24	0.02	0.21	0.27
Portugal	22	0.25	0.02	0.19	0.28
Spain	22	0.25	0.03	0.21	0.31
Japan	22	0.26	0.03	0.21	0.32

Table A30: Gross Fixed Capital Formation as a Ratio of GDP: Lower Income Countries

Country Name	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Pakistan	22	0.17	0.02	0.14	0.21
South Africa	22	0.17	0.02	0.15	0.23
Brazil	22	0.18	0.03	0.15	0.27
Argentina	22	0.19	0.03	0.12	0.24
Philippines	22	0.19	0.03	0.14	0.24
Mexico	22	0.20	0.02	0.16	0.22
Croatia	20	0.20	0.05	0.10	0.28
Bulgaria	22	0.20	0.06	0.11	0.34
Poland	22	0.20	0.03	0.16	0.24
Russian Federation	21	0.21	0.04	0.14	0.32
Egypt	22	0.21	0.05	0.16	0.34
Hungary	21	0.22	0.01	0.19	0.24
Romania	20	0.22	0.04	0.14	0.31
Turkey	22	0.22	0.03	0.16	0.26
Ukraine	21	0.22	0.03	0.18	0.27
Chile	22	0.23	0.02	0.19	0.27
Morocco	22	0.25	0.04	0.19	0.33
Indonesia	22	0.25	0.04	0.19	0.31
India	22	0.25	0.04	0.21	0.33
Malaysia	22	0.29	0.09	0.20	0.44
Thailand	22	0.31	0.08	0.21	0.42
Korea	22	0.32	0.04	0.29	0.39
China	22	0.35	0.05	0.26	0.46

APPENDIX B

BACKGROUND LABOR MARKET DATA COLLECTION IN TURKEY

Since the first five-year development plan, information on the economically active population and its components, although on a limited basis, have been periodically collected in Turkey through population census and Household Labor Force surveys (HLFS),⁸⁷ which had been conducted from time to time since 1966. However, data gathered within this period were not comparable within a time series due to the fact that it became unavoidable to carry out regular labor force surveys, which were comparable across time. Hence, in the context of the project on Labour Market Information System coordinated by United Nations Development Programmed (UNDP), it was decided to launch regular labor force surveys with sufficient sample size covering both urban and rural areas and using an improved questionnaire with the technical assistance of International Labor Organization (ILO). In the context of this project, the survey was redesigned using the latest international standards (ILO, Thirteenth International Conference of Labor Statisticians, 1982) concerning statistics on the economically active population, employment, unemployment and underemployment. Historical and international comparability of the data were given priority in the new survey design. The results of the survey in the new series started with the October 1988 application have been given by the non-institutional civilian population (which comprises all the population excluding aliens, the residents of schools, dormitories, kindergartens, rest home for elderly persons, special hospitals, military barracks and recreation quarters for officers) while the prior surveys had been weighted according to the total population. Moreover, because of the differences in the sampling methodology, definitions and concepts used, the results of the new series were not comparable with the prior surveys. Without changing the main structure some changes were made on questionnaire and sampling design of the survey applied bi-annually between October 1988 and October 1999 period in some periods.

Before 1988

In 1966 the Turkish Statistical Institute (TURKSTAT) launched the first labor force survey in eight industrialized cities on a pilot study basis. In November 1967, April and November 1968, TURKSAT extended the coverage of the survey to 106 localities with population of more than 2 000 and one sub district with population of less than 2 000. During 1973–1974, TURKSTAT carried out a series of surveys which including the labor force survey and rural areas working survey in the rural areas where 60 percent of the population lived. In June and October 1973 and April 1974, the HLFS was carried out in 401 rural settlements with population less than 2 000. A rural areas working survey that continued for a year was carried out in July 1973. This survey was carried out in 402 villages with a population of less than 2 000. Information on the number of days worked and working hours of the persons who worked in the rural areas was collected in this

⁸⁷ Information on the HLFS has been taken from the *Household Labor Force Statistics 2008* published by TURKSTAT and has been presented as it is in the book. (Pages: XVII to XXI)

survey. Between 1975 and 1981, the HLFS were not conducted. During 1982–1984 another series of labor force surveys were conducted with the reference period taken as the last week of October in each year. These surveys were conducted in the urban areas, based on a revised questionnaire and with an enlarged sample; urban areas were defined as all settlements with a population of more than 10 000. In 1985 the first labor force survey covering both rural and urban areas was conducted with a modified questionnaire and with a redesigned sample. The urban areas were defined as all settlements with a population of more than 20 000 and rural areas as settlements with a population of 20 000 or less. Household Labor Force surveys were not conducted in 1986 and 1987.

1988–1999

The main goals of the labor force surveys in the new series started in the year 1988 was to set questionnaire and tabulation plan which make it possible for users to analyze labor market from different aspects and put an end to the concept confusion on labor market. Also it is aimed to constitute definitions appropriate for international comparison. The Household Labor Force surveys in which the latest international standards (ILO, Thirteenth International Conference of Labor Statisticians, 1982) were used, have been applied since October 1988, within 15 days following the last week of October and April starting on Monday and ending on Sunday in each year. The results were published for Turkey, urban and rural areas. The last application of this survey was October 1999 HLFS.

2000–2003

The main objective of Labor Market Information component in the context of Employment and Training Project was to improve data on labor market and the application frequency of HLFS. For this aim, the existent HLFS was examined by national and international experts in the context of project activity. In the report prepared by these experts, there were various critics and proposals on definitions, coverage, and application frequency, sample size, sampling and weighting method, questionnaire, field application and publications of the survey. In this direction, in year 2000, some changes were made on the application frequency, sample size, estimation dimension, reference period and questionnaire of the survey. These changes were improved taking into account the need of comparisons with the existent series. It is aimed to increase the sensibility of estimation by increasing the sample size and frequency of the survey with the new design. This design was firstly used in October 1999 HLFS. The selected households are followed during four periods with the new sampling design. Consequently, it is possible to observe activities of household members in time and to measure effects of economic developments on household members. Some new questions were also added to the HLFS questionnaire in year 2000. Important changes were made on estimation dimension of HLFS in accordance with country needs in the year 2000. The field application of the survey has realized monthly and estimations have given quarterly for Turkey, urban and rural areas since 2000. Yearly results were given for Turkey, urban and rural areas, seven geographical regions and nine province centers for 2000–2003 terms. On the yearly estimates, quarterly data sets were gathered to constitute yearly data and results of the

survey were re-weighted by using the mid-year population projections. The results of the survey which had been given for the population 12 years old and over up to 2000, have been given for the 15 years old and over since year 2000. In addition, since year 2000, “employed” and “unemployed who worked in a job before,” have been classified according to the International Standard Industrial Classification 1990 Revise 3 (ISIC Rev. 3) and this classification was used until 2004. Since 2001 “employed,” “unemployed who are seeking a job” and “person who worked in a job before,” have been classified according to the International Standard Classification of Occupations (ISCO, 88) and the results of the survey have been given according to this classification.

Revisions Made in 2004

Household labor force survey, where international standards have been followed in terms of definitions and concepts from the beginning of its first application, was reviewed in terms of harmonization with European Union in 2002 and preparatory studies for removal of deficiencies has been started onwards. At the end of these studies, a new questionnaire was developed where all variables requested by Eurostat were covered. The quarterly sample size of the survey was increased to approximately 37,000 in order to produce regional estimations on SRE-level 1 and 2 on yearly basis starting from January 2004. The quarterly results of the survey are provided for Turkey, urban and rural level as in previous applications and annual results are supplied for urban and rural classification on SRE-level 1 and for whole Turkey on SRE-level 2 since 2004. The sampling design which has been applied since 2000 based on visiting selected households four times are continued to be used. On the other hand, the new address frame which is constructed according to the results of 2000 General Population Census was begun to be used instead of the previous one which has based on 1995 General Population Census. The first week of each month starting with Monday and ending with Sunday has been used as the reference period and the field application is completed within 15 days. From the beginning of the year 2004, the economic activities of employed persons and unemployed persons who had worked before, have been classified according to the NACE Rev.1.

Revisions made in 2005

Starting with January 2005, Household Labor Force Survey results are announced in every month based on the moving averages of three months. The results are called with the name of the middle month in order to simplify expression. In this new series, which has been published since 2000, the Press Releases of February, May, August and November refer to the results of I. II. III. and IV quarters respectively.

APPENDIX C

PURPOSE, COVERAGE AND METHOD OF THE HLFS

The main objective of the HLFS⁸⁸ is to obtain information on the structure of the labor force in the country. This includes information on economic activity, occupation, status in employment and hours worked for employed persons; and information on the duration of unemployment and occupation sought by the unemployed.

Coverage

Geographical area covered: All settlements in Turkey have been covered in sample selection. Urban areas: Settlements with a population of 20 001 and over are defined as URBAN. Rural areas: Settlements with a population of 20 000 or less are defined as RURAL. Statistical unit: Household is the statistical unit used in labor force surveys.

Household: One person or group of persons with or without a family relationship who live in the same house or in the same part of the house, who share their meals, earnings and expenditures and who take part in the management of the household and who render services to the household.

All private households who are living in the territory of Republic of Turkey are covered. Residents of schools, dormitories, kindergartens, rest homes for elderly persons, special hospitals, military barracks and recreation quarters for officers are not covered.

Method

Questionnaire

The questionnaire was redesigned considering many factors together. The definitions of international standards were taken into consideration and adapted to the Turkish circumstances through the UNDP/ILO Project. In addition, new concepts such as the informal sector were aimed to be measured. Modifications on questionnaire were made in order to reflect possible changes in the labor force status in Turkey, and to produce internationally comparable data. For this reason the labor force variable list used by EUROSTAT was examined and a questionnaire was designed which would provide comparable data with EUROSTAT. In 2004, questionnaire was revised in order to provide all variables requested by Eurostat for gathering detailed information about labor market. For this purpose, the number of questions was increased from 47 to 98 in 2004 and two different questionnaires were designed, namely Form 1 and Form 2. Demographic characteristics of households such as sex, age, educational and marital status of the individuals are included in the first section of Form 1, and Form 2 is used to collect information on the labor force status of household members 15 years of age and over. The reason for not conducting the survey and the questions related to the sample households are included in the Form C which is filled in case of non-response. The questions in Form 2 is composed of six sections: a) Demographic characteristics of household members (Questions 1–24) b) Questions on employment (Questions 25–76) c)

⁸⁸ Ibid.

Questions on income (Questions 77–85) d) Questions on unemployment and inactivity (Questions 86–101) e) Questions on past work experience (Questions 102–107) f) Questions on situation one year before the survey (Questions 108–110)

Sampling Method

Sampling design of the Household Labor Force survey is the main part of five-year master plan including three-month period (quarters) and monthly field application. Sample design is contracted on yearly basis. Yearly estimates of whole Turkey, rural-urban, SRE level 1 (urban-rural) and SRE level 2 are required. A rotation pattern for the sample design on yearly basis is adapted to achieve the following objectives; quarterly level estimation of whole Turkey and rural-urban, measurement of the change between successive rounds (quarters), accumulation of the quarterly results to get annual estimates, measurement of the change between successive years. The more detailed information on HLFS sampling design was covered by the other publication called “Household Labour Force Survey Concepts and Methods.”

Reference and Application Period

The first week of each month starting with Monday and ending with Sunday was used as the reference period. The field application starts after the reference week and is completed within 15 days.

The Method of Collecting Data

All the information was collected by interviewers on a face-to-face basis with the help of portable computers.

Field Application and Non-Response Rate

Non-response rate is calculated in some steps. First of all, non-eligible households resulted from sampling frame errors (sample address is an establishment, construction or land, address could not be found etc.) are extracted from total sample. Then the total number of non-response (household members are not found in their house or rejected the interview, communication is not possible and nobody lives the house) is divided by the total number of eligible households.

A total of 150 191 sample households, 106 129 of which were from urban areas and 44 062 of which were from rural areas were used in 2008 HLFS. 129 266 households were interviewed, non-response forms were filled due to various reasons for 20 925 households. In 2008, the non-response rate was 12.5 percent in rural areas, 13.2 percent in urban areas, and 13 percent for overall Turkey.

Weighting

Results of the household labor force survey have been weighted and published by the most recent population projections. Until year 2009, population projections were calculated based on the general population censuses. In 2007 Address Based Population

Registration System (ABPRS) was established and differences in the distribution of population by age, sex and regions in ABPRS compared to the censuses were emerged. In this direction, the new population projections were produced using the most recent population data obtained from this new system and labor force survey results were started to be published in this concept starting from 2009. Back revisions of the series were also started and 2008 results given in this publication were calculated by the new population projections.

APPENDIX D

HLFS⁸⁹ DEFINITIONS, CONCEPTS AND CLASSIFICATIONS

Definitions and Concept

Non-institutional civilian population: Comprises all the population except for the residents of schools, dormitories, kindergartens, rest homes for elderly persons, special hospitals, military barracks and recreation quarters for officers.

Total population: All nationals present in the country and aliens settled permanently in the country.

Included are the following categories:

- Civilian aliens resident in the country
- Displaced persons in the country
- Foreign armed forces stationed in the country
- Foreign diplomatic personnel located in country
- Civilian aliens temporarily in the country

Excluded are the following categories:

- National armed forces stationed abroad
- Merchant seamen
- Diplomatic personnel located abroad
- Other civilian nationals abroad

Non-institutional working age population: Indicates the population 15 years of age and over within the non-institutional civilian population.

Reference person: Is the adult member of household who has the most accurate information about the socio-economic and personal characteristics of household members and responsible for the administration of household.

Youth population: Population within 15–24 age group.

Labour force: Comprises all employed persons and all unemployed.

Labour force participation rate: Indicates the ratio of the labor force to non-institutional working age population.

Persons employed: Comprises all the non-institutional working age population who are included

in the “persons at work” and “not at work” described below.

Persons at work: Persons economically active during the reference period for at least one hour as a regular employee, casual employee, employer, self employed or unpaid family worker.

Persons not at work: All self-employed and employers who have a job but not at work in the reference week for various reasons are considered as employed. Regular employees with a job who did not work during the reference period for various reasons are considered as employed only if they have an assurance of return to work within a period of 3 months or if they receive at least 50 percent of their wage or salary from their employer during their absence. Unpaid family workers and casual workers who did not work in the reference week even 1 hour are not considered as employed. The members of

⁸⁹ Ibid.

producer cooperatives and apprentices or interns who are working to gain any kind of benefit (income in cash or in kind, social security, travelling cost, pocket money etc.) are considered to be employed.

Employment rate: Employment rate is the ratio of employed persons to the non-institutional working age population.

Persons underemployed: Underemployment in the survey is measured in two distinct groups. Visible underemployment: Persons who work less than 40 hours because of economic reasons during the reference period and are able to work more.

Economic reasons:

- Slack work for technical or economic reasons,
- There was no work,
- Could not find full-time job,
- The job has just started and/or has come to an end during the last week.

Other: Persons who are not in the above group who want to change his/her present job or are seeking a further job because of an insufficient income or because of not working in his/her usual occupation.

Persons unemployed: The unemployed comprises all persons 15 years of age and over who were not employed (neither worked for profit, payment in kind or family gain at any job even for one hour, who have no job attachment) during the reference period who have used at least one channel for seeking a job during the last three months and were available to start work within two weeks. Persons who have already found a job and will start to work within 3 months, or established his/her own job but were waiting to complete necessary documents to start work were also considered to be unemployed if they were available to start work within two weeks.

Unemployment rate: Is the ratio of unemployed persons to the labor force.

Youth unemployment : Unemployment people within 15–24 age group.

Unemployment rate of youth: Is the ratio of unemployed people within 15–24 age group to the labor force of same age group.

Informal sector: Informal sector is defined as all non-agricultural economic units which are unincorporated (establishments whose legal position is individual ownership or simple partnership), paying lump sum tax, or no tax at all and working with 1–9 engaged persons.

Persons not in labor force: Includes persons who are neither unemployed nor employed and 15 years of age and over. The persons not in labor force consist of the following sub-groups;

1. Not seeking a job but available to start a job: These are the persons who are not seeking a job for different reasons but are available for work within two weeks.

1.1. Discouraged workers: These are the persons who are available to start a job but are not seeking a job because of not knowing where to search, or who believe no job is available for him/her in the region.

1.2. Other: These are the persons who are not seeking a job for reasons such as being seasonal workers, busy with household chores, students, property income earners, retired, or disabled, but available to start a job.

2. *Seasonal workers*: Persons not seeking a job or who are not available for work because of being seasonal workers.
3. *Household chores*: Persons not seeking a job or who are not available for work because of doing household chores.
4. *In education or training*: Persons not seeking a job or who are not available for work because of attending regular school or training.
5. *Retired persons*: Persons not seeking a job or who are not available for work because of being retired.
6. *Disabled, old or ill*: Persons not seeking a job or who are not available for work because of being disabled, ill or elderly.
7. *Other*: Persons not seeking a job or who are not available for work because of family or personal reasons or other reasons.

Classifications

Both the employed and the persons who were employed before are classified by their economic activity, occupation, employment status and educational status.

Economic activity: All economic activities are coded at the four digit level according to the International Standard of Economic Activities in The European Union (Nace Rev.1.1) But, results are given by 14 main group given in the table below.

Occupation: All occupations are coded at the four-digit level according to the International Standard Classification of Occupations (ISCO,88). But, results are given by 9 main group given in the table below.

Employment status: All persons who are currently employed and persons employed in the past are classified according to International Classification on Status in Employment (ICSE,1993).

1. Regular employee
2. Casual employee
3. Employer
4. Self employed
5. Unpaid family worker

Educational status: The education programs for all persons six years old and over are coded according to the International Standard Classification of Education (ISCED, 1997).

1. Illiterate
2. Literate without any diploma
3. Primary school
4. Primary education
5. Junior or vocational high school
6. High school
7. Vocational school at high school level
8. Higher education

APPENDIX E

HOUSEHOLD LABOR FORCE SURVEY QUESTIONS

Question no	Explanations	length of record	Options
Form no	No of household	6	1...129266
PERSONEL CHARACTERISTICS OF HOUSEHOLD MEMBERS			
S1	Serial number of hh member	2	1...25
S3	Sex	1	1-Male 2-Female
S6	Completed age	2	1- Between 00–04 ages 2- Between 05–11 ages 3- Between 12–14 ages 4- Between 15–19 ages 5- Between 20–24 ages 6- Between 25–29 ages 7- Between 30–34 ages 8- Between 35–39 ages 9- Between 40–44 ages 10- Between 45–49 ages 11- Between 50–54 ages 12- Between 55–59 ages 13- Between 60–64 ages 14- 65 ages and over
S11	Relationship to reference person in the household	1	1-Reference person 2-Spouse(or cohabiting partner) 3-Child of reference person 4-Bride or bridegroom 5-Grandchild 6-Mother/father in law 7-Other relatives 8-Non-relatives
S12A	Serial number of spouse (if there is in the hh)	2	Serial number (Q1) - 99 means not exist or not living in the hh
S12B	Serial number of mother (if there is in the hh)	2	Serial number (Q1) - 99 means not exist or not living in the hh
S12C	Serial number of father	2	Serial number (Q1) - 99 means not

	(if there is in the hh)		exist or not living in the hh
S13	Literacy situation	1	1-Yes
			2-No
S14	Highest level of education successfully completed	1	0- Smaller than six years old or literate
			1- Illiterate but not completed any educational institution
			2- Primary school
			3- Secondary school, vocational school at secondary school level or primary education
			4- High school
			5- Vocational or technical high school
			6- Higher education (university, faculty or upper)
S17	Attendance to regular education (schooling)	1	1-Yes
			2-No
S18a	If yes, level of this education	1	1- Primary education
			2- High school
			3- Vocational or technical high school
			4- Open education system (without attending schooling)
			5- Faculty/university
			6- Master/doctorate
S19	Marital status	1	1-Single that is never married
			2-Married
			3-Divorced
			4-Widowed
S21	Did you attend any courses, seminars, conferences or receive private lessons or instructions outside the regular education system within the last four weeks?	1	1-Yes
			2-No
S23	Purpose of this education	1	1-Mostly job related
			2-Mostly personal/social
			3-Other

EMPLOYMENT			
S26	Did you work to earn income in cash or in kind in the reference week?	1	1-Yes
			2-No
S27	Did you work as paid or unpaid worker (even if you were a housewife, student or retired person) even for one hour in the reference week?	1	1-Yes
			2-No
S28	Did you have a job or business from which you were temporarily absent in the reference week?	1	1-Yes
			2-No
S29	Why were you absent from work in the reference week?	2	1-Own illness, injury or temporary disability
			2-Maternity leave
			3-Holidays, annual leave
			4-Bad weather
			5-Labour dispute (strike, lockout)
			6-Nature of work
			7-Education or training
			8-Slack work for technical and economic reasons
			9-There was no work
			10-Other
S33kod	Economic activity of the local unit in which persons worked (NACE 1.1)	1	1- Agriculture, forestry, hunting and fishing
			2- Mining and quarrying
			3- Manufacturing
			4- Electricity, gas and water
			5- Construction
			6- Wholesale and retail trade, restaurants and hotels
			7- Transportation, communication and storage
			8- Finance, insurance, real estate and

			business services
			9- Community, social and personal services
S35	Status of workplace	1	1-Field, garden
			2-Regular workplace
			3-Market place
			4-Mobile or irregular workplace
			5-At home
S37a	Number of persons employed in this workplace/ firm/org.	1	1-Less than 10
			2-10-24
			3-25-49
			4-50-249
			5-250-499
			6-500 and more
S38kod	What are your main tasks and duties in this workplace?	1	1- Legislators, senior, officials and managers
			2- Professionals
			3- Technicians and associate professionals
			4- Clerks
			5- Service workers and shop and market sales workers
			6- Skilled agricultural, and fishery workers,
			7- Craft and related trades workers,
			8- Plant and machine operators and assemblers
			9- Elementary occupations
S39	Status in employment	1	1-Regular employee
			2-Casual employee
			3-Employer
			4-Self employed
			5-Unpaid family worker
S43	Are you registered with any social security institution related to your main job?	1	1-Yes
			2-No
S44a	Which year did you start to work in this	4	1930..2008 (year)

	job/workplace?		
S45	How did you find this job?	1	1-By myself
			2-Through the Turkish Employment Organization
			3-Through the Private Employment Office
			4-Through relative, friends etc.
			5-Other
S46	What is your employment type in this workplace?	1	1-Fulltime
			2-Part time
S49	Permanency of the job	1	1-Permanent
			2-Temporary
			3-Seasonal
S58	In addition to the main job, do you have any other activity in which you engaged to earn income in cash or in kind?	1	1-Yes
			2-No
S59kod	The main activity of this additional job	1	1- Agriculture
			2- Industry
			3- Trade
			4- Services
S61a	Number of hours per week usually worked in main job	2	(hours)
S63a_top	Number of hours actually worked in the main job during the reference week	2	(hours)
S63b_top	Number of hours actually worked in the additional job during the reference week	2	(hours)

S65	Main reason for hours actually worked during the reference week being different from the person's usual hours (ask if the total of q63a is higher than q61a)	1	1-Variable hours (flexible working hours)
			2-Overtime
			3-Other
S66	Why did you work less than your usual hours or less than 40 hours during the reference week?	2	1-Nature of work
			2-Annual leave etc.
			3-Public holidays
			4-There was no work
			5-Personal or family reasons
			6-Bad weather
			7-Own illness, injury or temporary disability
			8-Slack work for technical and economic reasons
			9-Labour dispute(strike, lockout)
			10-Education and training
			11-Variable hours (flexible working hours)
			12-Maternity leave
			13-Could not find a full time job
			14-Start of/change in job during the reference week
			15-Work finished in the reference week
			16-Other
S67	Do you wish to work usually more than the current number of hours?	1	1-Yes, only with the present jobs
			2-Yes, through a job working more hours than the present jobs
			3-Yes, through an additional job but with more working hours than the present job
			4-Yes, in any of the above ways
			5-No

S70	Are you looking for another job to replace your present job or as an additional job?	1	1-Yes
			2-No
S71	Reason for looking for another job	2	1-To earn more money
			2-Wish to have better working conditions
			3-Not working in his/her usual occupation
			4-Workplace is so far
			5-Risk or certainty of loss or termination of present job
			6-His/her job is temporary or seasonal
			7-Wish to work an additional job to add more hours to those worked in present job
			8-Wish to work a job with more hours worked than in present job
			9-Wish to work a job with less hours worked than in present job
			10-Other
S72	What type of employment are you seeking?	1	1-Want to have a self employment job
			2-Full time job is sought
			3-Full time job is sought, but if not available part time job will be accepted
			4-Part time job is sought
			5-Part time job is sought, but if not available full time job will be accepted
			6-Full time or part time job would be accepted
INCOME INFORMATION			
S78	How much did you earn from your main job activity during the last month?(including extra income like bonus pay, premiums etc. on addition to salary,	7	There is an income information for regular and casual employee (Question 39=1 or 39=2) (YTL)

	<i>monthly or quarterly paid)</i>		
INFORMATION ON UNEMPLOYMENT AND INACTIVITY			
S86	Have you sought a job (within last 3 months)?	1	1-Yes
			2-No
S89	What was your situation when you started to look for a job?	2	1- Was working temporarily, work came to an end
			2- Dismissed
			3- Left his/her job by own initiative
			4- Closes his/her job or bankrupted
			5- Was working as unpaid family worker
			6- Retired
			7- Was in regular education
			8- Was in course or any education program
			9- Just graduated
			10- Just completed his military services
			11- Household chores
			12- Other
S90a	Did you apply to employer directly?	1	1-Yes
			2-No
S90b	Did you ask friends, relatives etc.?	1	1-Yes
			2-No
S90c	Did you contact with Turkish Employment Office?	1	1-Yes
			2-No
S90d	Did you contact with private employment agencies?	1	1-Yes
			2-No
S90e	Did you study advertisements in newspaper or journals?	1	1-Yes
			2-No

S90f	Did you insert, answer or study advertisements in newspaper or journals?	1	1-Yes
			2-No
S90g	Did you seek a job through internet?	1	1-Yes
			2-No
S90h	Did you take a test, interview or examination?	1	1-Yes
			2-No
S90i	Did you look for land, premises or equipment to establish your own business?	1	1-Yes
			2-No
S90j	Did you look for permits, licenses or financial resources to establish your own business?	1	1-Yes
			2-No
S90k	Did you wait a call from Turkish Employment Office?	1	1-Yes
			2-No
S90l	Did you wait the results of an application for a job?	1	1-Yes
			2-No
S90m	Did you weight the results of a competition for recruitment to the public sector?	1	1-Yes
			2-No
S90n	Did you use any other methods to find a job?	1	1-Yes
			2-No
S91kod	What type of occupation are you seeking? (ISCO 88)	1	1- Legislators, senior, officials and managers
			2- Professionals
			3- Technicians and associate professionals
			4- Clerks

			5- Service workers and shop and market sales workers
			6- Skilled agricultural, and fishery workers,
			7- Craft and related trades workers,
			8- Plant and machine operators and assemblers
			9- Elementary occupations
S92	What kind of a job are you seeking?	1	1-Want to have a self employment job
			2-Full time job is sought
			3-Full time job is sought, but if not available part time job will be accepted
			4-Part time job is sought
			5-Part time job is sought, but if not available full time job will be accepted
			6-Full time or part time job would be accepted
S93	How long have you been seeking a job?	3	(Month) 0...999
S94	What is the reason that you have not been looking for a job during the LAST 3 MONTHS?	2	1- Found a job but waiting to start
			2- Awaiting recall from previous job
			3- Work seasonally
			4- Believes no job is available in the area
			5- Continuing to his/her education or training
			6- Household chores
			7- Retired
			8- Looking after children in the family
			9- Looking incapacitated adults in the family
			10- Looking after children or incapacitated adults in the family?
			11- Other personal or family reasons
			12- Own illness or disability
			13- Elderly (60 years of age and over)
			14- Not wanting to work

			15- Other
S96	If opportunity to work exists, would you be able to start working within 2 WEEKS?	1	1-Yes
			2-No
S97	Why wouldn't you be able to start working?	2	1- Found a job but waiting to start
			2- Undergoing education or training
			3- Household chores
			4- Retired
			5- Work seasonally
			6- Own illness or disability
			7- Personal or family reasons
			8- Elderly (60 years of age and over)
			9- Not wanting to work
			10- Other
INFORMATION ON PAST WORK EXPERIENCE			
S102	Have you ever worked before?	1	1-Yes
			2-No
S103a	Which year did you leave from your latest job?	4	(Year) 0...2008
S103b	Which months did you leave from your latest job?	2	(Month) 0...12
S104	What was the main reason for leaving from this workplace, firm or organization?	2	1- Job was temporary, came to an end
			2- Was working seasonally
			3- Dismissed/Liquidated/Bankrupted
			4- Was not satisfied with job
			5- Own illness or disability
			6- Looking after children or incapacitated adults in the family
			7- Her spouse requested to leave her job
			8- Due to marriage
			9- Education or training
			10- Retirement
			11- Early retirement

			12- Need to fulfill his military service
			13- Other
S105kod	Economic activity of the local unit in which persons last worked (NACE 1.1)	1	1- Agriculture, forestry, hunting and fishing
			2- Mining and quarrying
			3- Manufacturing
			4- Electricity, gas and water
			5- Construction
			6- Wholesale and retail trade, restaurants and hotels
			7- Transportation, communication and storage
			8- Finance, insurance, real estate and business services
			9- Community, social and personal services
S106kod	What were your main tasks and duties in the last workplace? (ISCO 88)	1	1- Legislators, senior, officials and managers
			2- Professionals
			3- Technicians and associate professionals
			4- Clerks
			5- Service workers and shop and market sales workers
			6- Skilled agricultural, and fishery workers,
			7- Craft and related trades workers,
			8- Plant and machine operators and assemblers
			9- Elementary occupations
S107	Status in employment in the last job	1	1-Regular employee
			2-Casual employee
			3-Employer
			4-Self employed
			5-Unpaid family worker
INFORMATION ON SITUATION ONE YEAR BEFORE THE SURVEY			
S108	What was your situation in that month one year	1	1- Was working

	before the survey?		
			2- Was working in present job
			3- Retired
			4- Unemployed (Seeking a job)
			5- Housewife
			6- Was on education or training
			7- Was ill or disabled
			8- Was fulfilling military services
			9- Other
S109kod	Economic activity of the local unit in which persons worked one year before (NACE 1.1)	1	1- Agriculture, forestry, hunting and fishing
			2- Mining and quarrying
			3- Manufacturing
			4- Electricity, gas and water
			5- Construction
			6- Wholesale and retail trade, restaurants and hotels
			7- Transportation, communication and storage
			8- Finance, insurance, real estate and business services
			9- Community, social and personal services
S110	Status in employment in the job which you worked one year before	1	1-Regular employee
			2-Casual employee
			3-Employer
			4-Self employed
			5-Unpaid family worker
NUTS1	Classification of Statistical Region Units (SRE Level 1)	2	<u>Code-Geographical Area Covered- The name of NUTS1 Region</u>
	TR1		1- Istanbul
	TR2		2- West Marmara
	TR3		3- Aegean
	TR4		4- East Marmara
	TR5		5- West Anatolia
	TR6		6- Mediterranean
	TR7		7- Central Anatolia

	TR8		8- West Black Sea
	TR9		9- East Black Sea
	TRA		10- Northeast Anatolia
	TRB		11- Middle East Anatolia
	TRC		12- Southeast Anatolia
NUTS2	Classification of Statistical Region Units (SRE Level 2)	2	<u>Code-The name of provinces covered (NUTS2)</u>
	TR10		1- Istanbul
	TR21		2- Edirne-Tekirdağ-Kırklareli
	TR22		3- Balıkesir-Çanakkale
	TR31		4- İzmir
	TR32		5- Denizli-Aydın-Muğla
	TR33		6- Manisa-Afyon-Kütahya-Uşak
	TR41		7- Bursa-Eskişehir-Bilecik
	TR42		8- Kocaeli-Sakarya-Düzce-Bolu-Yalova
	TR51		9- Ankara
	TR52		10- Konya-Karaman
	TR61		11- Antalya-Isparta-Burdur
	TR62		12- Adana-Mersin
	TR63		13- Hatay-Kahramanmaraş-Osmaniye
	TR71		14- Nevşehir-Aksaray-Niğde-Kırıkkale-Kırşehir
	TR72		15- Kayseri-Sivas-Yozgat
	TR81		16- Zonguldak-Karabük-Bartın
	TR82		17- Kastamonu-Çankırı-Sinop
	TR83		18- Samsun-Tokat-Çorum-Amasya
	TR90		19- Trabzon-Ordu-Giresun-Rize-Artvin-Gümüşhane
	TRA1		20- Erzurum-Erzincan-Bayburt
	TRA2		21- Kars-Ağrı-Iğdır-Ardahan
	TRB1		22- Malatya-Elazığ-Bingöl-Tunceli
	TRB2		23- Van-Muş-Bitlis-Hakkari
	TRC1		24- Gaziantep-Adıyaman-Kilis
	TRC2		25- Diyarbakır-Şanlıurfa
	TRC3		26- Siirt-Mardin-Batman-Şırnak
Status	Labour force status of 15 years old and over	1	1- Employed
			2- Unemployed
			3- Not in labour force
rural-urban		4	Urban (including settlement with population 20 001 and more)

			Rural (including settlement with population 20 000 and less)
Weighing coefficient		12	

APPENDIX F

TABLES OF SUMMARY STATISTICS FOR MICRO STUDY

Table F1: Urban Females

LEVEL-1 DESCRIPTIVE STATISTICS					
Employed vs. Not Employed; Labor Force Participant vs. Not a Labor Force Participant; NEET vs. Non-NEET					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
N_IN_HH	28384	4.94	2.3	1	20
HH_EARN	28384	639.13	767.81	0	17000
WEIGHT	28384	145.74	58.07	40.08	257.97
EMPLOYED	28384	0.16	0.36	0	1
ILLIT	28384	0.05	0.21	0	1
NODIP	28384	0.1	0.3	0	1
PRIMARY	28384	0.11	0.31	0	1
MIDDLE	28384	0.39	0.49	0	1
HIGH_GEN	28384	0.21	0.4	0	1
HIGH_V_T	28384	0.09	0.29	0	1
COLL_UP	28384	0.06	0.24	0	1
ATSCHOOL	28384	0.35	0.48	0	1
SINGLE	28384	0.73	0.44	0	1
MARRIED	28384	0.27	0.44	0	1
DIVORCED	28384	0	0.07	0	1
WIDOWED	28384	0	0.02	0	1
LABORF_P	28384	0.22	0.41	0	1
NEET	28384	0.53	0.5	0	1
F_ILL	28384	0.03	0.17	0	1
F_NODIP	28384	0.03	0.18	0	1
F_PRIM	28384	0.31	0.46	0	1

F_MIDDLE	28384	0.07	0.26	0	1
F_HIGHR	28384	0.05	0.22	0	1
F_HIGHV	28384	0.05	0.21	0	1
F_COLL	28384	0.06	0.24	0	1
M_ILL	28384	0.17	0.37	0	1
M_NODIP	28384	0.05	0.22	0	1
M_PRIM	28384	0.34	0.47	0	1
M_MIDDLE	28384	0.04	0.19	0	1
M_HIGHR	28384	0.03	0.18	0	1
M_HIGHV	28384	0.02	0.15	0	1
M_COLL	28384	0.02	0.15	0	1
C_R_P	28384	0.68	0.47	0	1
F_EMP	28384	0.4	0.49	0	1
F_UNEMP	28384	0.04	0.2	0	1
F_NILF	28384	0.16	0.37	0	1
M_EMP	28384	0.09	0.29	0	1
M_UNEMP	28384	0.01	0.11	0	1
M_NILF	28384	0.57	0.5	0	1
I_NUMS_F	28384	0.67	1.08	0	8
I_NUMS_M	28384	0.72	1.03	0	9
I_SEMP_M	28384	0.18	0.47	0	6
I_SUNE_M	28384	0.05	0.24	0	3
I_SNIL_M	28384	0.17	0.44	0	5
I_SEMP_F	28384	0.08	0.3	0	3
I_SUNE_F	28384	0.03	0.17	0	3
I_SNIL_F	28384	0.25	0.56	0	7
I_SOHS_M	28384	0.07	0.28	0	4
I_SOUN_M	28384	0.02	0.16	0	2
I_SYHS_M	28384	0.02	0.13	0	2

I_SOVC_M	28384	0.04	0.19	0	2
I_SOHS_F	28384	0.05	0.24	0	3
I_SOVC_F	28384	0.02	0.16	0	3
I_SYV_M	28384	0.01	0.07	0	2
I_SYUN_M	28384	0	0.01	0	1
I_SOUN_F	28384	0.03	0.18	0	3
I_SYHS_F	28384	0.01	0.11	0	2
I_SYUN_F	28384	0	0.02	0	1
I_SYV_F	28384	0	0.06	0	2
D_20_24	28384	0.49	0.5	0	1
REF_P	28384	0.02	0.13	0	1
REF_SPO	28384	0.17	0.37	0	1
REF_DSLW	28384	0.08	0.27	0	1
REF_GRC	28384	0.02	0.12	0	1
REF_MFLW	28384	0	0.01	0	1
REF_OREL	28384	0.03	0.16	0	1
REF_NREL	28384	0.01	0.11	0	1
C_R_P_NM	28384	0.01	0.1	0	1
C_R_P_NF	28384	0.08	0.27	0	1
ID	28384	14192.5	8193.9	1	28384
INC_R_C	28384	0.62	0.48	0	1
LEVEL 2 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
E_G0408	26	10.15	14.48	-14.08	41.53
INDUSTRY	26	22.69	9.26	4.99	42.54
AGRI	26	31.32	16.03	0.4	70.2

TRADE	26	19.85	4.73	9.89	27.81
SERVICES	26	26.14	6.69	14.92	48.45
SH_T_IL	26	17.39	10.84	5.55	43.74
SH_T_ND	26	7.72	2.56	3.77	13.58
SH_T_PR	26	45.49	7.89	29.86	57.71
SH_T_MID	26	8.01	1.91	4.4	11.17
SH_T_HG	26	7.13	1.92	4.35	11.42
SH_T_HV	26	6.31	2.5	1.66	10.74
SH_T_COL	26	7.96	4.02	2.86	20
S_108U_4	26	46.84	13.9	29.21	77.1
S_108E_4	26	4.97	2.55	1.52	13.14
RYWF_T	26	24.05	5.13	18	40.7

Table F2: Urban Females Employed vs. Unemployed

LEVEL-1 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
N_IN_HH	6119	4.54	1.96	1	17
HH_EARN	6119	925.27	873.32	0	14900
WEIGHT	6119	159.65	58.9	40.08	257.97
ILLIT	6119	0.02	0.14	0	1
NODIP	6119	0.07	0.25	0	1
PRIMARY	6119	0.08	0.26	0	1
MIDDLE	6119	0.21	0.41	0	1
HIGH_GEN	6119	0.23	0.42	0	1
HIGH_V_T	6119	0.19	0.39	0	1
COLL_UP	6119	0.21	0.41	0	1
ATSCHOOL	6119	0.18	0.38	0	1
SINGLE	6119	0.84	0.37	0	1
MARRIED	6119	0.15	0.36	0	1
DIVORCED	6119	0.01	0.1	0	1
WIDOWED	6119	0	0.02	0	1
F_ILL	6119	0.03	0.16	0	1
F_NODIP	6119	0.03	0.18	0	1
F_PRIM	6119	0.38	0.49	0	1
F_MIDDLE	6119	0.08	0.26	0	1
F_HIGHR	6119	0.05	0.21	0	1
F_HIGHV	6119	0.05	0.22	0	1
F_COLL	6119	0.05	0.22	0	1
M_ILL	6119	0.15	0.35	0	1
M_NODIP	6119	0.06	0.24	0	1
M_PRIM	6119	0.45	0.5	0	1
M_MIDDLE	6119	0.05	0.21	0	1
M_HIGHR	6119	0.03	0.18	0	1
M_HIGHV	6119	0.02	0.14	0	1
M_COLL	6119	0.02	0.13	0	1
C_R_P	6119	0.78	0.41	0	1
F_N_P	6119	0.12	0.32	0	1
M_N_P	6119	0.01	0.1	0	1
F_EMP	6119	0.4	0.49	0	1
F_UNEMP	6119	0.06	0.24	0	1

F_NILF	6119	0.2	0.4	0	1
M_EMP	6119	0.13	0.33	0	1
M_UNEMP	6119	0.02	0.15	0	1
M_NILF	6119	0.62	0.48	0	1
I_NUMS_F	6119	0.69	1.03	0	7
I_NUMS_M	6119	0.7	0.95	0	9
I_SEMP_M	6119	0.23	0.5	0	6
I_SUNE_M	6119	0.06	0.25	0	3
I_SNIL_M	6119	0.16	0.39	0	5
I_SEMP_F	6119	0.17	0.42	0	3
I_SUNE_F	6119	0.06	0.26	0	3
I_SNIL_F	6119	0.21	0.48	0	3
I_SOHS_M	6119	0.05	0.24	0	4
I_SOUN_M	6119	0.03	0.17	0	2
I_SYHS_M	6119	0.02	0.15	0	2
I_SOVC_M	6119	0.04	0.2	0	2
I_SOHS_F	6119	0.06	0.25	0	3
I_SOVC_F	6119	0.03	0.19	0	2
I_SYV_M	6119	0.01	0.11	0	1
I_SYUN_M	6119	0	0	0	0
I_SOUN_F	6119	0.04	0.22	0	3
I_SYHS_F	6119	0.03	0.16	0	2
I_SYUN_F	6119	0	0.03	0	1
I_SYV_F	6119	0.01	0.11	0	2
D_20_24	6119	0.69	0.46	0	1
REF_P	6119	0.02	0.15	0	1
REF_SPO	6119	0.11	0.31	0	1
REF_DSLW	6119	0.03	0.16	0	1
REF_GRC	6119	0.01	0.11	0	1
REF_MFLW	6119	0	0	0	0
REF_OREL	6119	0.04	0.19	0	1
REF_NREL	6119	0.01	0.1	0	1
C_R_P_NM	6119	0.01	0.11	0	1
C_R_P_NF	6119	0.11	0.32	0	1
EVSUN	6119	0.72	0.45	0	1
ID	6119	3060	1766.55	1	6119
INC_R_C	6119	0.81	0.39	0	1
LEVEL-2 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMU M	MAXIMU M

E_G0408	26	10.15	14.48	-14.08	41.53
INDUSTRY	26	22.69	9.26	4.99	42.54
AGRI	26	31.32	16.03	0.4	70.2
TRADE	26	19.85	4.73	9.89	27.81
SERVICES	26	26.14	6.69	14.92	48.45
SH_T_IL	26	17.39	10.84	5.55	43.74
SH_T_ND	26	7.72	2.56	3.77	13.58
SH_T_PR	26	45.49	7.89	29.86	57.71
SH_T_MID	26	8.01	1.91	4.4	11.17
SH_T_HG	26	7.13	1.92	4.35	11.42
SH_T_HV	26	6.31	2.5	1.66	10.74
SH_T_COL	26	7.96	4.02	2.86	20
S_108U_4	26	46.84	13.9	29.21	77.1
S_108E_4	26	4.97	2.55	1.52	13.14
RYWF_T	26	24.05	5.13	18	40.7

Table F3: Rural Females

LEVEL-1 DESCRIPTIVE STATISTICS					
Employed vs. Not Employed; Labor Force Participant vs. Not a Labor Force Participant; NEET vs. Non-NEET					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
N_IN_HH	12498	5.86	2.67	1	21
HH_EARN	12498	330.37	560.66	0	10000
WEIGHT	12498	139.01	87.54	13.35	754.18
EMPLOYED	12498	0.27	0.44	0	1
ILLIT	12498	0.09	0.29	0	1
NODIP	12498	0.18	0.39	0	1
PRIMARY	12498	0.15	0.35	0	1
MIDDLE	12498	0.4	0.49	0	1
HIGH_GEN	12498	0.11	0.31	0	1
HIGH_V_T	12498	0.04	0.2	0	1
COLL_UP	12498	0.03	0.16	0	1
ATSCHOOL	12498	0.18	0.38	0	1
SINGLE	12498	0.71	0.46	0	1
MARRIED	12498	0.29	0.45	0	1
DIVORCED	12498	0	0.06	0	1
WIDOWED	12498	0	0.02	0	1
LABORF_P	12498	0.29	0.45	0	1
NEET	12498	0.57	0.49	0	1
F_ILL	12498	0.05	0.23	0	1
F_NODIP	12498	0.05	0.22	0	1
F_PRIM	12498	0.38	0.49	0	1
F_MIDDLE	12498	0.06	0.23	0	1
F_HIGHR	12498	0.02	0.15	0	1
F_HIGHV	12498	0.02	0.13	0	1
F_COLL	12498	0.01	0.12	0	1
M_ILL	12498	0.27	0.45	0	1
M_NODIP	12498	0.06	0.24	0	1
M_PRIM	12498	0.29	0.45	0	1
M_MIDDLE	12498	0.01	0.11	0	1
M_HIGHR	12498	0.01	0.09	0	1
M_HIGHV	12498	0	0.06	0	1
M_COLL	12498	0	0.06	0	1
C_R_P	12498	0.66	0.47	0	1

F_N_P	12498	0.06	0.24	0	1
M_N_P	12498	0.01	0.1	0	1
F_EMP	12498	0.47	0.5	0	1
F_UNEMP	12498	0.02	0.16	0	1
F_NILF	12498	0.1	0.31	0	1
M_EMP	12498	0.26	0.44	0	1
M_UNEMP	12498	0	0.06	0	1
M_NILF	12498	0.38	0.49	0	1
I_NUMS_F	12498	0.8	1.21	0	7
I_NUMS_M	12498	0.83	1.17	0	9
I_SEMP_M	12498	0.19	0.5	0	5
I_SUNE_M	12498	0.04	0.23	0	4
I_SNIL_M	12498	0.17	0.45	0	5
I_SEMP_F	12498	0.11	0.39	0	4
I_SUNE_F	12498	0.01	0.11	0	2
I_SNIL_F	12498	0.26	0.6	0	4
I_SOHS_M	12498	0.05	0.24	0	4
I_SOUN_M	12498	0.01	0.11	0	1
I_SYHS_M	12498	0.01	0.1	0	2
I_SOVC_M	12498	0.03	0.17	0	2
I_SOHS_F	12498	0.03	0.18	0	2
I_SOVC_F	12498	0.01	0.1	0	2
I_SYV_M	12498	0	0.06	0	1
I_SYUN_M	12498	0	0.01	0	1
I_SOUN_F	12498	0.01	0.1	0	2
I_SYHS_F	12498	0.01	0.09	0	2
I_SYUN_F	12498	0	0.01	0	1
I_SYV_F	12498	0	0.04	0	1
D_20_24	12498	0.46	0.5	0	1
REF_P	12498	0.01	0.1	0	1
REF_SPO	12498	0.11	0.31	0	1
REF_DSLW	12498	0.15	0.36	0	1
REF_GRC	12498	0.03	0.18	0	1
REF_MFLW	12498	0	0	0	0
REF_OREL	12498	0.03	0.17	0	1
REF_NREL	12498	0	0.06	0	1
C_R_P_NM	12498	0.01	0.11	0	1
C_R_P_NF	12498	0.06	0.23	0	1
ID	12498	6249.5	3608.01	1	12498

INC_R_C	12498	0.38	0.49	0	1
LEVEL-2 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
E_G0408	26	10.15	14.48	-14.08	41.53
INDUSTRY	26	22.69	9.26	4.99	42.54
AGRI	26	31.32	16.03	0.4	70.2
TRADE	26	19.85	4.73	9.89	27.81
SERVICES	26	26.14	6.69	14.92	48.45
SH_T_IL	26	17.39	10.84	5.55	43.74
SH_T_ND	26	7.72	2.56	3.77	13.58
SH_T_PR	26	45.49	7.89	29.86	57.71
SH_T_MID	26	8.01	1.91	4.4	11.17
SH_T_HG	26	7.13	1.92	4.35	11.42
SH_T_HV	26	6.31	2.5	1.66	10.74
SH_T_COL	26	7.96	4.02	2.86	20
SH_PRT_W	26	12.01	11.31	1.44	49.9
S_108U_4	26	46.84	13.9	29.21	77.1
S_108E_4	26	4.97	2.55	1.52	13.14
RYWF_T	26	24.05	5.13	18	40.7

Table F4: Rural Females: Employed vs. Unemployed

LEVEL-1 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
N_IN_HH	3646	5.69	2.56	1	19
HH_EARN	3646	386.4	625.43	0	4800
N_SIBL	3646	1.49	1.83	0	11
WEIGHT	3646	137.03	75.01	13.35	754.18
ILLIT	3646	0.06	0.23	0	1
NODIP	3646	0.15	0.36	0	1
PRIMARY	3646	0.17	0.38	0	1
MIDDLE	3646	0.38	0.49	0	1
HIGH_GEN	3646	0.11	0.31	0	1
HIGH_V_T	3646	0.07	0.25	0	1
COLL_UP	3646	0.06	0.25	0	1
ATSCHOOL	3646	0.06	0.24	0	1
SINGLE	3646	0.73	0.44	0	1
MARRIED	3646	0.26	0.44	0	1
DIVORCED	3646	0.01	0.08	0	1
WIDOWED	3646	0	0.02	0	1
F_ILL	3646	0.05	0.22	0	1
F_NODIP	3646	0.05	0.22	0	1
F_PRIM	3646	0.44	0.5	0	1
F_MIDDLE	3646	0.04	0.2	0	1
F_HIGHR	3646	0.02	0.14	0	1
F_HIGHV	3646	0.01	0.11	0	1
F_COLL	3646	0.01	0.09	0	1
M_ILL	3646	0.26	0.44	0	1
M_NODIP	3646	0.07	0.25	0	1
M_PRIM	3646	0.32	0.47	0	1
M_MIDDLE	3646	0.01	0.11	0	1
M_HIGHR	3646	0.01	0.08	0	1
M_HIGHV	3646	0	0.04	0	1
M_COLL	3646	0	0.04	0	1
C_R_P	3646	0.69	0.46	0	1
F_N_P	3646	0.06	0.24	0	1
M_N_P	3646	0.01	0.12	0	1
F_EMP	3646	0.53	0.5	0	1

F_UNEMP	3646	0.02	0.13	0	1
F_NILF	3646	0.08	0.26	0	1
M_EMP	3646	0.43	0.5	0	1
M_UNEMP	3646	0	0.06	0	1
M_NILF	3646	0.24	0.43	0	1
I_NUMS_F	3646	0.75	1.13	0	7
I_NUMS_M	3646	0.74	1.06	0	9
I_SEMP_M	3646	0.27	0.56	0	4
I_SUNE_M	3646	0.03	0.18	0	2
I_SNIL_M	3646	0.1	0.35	0	4
I_SEMP_F	3646	0.26	0.59	0	4
I_SUNE_F	3646	0.02	0.15	0	2
I_SNIL_F	3646	0.12	0.37	0	3
I_SY_VOC	3646	0.01	0.1	0	2
I_SO_UNI	3646	0.03	0.16	0	1
I_SY_HS	3646	0.03	0.17	0	2
I_SOHS_M	3646	0.04	0.2	0	2
I_SOUN_M	3646	0.02	0.13	0	1
I_SYHS_M	3646	0.01	0.12	0	2
I_SOVC_M	3646	0.03	0.18	0	2
I_SOHS_F	3646	0.02	0.15	0	2
I_SOVC_F	3646	0.01	0.11	0	1
I_SYV_M	3646	0.01	0.08	0	1
I_SYUN_M	3646	0	0.02	0	1
I_SOUN_F	3646	0.01	0.1	0	1
I_SYHS_F	3646	0.01	0.12	0	1
I_SYUN_F	3646	0	0.02	0	1
I_SYV_F	3646	0	0.05	0	1
D_20_24	3646	0.56	0.5	0	1
REF_P	3646	0.01	0.1	0	1
REF_SPO	3646	0.08	0.27	0	1
REF_DSLW	3646	0.15	0.36	0	1
REF_GRC	3646	0.03	0.18	0	1
REF_MFLW	3646	0	0	0	0
REF_OREL	3646	0.04	0.18	0	1
REF_NREL	3646	0	0.05	0	1
C_R_P_NM	3646	0.02	0.13	0	1
C_R_P_NF	3646	0.06	0.24	0	1
EVSUN	3646	0.91	0.29	0	1

ID	3646	1823.5	1052.65	1	3646
INC_R_C	3646	0.41	0.49	0	1
LEVEL-2 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
E_G0408	26	10.15	14.48	-14.08	41.53
INDUSTRY	26	22.69	9.26	4.99	42.54
AGRI	26	31.32	16.03	0.4	70.2
TRADE	26	19.85	4.73	9.89	27.81
SERVICES	26	26.14	6.69	14.92	48.45
SH_T_IL	26	17.39	10.84	5.55	43.74
SH_T_ND	26	7.72	2.56	3.77	13.58
SH_T_PR	26	45.49	7.89	29.86	57.71
SH_T_MID	26	8.01	1.91	4.4	11.17
SH_T_HG	26	7.13	1.92	4.35	11.42
SH_T_HV	26	6.31	2.5	1.66	10.74
SH_T_COL	26	7.96	4.02	2.86	20
S_108U_4	26	46.84	13.9	29.21	77.1
S_108E_4	26	4.97	2.55	1.52	13.14
RYWF_T	26	24.05	5.13	18	40.7

Table F5: Urban Males

LEVEL-1 DESCRIPTIVE STATISTICS					
Employed vs. Not Employed; Labor Force Participant vs. Not a Labor Force Participant; NEET vs. Non-NEET					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
N_IN_HH	25603	4.89	2.2	1	22
HH_EARN	25603	680.89	811.12	0	20000
N_SIBL	25603	1.57	1.69	0	11
WEIGHT	25603	161.97	66.74	40.08	305.29
EMPLOYED	25603	0.39	0.49	0	1
ILLIT	25603	0.01	0.11	0	1
NODIP	25603	0.06	0.23	0	1
PRIMARY	25603	0.06	0.24	0	1
MIDDLE	25603	0.46	0.5	0	1
HIGH_GEN	25603	0.23	0.42	0	1
HIGH_V_T	25603	0.12	0.33	0	1
COLL_UP	25603	0.05	0.22	0	1
ATSCHOOL	25603	0.43	0.5	0	1
SINGLE	25603	0.91	0.28	0	1
MARRIED	25603	0.08	0.28	0	1
DIVORCED	25603	0	0.02	0	1
WIDOWED	25603	0	0.01	0	1
LABORF_P	25603	0.49	0.5	0	1
NEET	25603	0.24	0.43	0	1
F_ILL	25603	0.04	0.2	0	1
F_NODIP	25603	0.05	0.21	0	1
F_PRIM	25603	0.4	0.49	0	1
F_MIDDLE	25603	0.09	0.28	0	1
F_HIGHR	25603	0.06	0.24	0	1
F_HIGHV	25603	0.06	0.23	0	1
F_COLL	25603	0.06	0.24	0	1
M_ILL	25603	0.22	0.41	0	1
M_NODIP	25603	0.07	0.25	0	1
M_PRIM	25603	0.42	0.49	0	1
M_MIDDLE	25603	0.05	0.21	0	1
M_HIGHR	25603	0.04	0.18	0	1
M_HIGHV	25603	0.03	0.16	0	1
M_COLL	25603	0.02	0.15	0	1

C_R_P	25603	0.85	0.36	0	1
F_N_P	25603	0.1	0.29	0	1
M_N_P	25603	0.01	0.1	0	1
F_EMP	25603	0.49	0.5	0	1
F_UNEMP	25603	0.05	0.22	0	1
F_NILF	25603	0.21	0.41	0	1
M_EMP	25603	0.11	0.32	0	1
M_UNEMP	25603	0.01	0.11	0	1
M_NILF	25603	0.71	0.45	0	1
I_NUMS_F	25603	0.74	1.04	0	8
I_NUMS_M	25603	0.83	1.07	0	8
I_SEMP_M	25603	0.23	0.53	0	6
I_SUNE_M	25603	0.06	0.27	0	4
I_SNIL_M	25603	0.19	0.46	0	5
I_SEMP_F	25603	0.08	0.31	0	4
I_SUNE_F	25603	0.03	0.17	0	3
I_SNIL_F	25603	0.29	0.59	0	8
I_SOHS_M	25603	0.08	0.31	0	5
I_SOUN_M	25603	0.03	0.17	0	2
I_SYHS_M	25603	0.01	0.12	0	2
I_SOVC_M	25603	0.04	0.21	0	3
I_SOHS_F	25603	0.06	0.25	0	3
I_SOVC_F	25603	0.03	0.18	0	3
I_SYV_M	25603	0.01	0.08	0	2
I_SYUN_M	25603	0	0.01	0	1
I_SOUN_F	25603	0.03	0.17	0	3
I_SYHS_F	25603	0.01	0.11	0	2
I_SYUN_F	25603	0	0.02	0	1
I_SYV_F	25603	0.01	0.07	0	2
D_20_24	25603	0.43	0.49	0	1
REF_P	25603	0.07	0.25	0	1
REF_SPO	25603	0	0.02	0	1
REF_DSLW	25603	0	0.02	0	1
REF_GRC	25603	0.02	0.14	0	1
REF_MFLW	25603	0	0.01	0	1
REF_OREL	25603	0.04	0.18	0	1
REF_NREL	25603	0.03	0.16	0	1
C_R_P_NM	25603	0.01	0.11	0	1
C_R_P_NF	25603	0.09	0.29	0	1

ID	25603	12802	7391.09	1	25603
INC_R_C	25603	0.64	0.48	0	1
LEVEL-2 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
E_G0408	26	10.15	14.48	-14.08	41.53
AVGEMPG	26	2.02	2.79	-2.67	9.02
INDUSTRY	26	22.69	9.26	4.99	42.54
AGRI	26	31.32	16.03	0.4	70.2
TRADE	26	19.85	4.73	9.89	27.81
SERVICES	26	26.14	6.69	14.92	48.45
SH_T_IL	26	17.39	10.84	5.55	43.74
SH_T_ND	26	7.72	2.56	3.77	13.58
SH_T_PR	26	45.49	7.89	29.86	57.71
SH_T_MID	26	8.01	1.91	4.4	11.17
SH_T_HG	26	7.13	1.92	4.35	11.42
SH_T_HV	26	6.31	2.5	1.66	10.74
SH_T_COL	26	7.96	4.02	2.86	20
S_108U_4	26	46.84	13.9	29.21	77.1
S_108E_4	26	4.97	2.55	1.52	13.14
RYWF_T	26	24.05	5.13	18	40.7

Table F6: Urban Males Employed vs. Unemployed

LEVEL-1 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
N_IN_HH	12553	4.93	2.28	1	20
HH_EARN	12553	796.84	806.36	0	12000
N_SIBL	12553	1.55	1.71	0	11
WEIGHT	12553	166.02	66.14	40.08	305.29
ILLIT	12553	0.01	0.09	0	1
NODIP	12553	0.07	0.25	0	1
PRIMARY	12553	0.12	0.32	0	1
MIDDLE	12553	0.39	0.49	0	1
HIGH_GEN	12553	0.17	0.38	0	1
HIGH_V_T	12553	0.17	0.37	0	1
COLL_UP	12553	0.08	0.28	0	1
ATSCHOOL	12553	0.14	0.35	0	1
SINGLE	12553	0.85	0.36	0	1
MARRIED	12553	0.15	0.36	0	1
DIVORCED	12553	0	0.03	0	1
WIDOWED	12553	0	0.01	0	1
F_ILL	12553	0.04	0.21	0	1
F_NODIP	12553	0.05	0.22	0	1
F_PRIM	12553	0.45	0.5	0	1
F_MIDDLE	12553	0.08	0.27	0	1
F_HIGHR	12553	0.04	0.2	0	1
F_HIGHV	12553	0.04	0.18	0	1
F_COLL	12553	0.03	0.17	0	1
M_ILL	12553	0.25	0.43	0	1
M_NODIP	12553	0.08	0.27	0	1
M_PRIM	12553	0.42	0.49	0	1
M_MIDDLE	12553	0.04	0.19	0	1
M_HIGHR	12553	0.02	0.13	0	1
M_HIGHV	12553	0.01	0.11	0	1
M_COLL	12553	0.01	0.08	0	1
C_R_P	12553	0.83	0.38	0	1
F_N_P	12553	0.1	0.3	0	1
M_N_P	12553	0.01	0.1	0	1
F_EMP	12553	0.44	0.5	0	1
F_UNEMP	12553	0.06	0.24	0	1

F_NILF	12553	0.23	0.42	0	1
M_EMP	12553	0.1	0.3	0	1
M_UNEMP	12553	0.01	0.12	0	1
M_NILF	12553	0.7	0.46	0	1
I_NUMS_F	12553	0.71	1.01	0	8
I_NUMS_M	12553	0.84	1.1	0	8
I_SEMP_M	12553	0.3	0.59	0	5
I_SUNE_M	12553	0.08	0.3	0	4
I_SNIL_M	12553	0.15	0.4	0	5
I_SEMP_F	12553	0.1	0.33	0	4
I_SUNE_F	12553	0.03	0.18	0	3
I_SNIL_F	12553	0.28	0.57	0	5
I_SOHS_M	12553	0.07	0.28	0	4
I_SOUN_M	12553	0.03	0.17	0	2
I_SYHS_M	12553	0.02	0.15	0	2
I_SOVC_M	12553	0.04	0.22	0	2
I_SOHS_F	12553	0.04	0.21	0	2
I_SOVC_F	12553	0.03	0.17	0	3
I_SYV_M	12553	0.01	0.1	0	2
I_SYUN_M	12553	0	0.01	0	1
I_SOUN_F	12553	0.02	0.16	0	3
I_SYHS_F	12553	0.02	0.13	0	2
I_SYUN_F	12553	0	0.03	0	1
I_SYV_F	12553	0.01	0.09	0	2
D_20_24	12553	0.62	0.49	0	1
REF_P	12553	0.1	0.3	0	1
REF_SPO	12553	0	0.03	0	1
REF_DSLW	12553	0	0.03	0	1
REF_GRC	12553	0.02	0.13	0	1
REF_MFLW	12553	0	0.01	0	1
REF_OREL	12553	0.04	0.2	0	1
REF_NREL	12553	0.01	0.11	0	1
C_R_P_NM	12553	0.01	0.12	0	1
C_R_P_NF	12553	0.1	0.3	0	1
EVSUN	12553	0.79	0.41	0	1
ID	12553	6277	3623.88	1	12553
INC_R_C	12553	0.76	0.43	0	1

LEVEL-2 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
E_G0408	26	10.15	14.48	-14.08	41.53
INDUSTRY	26	22.69	9.26	4.99	42.54
AGRI	26	31.32	16.03	0.4	70.2
TRADE	26	19.85	4.73	9.89	27.81
SERVICES	26	26.14	6.69	14.92	48.45
SH_T_IL	26	17.39	10.84	5.55	43.74
SH_T_ND	26	7.72	2.56	3.77	13.58
SH_T_PR	26	45.49	7.89	29.86	57.71
SH_T_MID	26	8.01	1.91	4.4	11.17
SH_T_HG	26	7.13	1.92	4.35	11.42
SH_T_HV	26	6.31	2.5	1.66	10.74
SH_T_COL	26	7.96	4.02	2.86	20
S_108U_4	26	46.84	13.9	29.21	77.1
S_108E_4	26	4.97	2.55	1.52	13.14
RYWF_T	26	24.05	5.13	18	40.7

Table F7: Rural Males

LEVEL-1 DESCRIPTIVE STATISTICS					
Employed vs. Not Employed; Labor Force Participant vs. Not a Labor Force Participant; NEET vs. Non-NEET					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
N_IN_HH	9540	5.73	2.57	1	21
HH_EARN	9540	402.3	665.31	0	8800
N_SIBL	9540	1.92	1.96	0	14
WEIGHT	9540	154.04	92.55	13.35	754.18
EMPLOYED	9540	0.45	0.5	0	1
ILLIT	9540	0.02	0.15	0	1
NODIP	9540	0.09	0.29	0	1
PRIMARY	9540	0.08	0.28	0	1
MIDDLE	9540	0.52	0.5	0	1
HIGH_GEN	9540	0.15	0.35	0	1
HIGH_V_T	9540	0.1	0.3	0	1
COLL_UP	9540	0.03	0.18	0	1
ATSCHOOL	9540	0.3	0.46	0	1
SINGLE	9540	0.9	0.3	0	1
MARRIED	9540	0.1	0.3	0	1
DIVORCED	9540	0	0.03	0	1
WIDOWED	9540	0	0.01	0	1
LABORF_P	9540	0.56	0.5	0	1
NEET	9540	0.29	0.46	0	1
F_ILL	9540	0.08	0.27	0	1
F_NODIP	9540	0.07	0.25	0	1
F_PRIM	9540	0.52	0.5	0	1
F_MIDDLE	9540	0.07	0.25	0	1
F_HIGHR	9540	0.03	0.17	0	1
F_HIGHV	9540	0.02	0.14	0	1
F_COLL	9540	0.02	0.14	0	1
M_ILL	9540	0.34	0.47	0	1
M_NODIP	9540	0.09	0.28	0	1
M_PRIM	9540	0.4	0.49	0	1
M_MIDDLE	9540	0.02	0.12	0	1
M_HIGHR	9540	0.01	0.09	0	1
M_HIGHV	9540	0.01	0.08	0	1
M_COLL	9540	0	0.06	0	1

C_R_P	9540	0.88	0.33	0	1
F_N_P	9540	0.08	0.27	0	1
M_N_P	9540	0.01	0.1	0	1
F_EMP	9540	0.61	0.49	0	1
F_UNEMP	9540	0.04	0.19	0	1
F_NILF	9540	0.15	0.35	0	1
M_EMP	9540	0.33	0.47	0	1
M_UNEMP	9540	0.01	0.08	0	1
M_NILF	9540	0.53	0.5	0	1
I_NUMS_F	9540	0.93	1.21	0	8
I_NUMS_M	9540	0.99	1.18	0	9
I_SEMP_M	9540	0.27	0.59	0	4
I_SUNE_M	9540	0.06	0.28	0	4
I_SNIL_M	9540	0.19	0.47	0	4
I_SEMP_F	9540	0.13	0.41	0	5
I_SUNE_F	9540	0.01	0.13	0	2
I_SNIL_F	9540	0.33	0.64	0	5
I_SOHS_M	9540	0.06	0.26	0	3
I_SOUN_M	9540	0.02	0.13	0	2
I_SYHS_M	9540	0.01	0.1	0	2
I_SOVC_M	9540	0.04	0.2	0	2
I_SOHS_F	9540	0.04	0.21	0	3
I_SOVC_F	9540	0.01	0.13	0	2
I_SYV_M	9540	0.01	0.08	0	2
I_SYUN_M	9540	0	0.01	0	1
I_SOUN_F	9540	0.01	0.11	0	2
I_SYHS_F	9540	0.01	0.09	0	2
I_SYUN_F	9540	0	0.01	0	1
I_SYV_F	9540	0	0.06	0	1
D_20_24	9540	0.4	0.49	0	1
REF_P	9540	0.03	0.18	0	1
REF_SPO	9540	0	0.02	0	1
REF_DSLW	9540	0	0.03	0	1
REF_GRC	9540	0.05	0.22	0	1
REF_MFLW	9540	0	0	0	0
REF_OREL	9540	0.03	0.17	0	1
REF_NREL	9540	0.01	0.08	0	1
C_R_P_NM	9540	0.01	0.12	0	1
C_R_P_NF	9540	0.08	0.27	0	1

ID	9540	4770.5	2754.11	1	9540
INC_R_C	9540	0.44	0.5	0	1
LEVEL-2 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
E_G0408	26	10.15	14.48	-14.08	41.53
AVGEMPG	26	2.02	2.79	-2.67	9.02
INDUSTRY	26	22.69	9.26	4.99	42.54
AGRI	26	31.32	16.03	0.4	70.2
TRADE	26	19.85	4.73	9.89	27.81
SERVICES	26	26.14	6.69	14.92	48.45
SH_T_IL	26	17.39	10.84	5.55	43.74
SH_T_ND	26	7.72	2.56	3.77	13.58
SH_T_PR	26	45.49	7.89	29.86	57.71
SH_T_MID	26	8.01	1.91	4.4	11.17
SH_T_HG	26	7.13	1.92	4.35	11.42
SH_T_HV	26	6.31	2.5	1.66	10.74
SH_T_COL	26	7.96	4.02	2.86	20
SH_PRT_W	26	12.01	11.31	1.44	49.9
S_108U_4	26	46.84	13.9	29.21	77.1
S_108E_4	26	4.97	2.55	1.52	13.14
RYWF_T	26	24.05	5.13	18	40.7

Table F8: Rural Males Employed vs. Unemployed

LEVEL-1 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
N_IN_HH	5312	5.65	2.59	1	19
HH_EARN	5312	466.58	716.86	0	8000
N_SIBL	5312	1.76	1.89	0	13
WEIGHT	5312	154.5	91.59	13.35	754.18
ILLIT	5312	0.01	0.1	0	1
NODIP	5312	0.08	0.27	0	1
PRIMARY	5312	0.13	0.34	0	1
MIDDLE	5312	0.47	0.5	0	1
HIGH_GEN	5312	0.13	0.34	0	1
HIGH_V_T	5312	0.12	0.33	0	1
COLL_UP	5312	0.05	0.21	0	1
ATSCHOOL	5312	0.09	0.28	0	1
SINGLE	5312	0.84	0.37	0	1
MARRIED	5312	0.16	0.37	0	1
DIVORCED	5312	0	0.03	0	1
WIDOWED	5312	0	0.01	0	1
F_ILL	5312	0.07	0.26	0	1
F_NODIP	5312	0.07	0.26	0	1
F_PRIM	5312	0.55	0.5	0	1
F_MIDDLE	5312	0.06	0.23	0	1
F_HIGHR	5312	0.02	0.14	0	1
F_HIGHV	5312	0.01	0.12	0	1
F_COLL	5312	0.01	0.09	0	1
M_ILL	5312	0.34	0.47	0	1
M_NODIP	5312	0.1	0.29	0	1
M_PRIM	5312	0.4	0.49	0	1
M_MIDDLE	5312	0.01	0.1	0	1
M_HIGHR	5312	0	0.07	0	1
M_HIGHV	5312	0	0.07	0	1
M_COLL	5312	0	0.03	0	1
C_R_P	5312	0.86	0.34	0	1
F_N_P	5312	0.07	0.26	0	1
M_N_P	5312	0.01	0.11	0	1
F_EMP	5312	0.61	0.49	0	1
F_UNEMP	5312	0.03	0.18	0	1

F_NILF	5312	0.14	0.35	0	1
M_EMP	5312	0.38	0.49	0	1
M_UNEMP	5312	0.01	0.07	0	1
M_NILF	5312	0.46	0.5	0	1
I_NUMS_F	5312	0.84	1.16	0	8
I_NUMS_M	5312	0.92	1.14	0	9
I_SEMP_M	5312	0.33	0.64	0	4
I_SUNE_M	5312	0.07	0.3	0	4
I_SNIL_M	5312	0.13	0.37	0	3
I_SEMP_F	5312	0.16	0.46	0	5
I_SUNE_F	5312	0.01	0.12	0	2
I_SNIL_F	5312	0.27	0.58	0	5
I_SOHS_M	5312	0.05	0.22	0	3
I_SOUN_M	5312	0.01	0.11	0	1
I_SYHS_M	5312	0.01	0.11	0	2
I_SOVC_M	5312	0.04	0.2	0	2
I_SOHS_F	5312	0.03	0.17	0	1
I_SOVC_F	5312	0.01	0.11	0	2
I_SYV_M	5312	0.01	0.09	0	2
I_SYUN_M	5312	0	0.01	0	1
I_SOUN_F	5312	0.01	0.1	0	2
I_SYHS_F	5312	0.01	0.1	0	1
I_SYUN_F	5312	0	0.02	0	1
I_SYV_F	5312	0.01	0.07	0	1
D_20_24	5312	0.54	0.5	0	1
REF_P	5312	0.05	0.23	0	1
REF_SPO	5312	0	0.03	0	1
REF_DSLW	5312	0	0.04	0	1
REF_GRC	5312	0.05	0.21	0	1
REF_MFLW	5312	0	0	0	0
REF_OREL	5312	0.03	0.17	0	1
REF_NREL	5312	0	0.07	0	1
C_R_P_NM	5312	0.02	0.13	0	1
C_R_P_NF	5312	0.07	0.26	0	1
EVSUN	5312	0.82	0.39	0	1
ID	5312	2656.5	1533.5 9	1	5312
INC_R_C	5312	0.5	0.5	0	1

LEVEL-2 DESCRIPTIVE STATISTICS					
VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
E_G0408	26	10.15	14.48	-14.08	41.53
INDUSTRY	26	22.69	9.26	4.99	42.54
AGRI	26	31.32	16.03	0.4	70.2
TRADE	26	19.85	4.73	9.89	27.81
SERVICES	26	26.14	6.69	14.92	48.45
SH_T_IL	26	17.39	10.84	5.55	43.74
SH_T_ND	26	7.72	2.56	3.77	13.58
SH_T_PR	26	45.49	7.89	29.86	57.71
SH_T_MID	26	8.01	1.91	4.4	11.17
SH_T_HG	26	7.13	1.92	4.35	11.42
SH_T_HV	26	6.31	2.5	1.66	10.74
SH_T_COL	26	7.96	4.02	2.86	20
SH_PRT_W	26	12.01	11.31	1.44	49.9
S_108U_4	26	46.84	13.9	29.21	77.1
S_108E_4	26	4.97	2.55	1.52	13.14
RYWF_T	26	24.05	5.13	18	40.7

APPENDIX G
TABLES OF YOUTH & YOUTH LABOR STATISTICS

Table G1: Distribution of Youth Population across Regions

Region (NUTS1)	Population of Youth 15-24	Percentage of Youth Population
1- Istanbul	2,100,000	18.37
3- Aegean	1,400,000	12.15
6- Mediterranean	1,400,000	12.4
12- Southeast Anatolia	1,400,000	11.88
5- West Anatolia	1,100,000	9.45
4- East Marmara	990,000	8.63
8- West Black Sea	680,000	5.9
11- Middle East Anatolia	650,000	5.67
7- Central Anatolia	590,000	5.1
2- West Marmara	430,000	3.77
9- East Black Sea	400,000	3.44
10- Northeast Anatolia	370,000	3.24
Total	11, 490, 354	100

Table G2: Female Youth Cohort Size

Region	Population of Youth 15-24, Females	Proportion of female youth population as a percentage of the total female population living in that region
26- Siirt-Mardin-Batman-Şırnak	200,000	21.05
23- Van-Muş-Bitlis-Hakkari	200,000	20.41
24- Gaziantep-Adıyaman-Kilis	220,000	20
25- Diyarbakır-Şanlıurfa	290,000	19.33
21- Kars-Ağrı-Iğdır-Ardahan	110,000	19.3
20- Erzurum-Erzincan-Bayburt	100,000	19.23
13- Hatay-Kahramanmaraş-Osmaniye	260,000	18.57
22- Malatya-Elazığ-Bingöl-Tunceli	150,000	18.52
15- Kayseri-Sivas-Yozgat	200,000	18.18
12- Adana-Mersin	310,000	17.22
2- Edirne-Tekirdağ-Kırklareli	120,000	16.67
19- Trabzon-Ordu-Giresun-Rize-Artvin-Gümüşhane	200,000	16.67
6- Manisa-Afyon-Kütahya-Uşak	230,000	16.43
18- Samsun-Tokat-Çorum-Amasya	230,000	16.43
9- Ankara	360,000	16.36
10- Konya-Karaman	180,000	16.36
1- İ 2- İstanbul	1,000,000	16.13
8- Kocaeli-Sakarya-Düzce-Bolu-Yalova	240,000	16
17- Kastamonu-Çankırı-Sinop	59,000	15.95
14- Nevşehir-Aksaray-Niğde-Kırıkkale-Kırşehir	120,000	15.38
7- Bursa-Eskişehir-Bilecik	260,000	15.29
4- İzmir	280,000	14.74
11- Antalya-Isparta-Burdur	170,000	14.17
5- Denizli-Aydın-Muğla	180,000	13.85
16- Zonguldak-Karabük-Bartın	67,000	13.14
3- Balıkesir-Çanakkale	100,000	12.82
Total	5,900,000	8

Table G3: Male Youth Cohort Size

Region	Population of Youth 15-24, Males	Proportion of male youth population as a percentage of the total male population living in that region
24- Gaziantep-Adıyaman-Kilis	230,000	20.91
25- Diyarbakır-Şanlıurfa	260,000	18.57
23- Van-Muş-Bitlis-Hakkari	170,000	18.09
1- İstanbul	1,100,000	17.46
10- Konya-Karaman	190,000	17.27
26- Siirt-Mardin-Batman-Şırnak	160,000	17.2
22- Malatya-Elazığ-Bingöl-Tunceli	130,000	17.11
19- Trabzon-Ordu-Giresun-Rize-Artvin-Gümüşhane	200,000	16.67
6- Manisa-Afyon-Kütahya-Uşak	230,000	16.43
20- Erzurum-Erzincan-Bayburt	83,000	16.27
4- İzmir	290,000	16.11
12- Adana-Mersin	290,000	16.11
8- Kocaeli-Sakarya-Düzce-Bolu-Yalova	240,000	16
9- Ankara	350,000	15.91
13- Hatay-Kahramanmaraş-Osmaniye	220,000	15.71
2- Edirne-Tekirdağ-Kırklareli	110,000	15.49
15- Kayseri-Sivas-Yozgat	170,000	15.45
17- Kastamonu-Çankırı-Sinop	53,000	15.14
7- Bursa-Eskişehir-Bilecik	250,000	14.71
16- Zonguldak-Karabük-Bartın	72,000	14.69
5- Denizli-Aydın-Muğla	190,000	14.62
18- Samsun-Tokat-Çorum-Amasya	190,000	14.62
21- Kars-Ağrı-Iğdır-Ardahan	77,000	14.53
14- Nevşehir-Aksaray-Niğde-Kırıkkale-Kırşehir	100,000	14.49
11- Antalya-Isparta-Burdur	170,000	14.17
3- Balıkesir-Çanakkale	100,000	12.82
Total	5,600,000	8

Table G4: Proportion of Marital Status by Age and Employment Status, Percent

	Total Age 15-24	Employed Age 15-24	Not in the Labor Force 15-24	Unemployed Age 15-24	Total Age 25-29
1-Single that has never married	81.19	81.99	79.85	88.71	32.38
2-Married	18.51	17.65	19.93	10.63	66.32
3-Divorced	0.27	0.34	0.19	0.64	1.11
4-Widowed	0.03	0.02	0.03	0.02	0.18
Total	100	100	100	100	100

Table G5: Education Status of Workforce for Different Age Groups

Age/Education Level	15-24	25-29	30plus
0- Illiterate	1.651	1.244	5.845
1- Literate but not completed any educational institution	7.778	1.656	4.551
2- Primary school	11.55	31.29	48.33
3- Secondary school, vocational school at secondary school level or primary education	35.95	13.1	10.43
4- High school	17.3	14.61	9.084
5- Vocational or technical high school	15.17	15.37	7.95
6- Higher education (university, faculty or upper)	10.6	22.73	13.82
Total	100	100	100

Table G6: LFPR by Urban and Rural and Across Genders and Age Groups

AGES	URBAN		RURAL	
	Male	Female	Male	Female
15-19	34.40	14.19	42.71	23.62
20-24	70.62	32.65	75.30	34.51
25-29	93.36	32.56	88.91	35.25
30plus (age 30 and over)	71.55	17.37	73.68	33.84

Table G7: Sectoral Distribution of employment for different age groups, Percent

	Ages 15-19	Ages 20-24	Ages 25-29	Ages >=30	All Working Age
1- Agriculture, forestry, hunting and fishing	26.94	16.52	12.27	27.19	23.67
2- Mining and quarrying	0.28	0.35	0.48	0.61	0.54
3- Manufacturing	27.29	26.75	25.53	16.93	19.98
4- Electricity, gas and water	0.073	0.28	0.43	0.49	0.43
5- Construction	5.69	5.59	6.04	5.87	5.86
6- Wholesale and retail trade, restaurants and hotels	27.41	26.86	24.86	19.44	21.58
7- Transportation, communication and storage	1.19	3.15	4.74	5.91	5.14
8- Finance, insurance, real estate and business services	2.8	7.28	8.5	4.79	5.52
9- Community, social and personal services	8.33	13.22	17.14	18.78	17.29
Total	100	100	100	100	100

Table G8: Informal Employment (Not registered with a social security institution), Percent

	FEMALE				MALE			
	Ages 15-19	Ages 20-24	Ages 25-29	All Working Age	Ages 15-19	Ages 20-24	Ages 25-29	All Working Age
RURAL	92.22	78.96	75.43	89.67	86.18	62.33	45.97	56.93
URBAN	63.21	29.57	19.79	33.60	69.59	35.77	23.31	30.03

Table G9: Unemployment by gender and age group and urban/rural, Percent

AGES	URBAN		RURAL	
	Male	Female	Male	Female
15-19	21.7	25.7	16.6	9.2
20-24	19.9	27.5	20.9	10.6
25-29	12.6	18.1	12.5	6.6
30plus	9.0	11	5.68	2.37

Table G10: Unemployment by gender and provinces (NUTS2) for Ages 15-24, Percent

Region	Male	Female
1- İstanbul	16.33	20.45
2- Edirne-Tekirdağ-Kırklareli	21.46	23.29
3- Balıkesir-Çanakkale	16.69	19.91
4- İzmir	19.47	27.83
5- Denizli-Aydın-Muğla	17.96	21.29
6- Manisa-Afyon-Kütahya-Uşak	16.53	14.16
7- Bursa-Eskişehir-Bilecik	17.97	23.16
8- Kocaeli-Sakarya-Düzce-Bolu-Yalova	19.83	28.39
9- Ankara	19.57	36.08
10- Konya-Karaman	18.35	26.13
11- Antalya-Isparta-Burdur	14.61	19.59
12- Adana-Mersin	27.05	33.11
13- Hatay-Kahramanmaraş-Osmaniye	22.88	22.51
14- Nevşehir-Aksaray-Niğde-Kırkkale-Kırşehir	24.04	27.11
15- Kayseri-Sivas-Yozgat	22.78	29.07
16- Zonguldak-Karabük-Bartın	22.74	13.61
17- Kastamonu-Çankırı-Sinop	14.62	12.06
18- Samsun-Tokat-Çorum-Amasya	17.76	12.57
19- Trabzon-Ordu-Giresun-Rize-Artvin-Gümüşhane	20.16	15.04
20- Erzurum-Erzincan-Bayburt	18.62	5.12
21- Kars-Ağrı-Iğdır-Ardahan	15.86	3.21
22- Malatya-Elazığ-Bingöl-Tunceli	28.13	33.52
23- Van-Muş-Bitlis-Hakkari	26	15.29
24- Gaziantep-Adıyaman-Kilis	27.42	11.29
25- Diyarbakır-Şanlıurfa	23.08	5.15
26- Siirt-Mardin-Batman-Şırnak	30.7	11.92

Table G11: Types of Jobs the Employed Have. Types of Jobs the Unemployed Seek

	Jobs the employed have 15-24	Jobs the un-employed seek 15-24	Jobs the employed have 25-29	Jobs the un-employed seek 25-29	Jobs the employed have 30plus	Jobs the un-employed seek 30plus	Jobs the employed have Total	Jobs the un-employed seek Total
1- Legislators, senior, officials and managers	2.01	1.09	6.68	1.98	10.94	2.95	8.78	2.11
2- Professionals	2.75	7.56	9.68	13.33	6.26	4.8	6.24	7.47
3- Technicians and associate professionals	6.47	10.2	9.91	9.71	6.58	5.41	7.11	7.93
4- Clerks	9.43	20.66	9.69	16.3	5.21	7.55	6.64	13.83
5- Service workers and shop and market sales workers	19.53	21.83	14.42	16.52	9.64	13.21	12.05	16.85
6- Skilled agricultural, and fishery workers,	13.6	0.23	9.48	0.22	23.29	0.59	19.44	0.39
7- Craft and related trades workers	18.45	16.26	15.74	15.92	12.88	20.69	14.26	18.2
8- Plant and machine operators and assemblers	9.82	6.11	11.66	9.41	10.78	15.85	10.77	11.2
9- Elementary occupations	17.94	16.05	12.74	16.62			14.72	22.02

APPENDIX H
 FIGURES OF DESCRIPTIVE YOUTH AND YOUTH LABOR STATISTICS,
 HLFS, 2008 MICRO DATA

Figure H1: Education Level by Age Categories

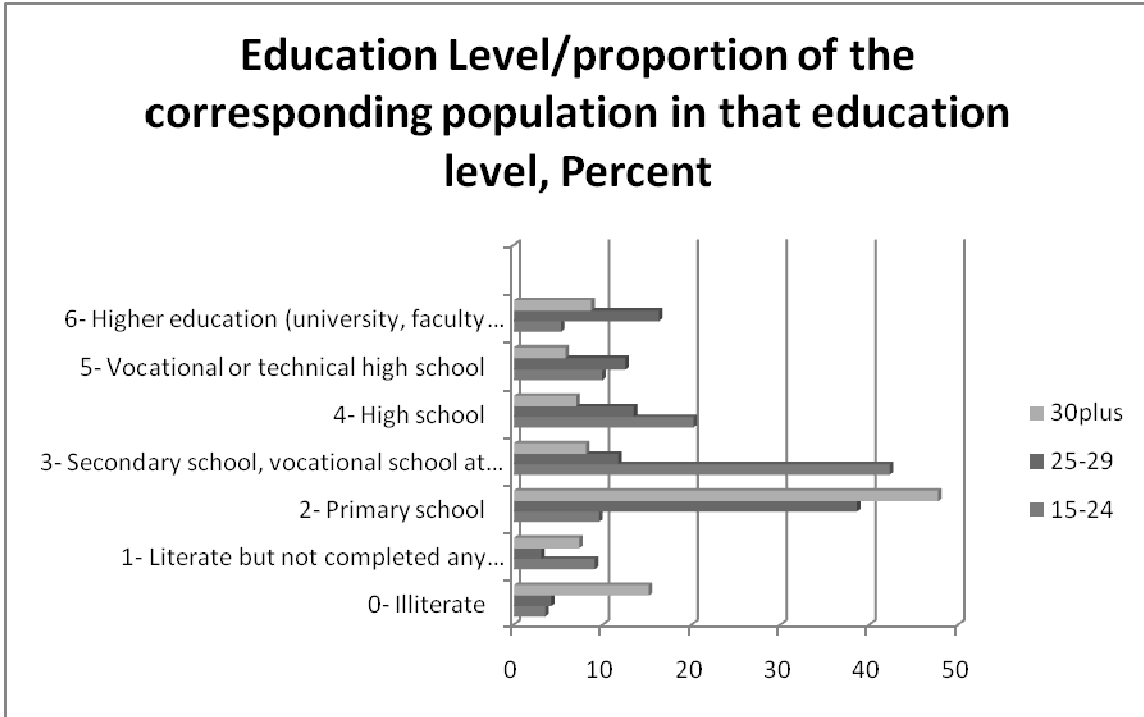


Figure H2: Attendance in Education by NUTS1 Regions

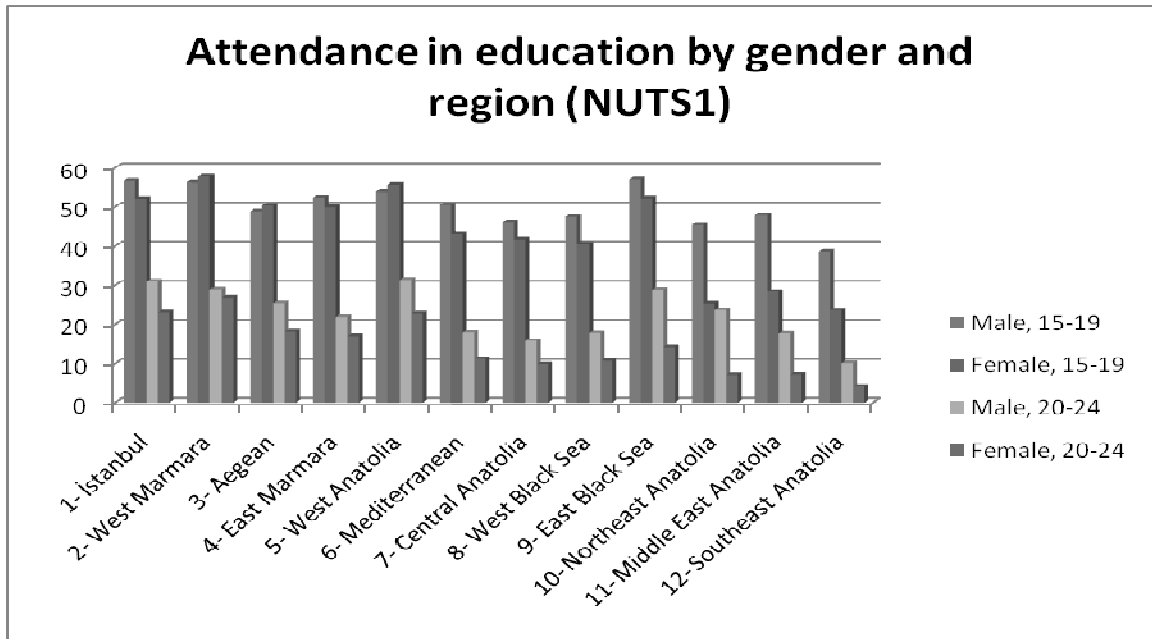


Figure H3: NEET by NUTS 2 Regions

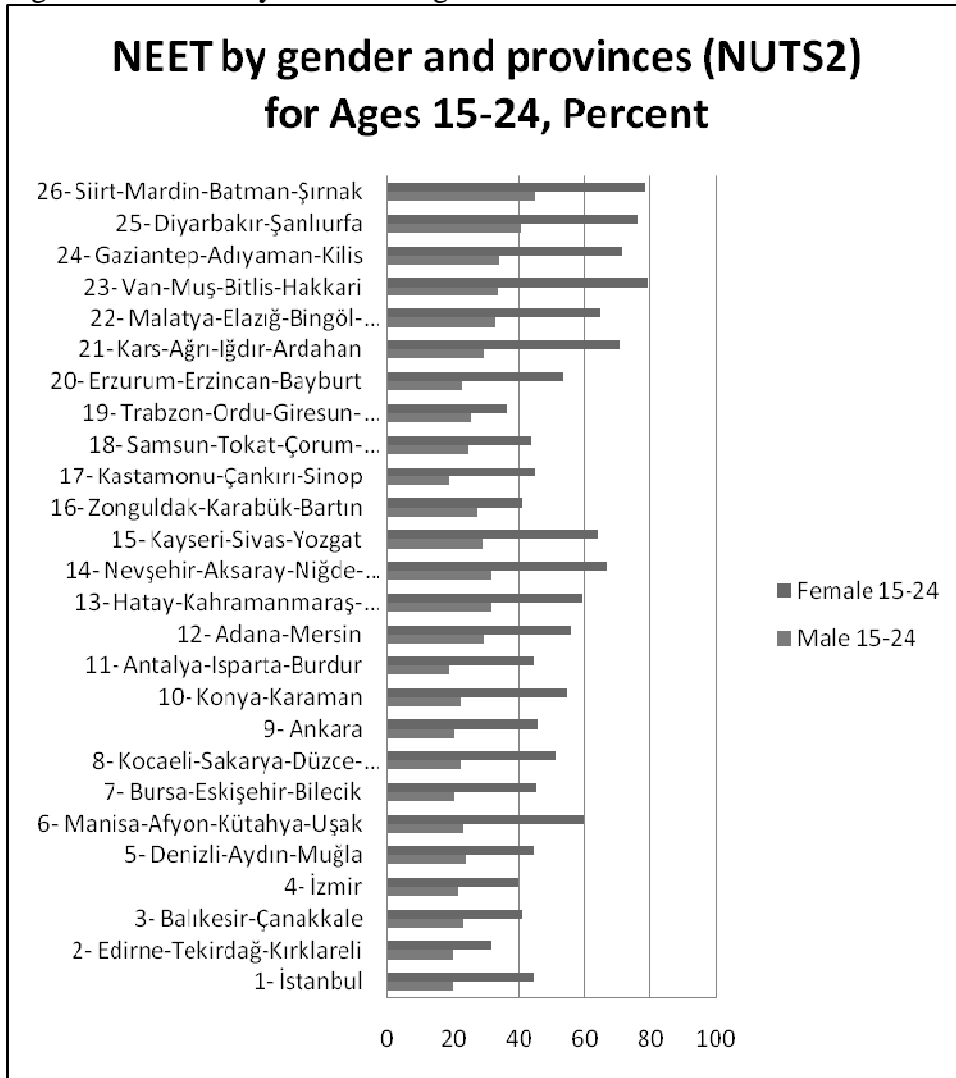


Figure H4: LFPR by Age Group, Total

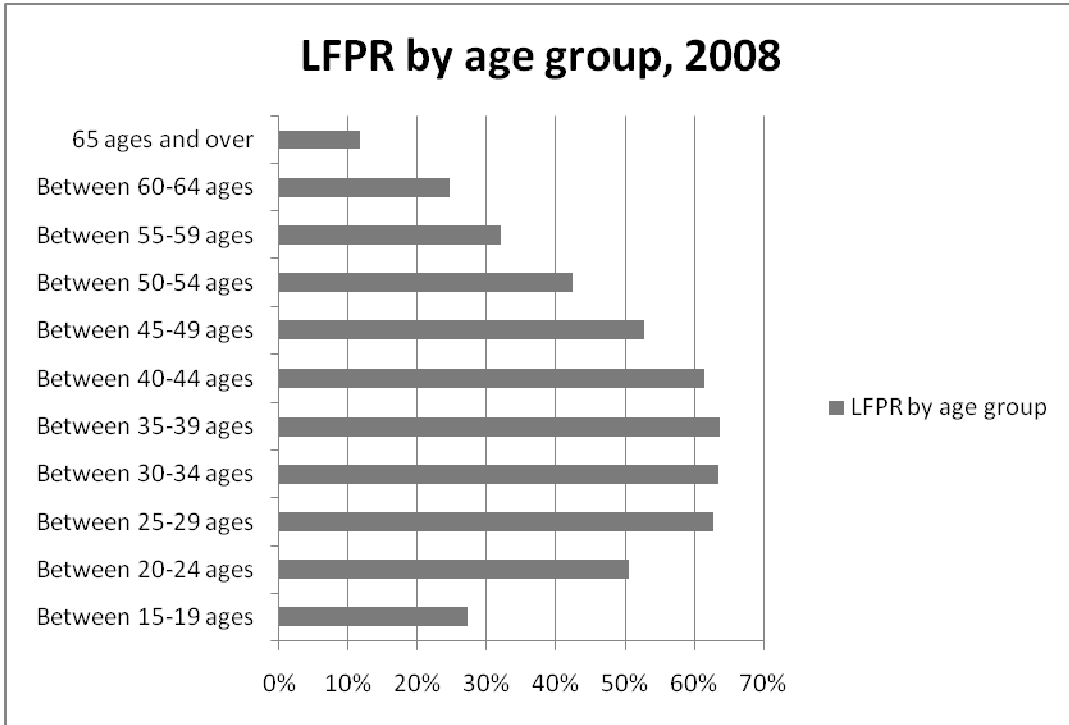


Figure H5: LFPR by Age Group and Gender

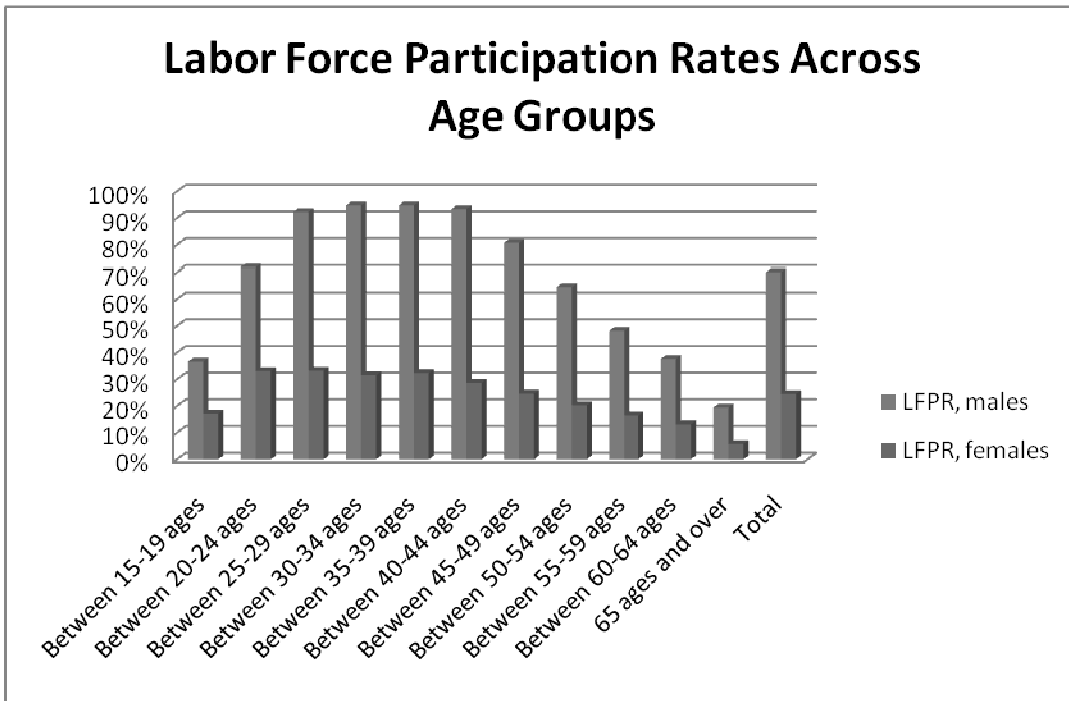


Figure H6: LFPR by Youth Age Groups, Gender and NUTS1 Regions

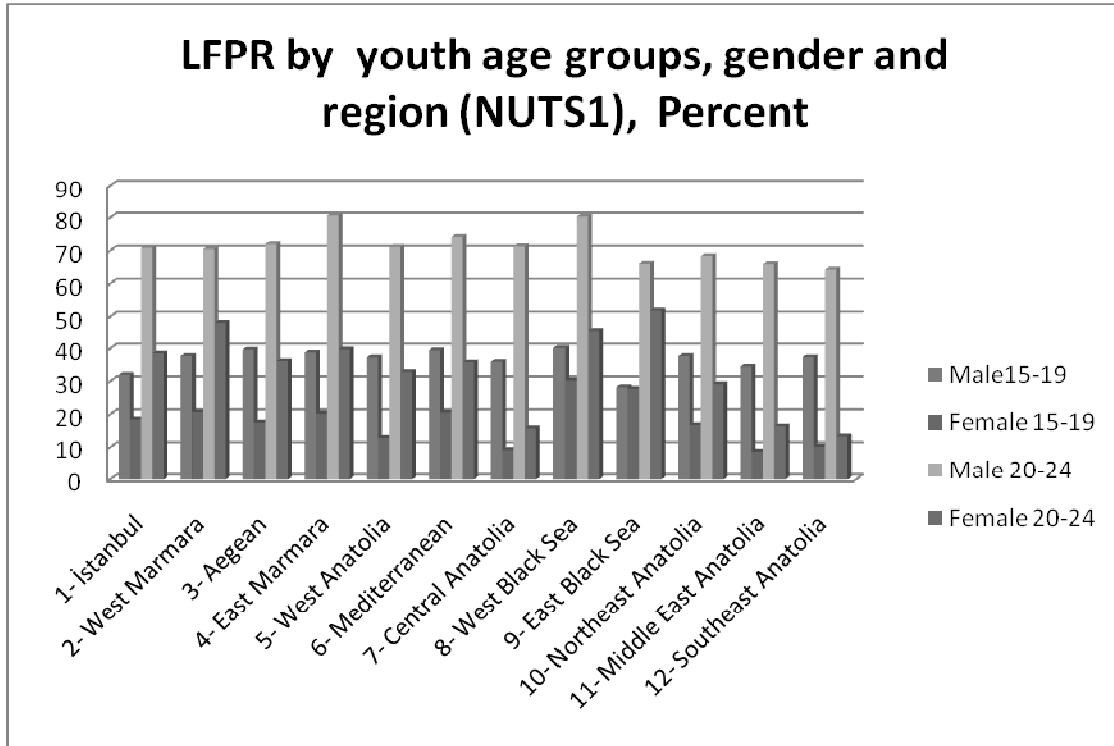


Figure H7: LFPR by Education of Youth (15–24) by Gender and Rural and Urban

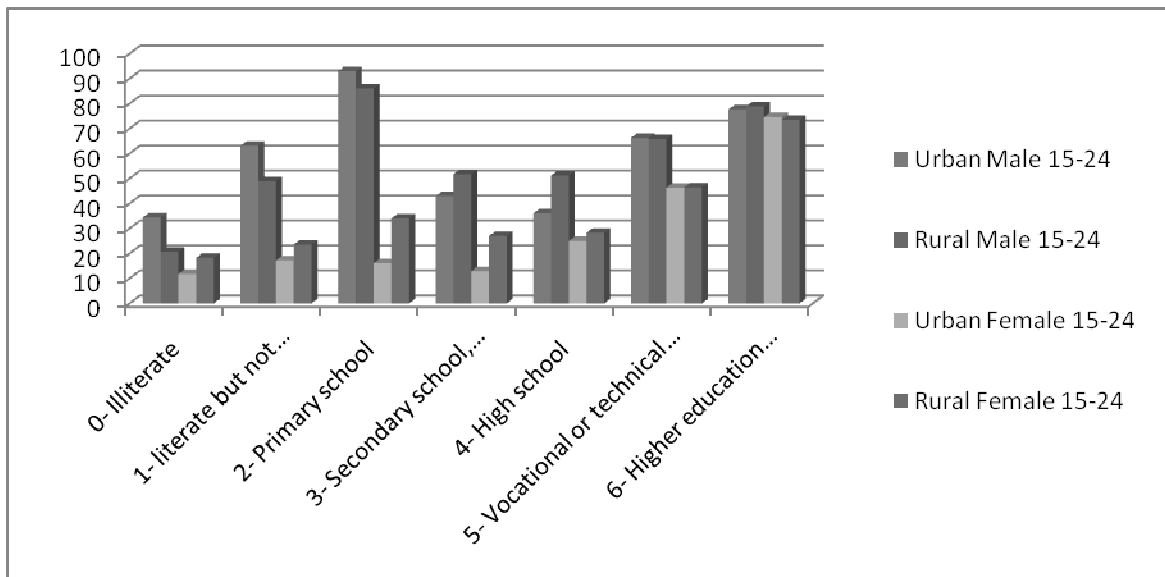


Figure H8: LFPR by Education of Adults (25–29) by Gender and Rural and Urban

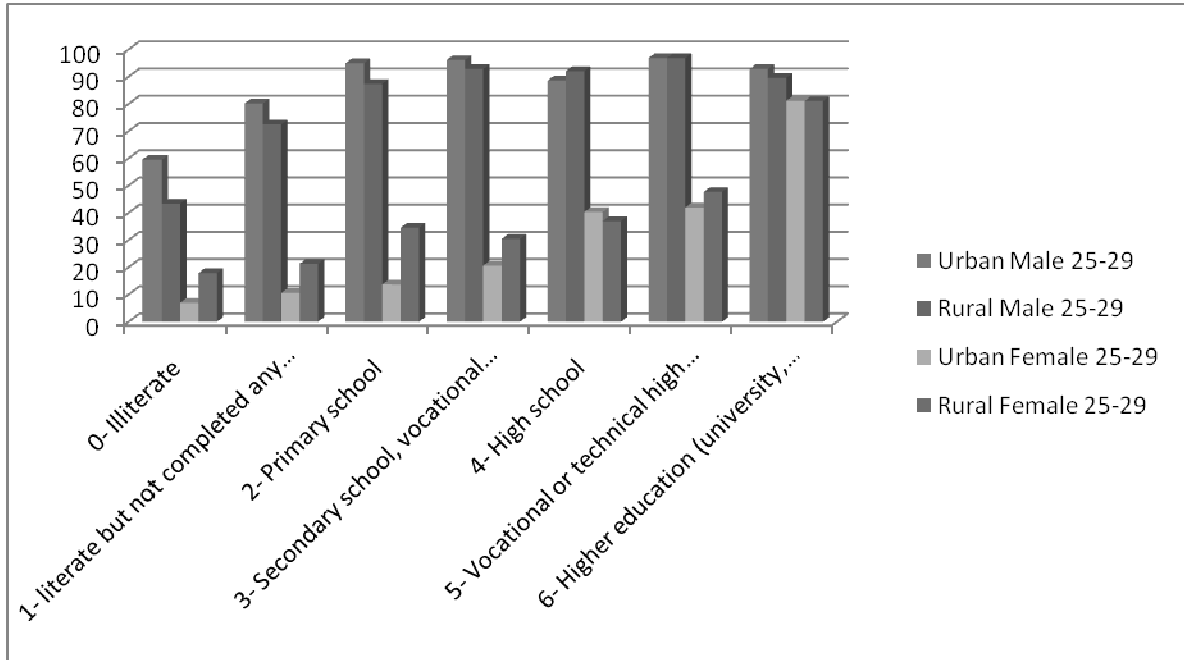


Figure H9: LFPR by Education of Adults (30plus) by Gender and Rural and Urban

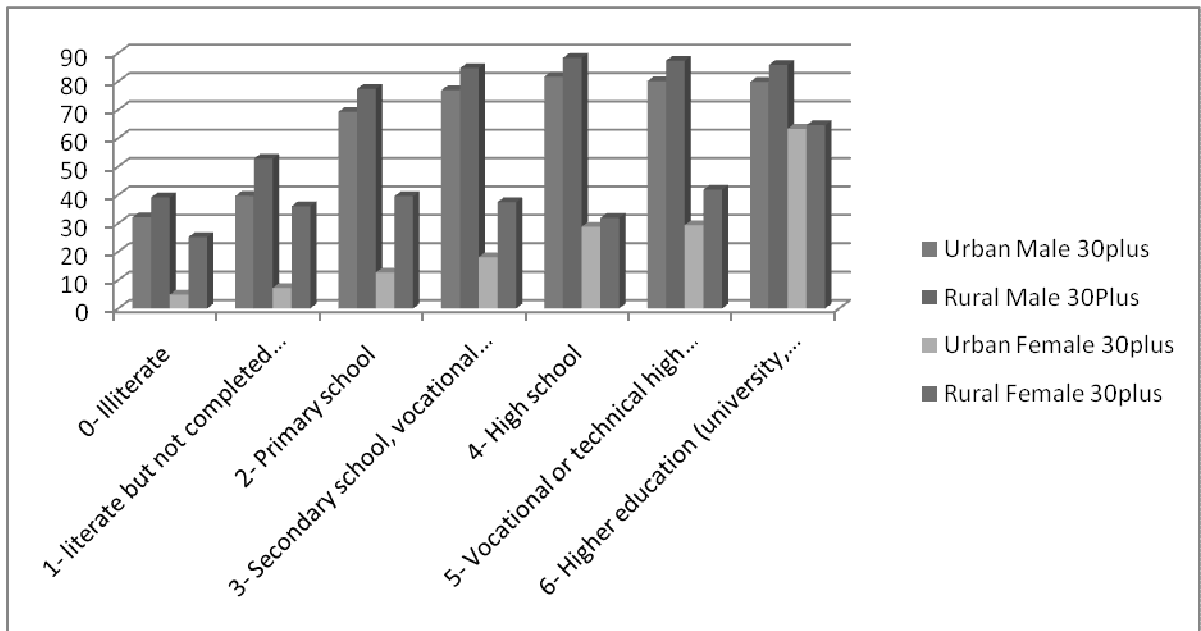


Figure H10: Employment Rate by Age Groups

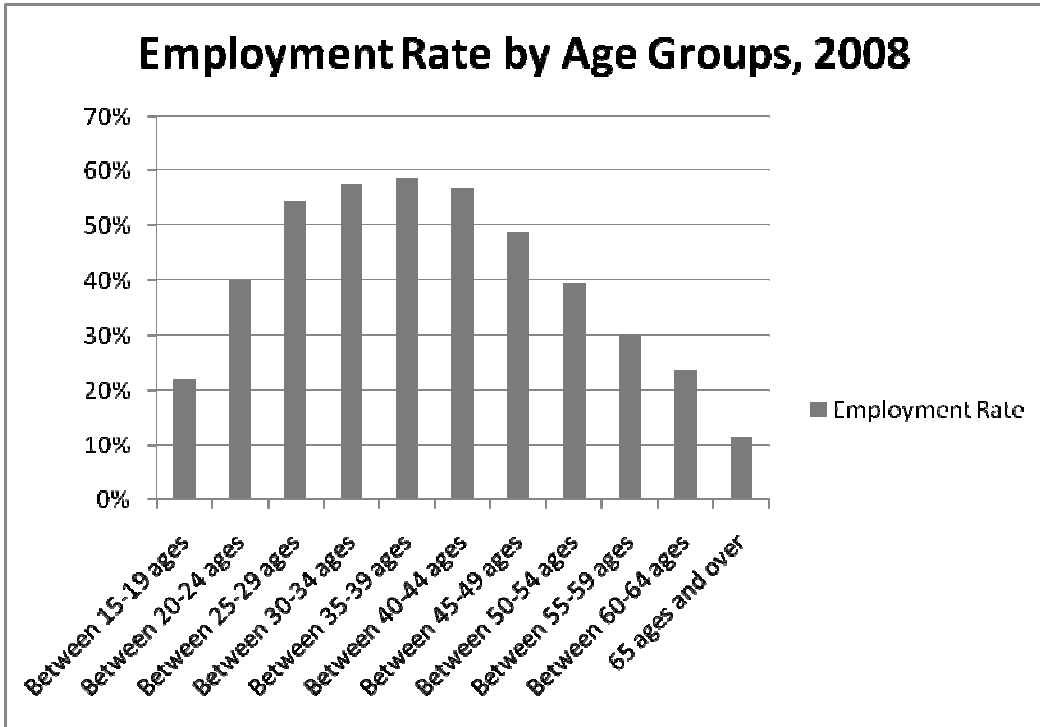


Figure H11: Employment Rate by Gender and Age Groups

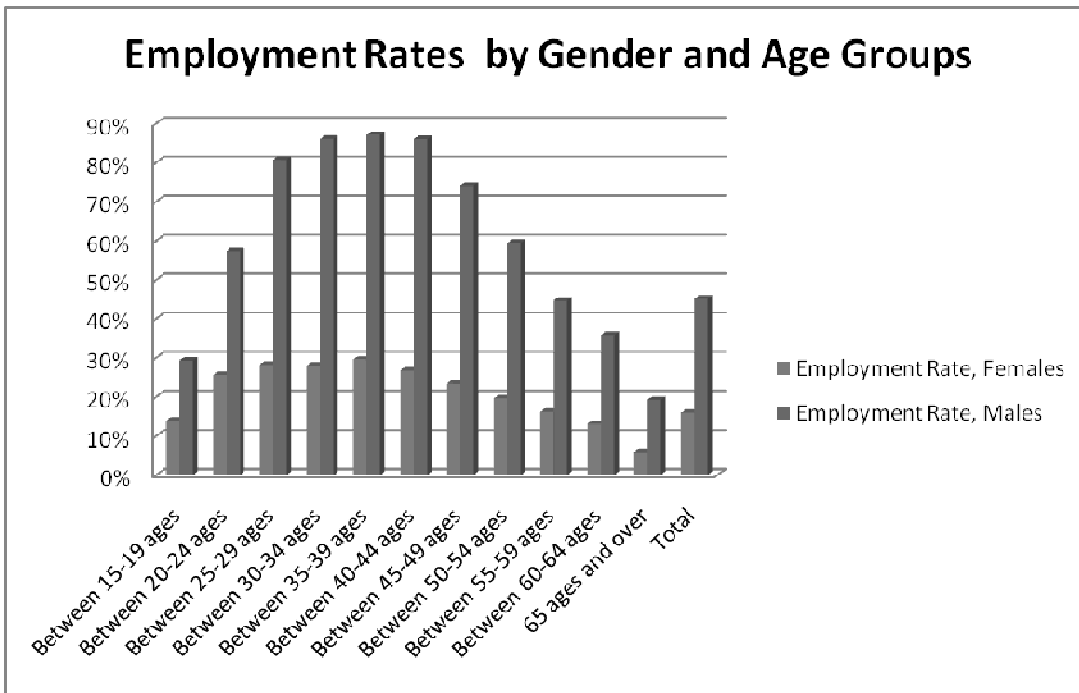


Figure H12: Employment Distribution across Sectors by Age Groups, Rural Females

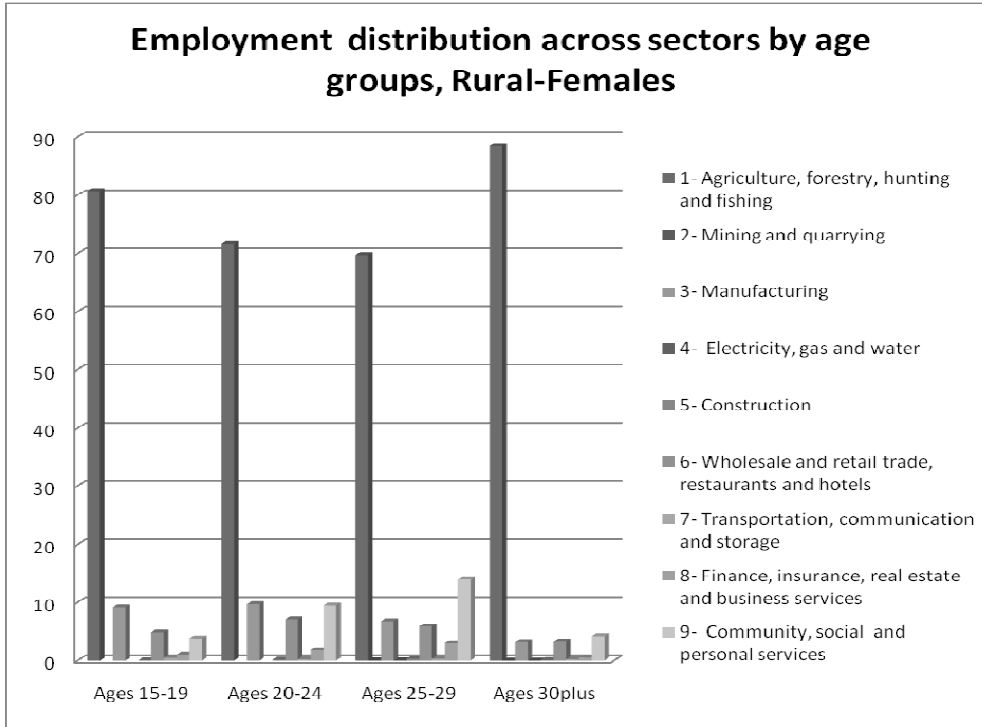


Figure H13: Employment Distribution across Sectors by Age Groups, Rural Males

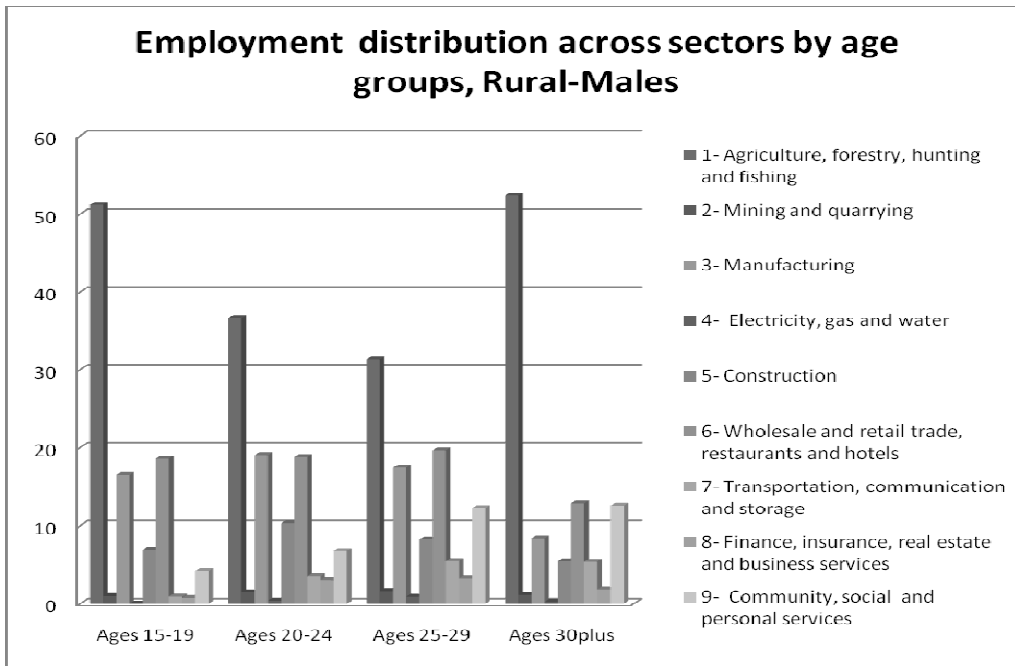


Figure H14: Employment Distribution across Sectors by age groups, Urban Females

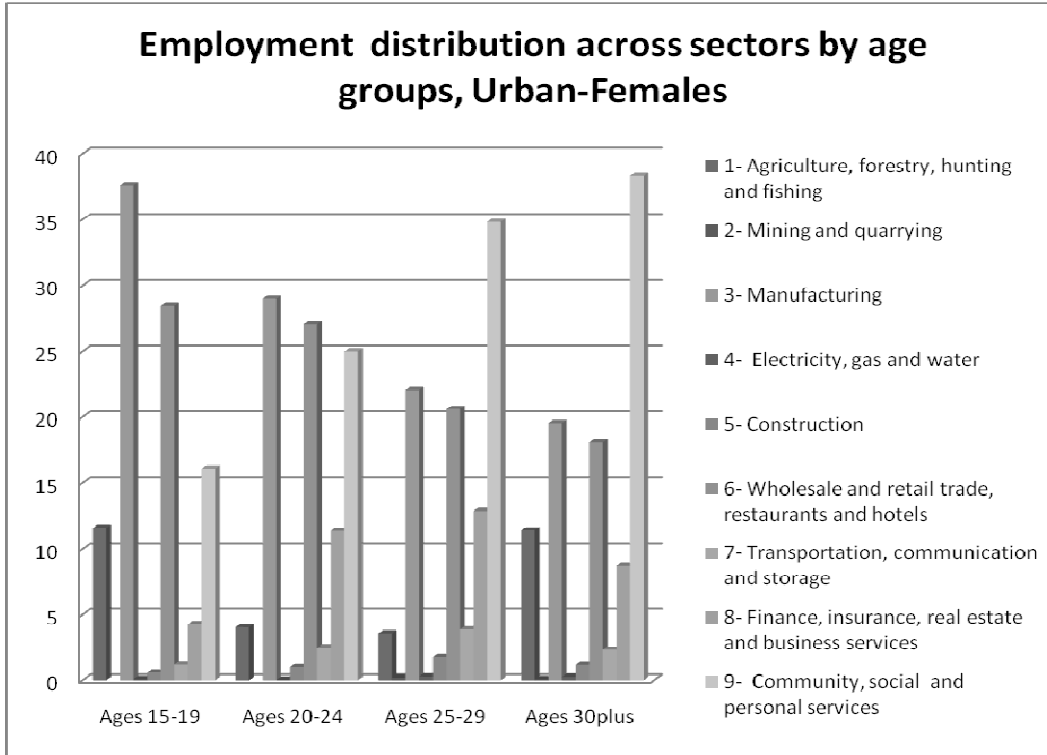


Figure H15: Employment Distribution across Sectors by age groups, Urban Males

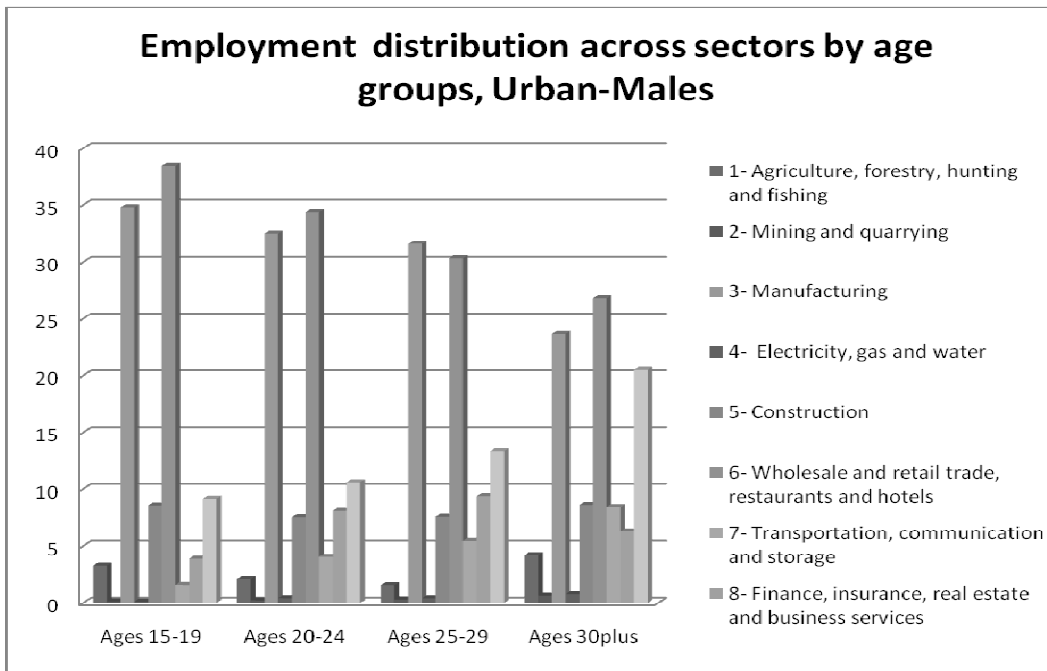


Figure H16: Education Status of Workforce across Sectors

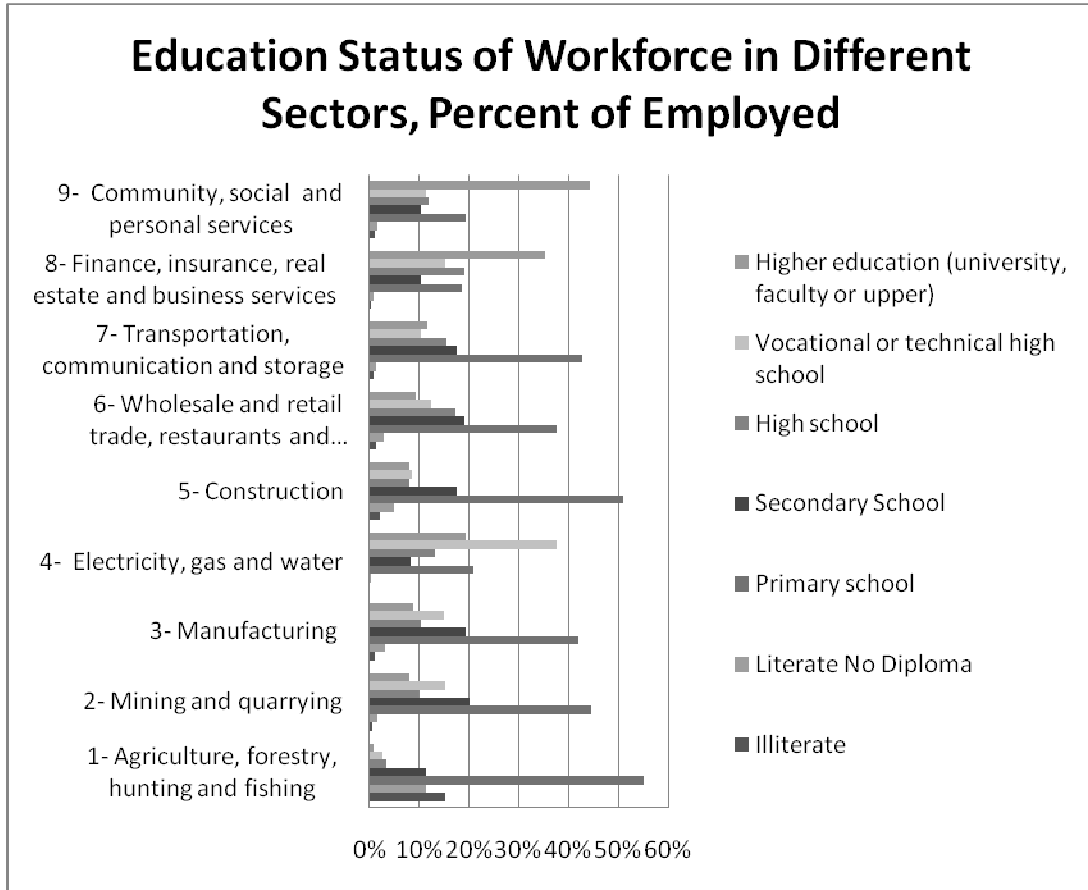


Figure H17: Sectoral Division of Employment within Education Categories, Urban Male Youth

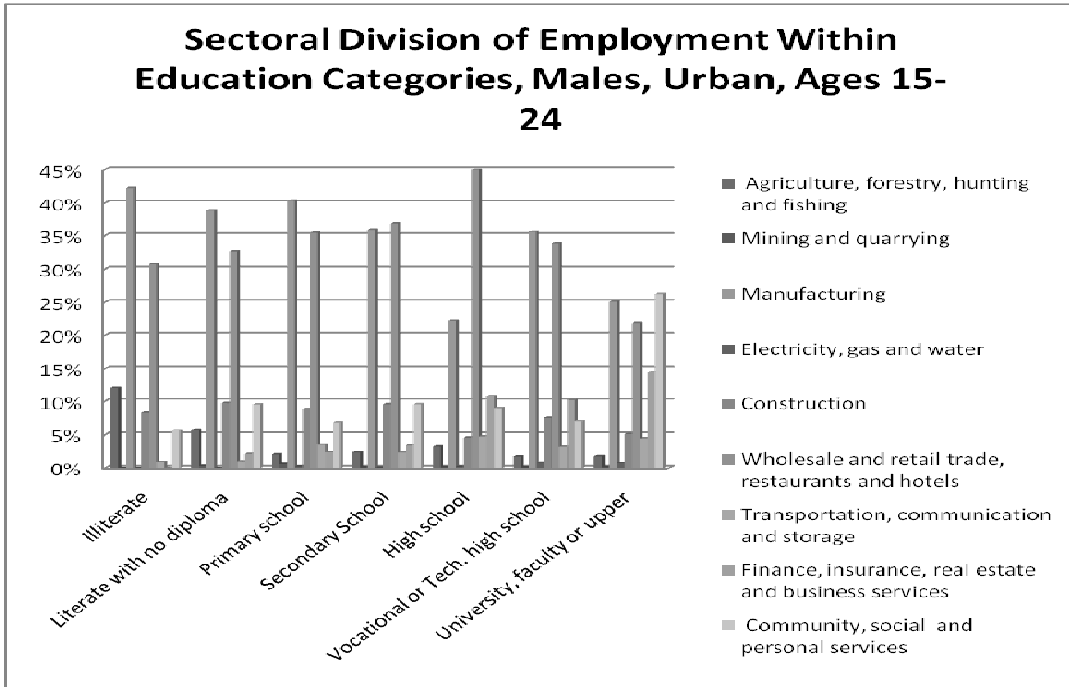


Figure H18: Sectoral Division of Employment within Education Categories, Rural Male Youth

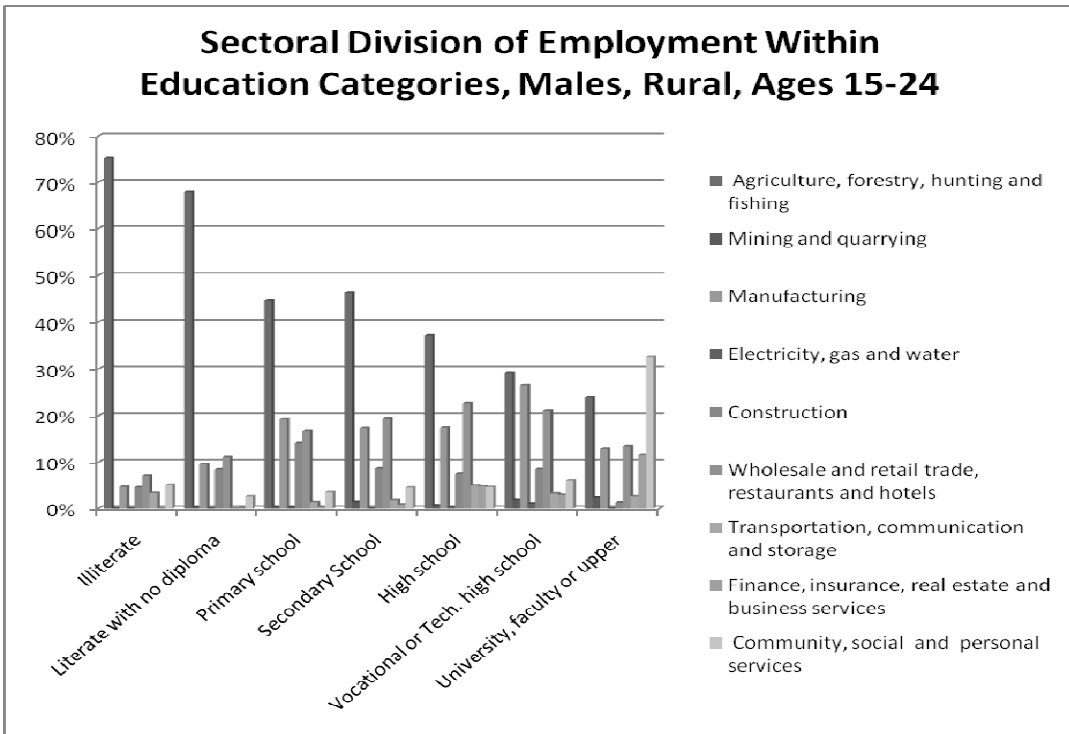


Figure H19: Sectoral Division of Employment within Education Categories, Urban Female Youth

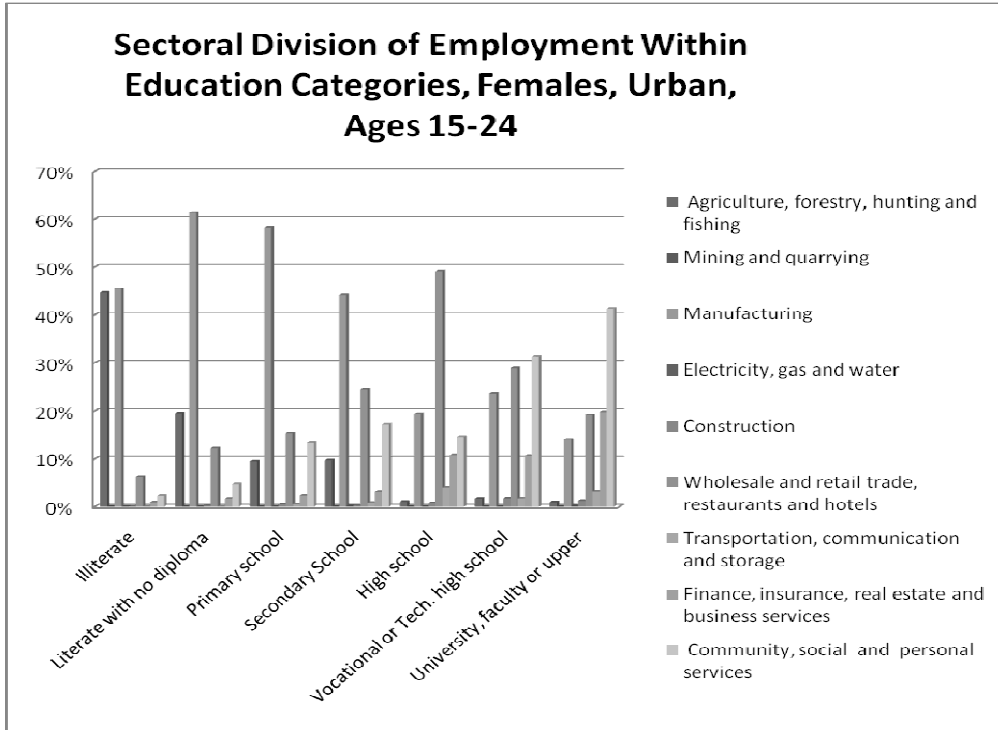


Figure H20: Sectoral Division of Employment within Education Categories, Rural Female Youth

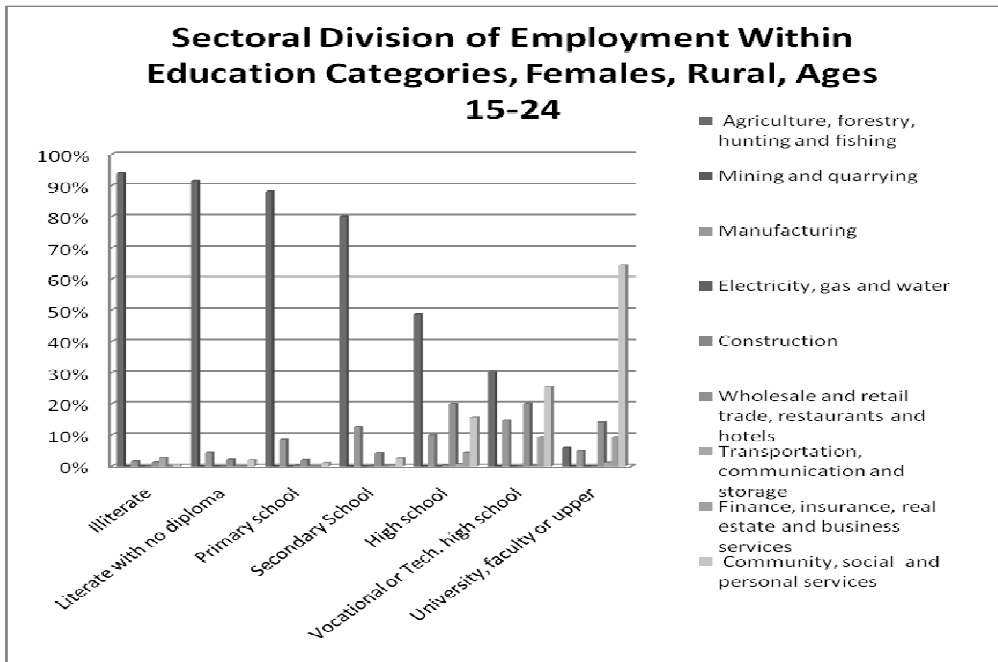


Figure H21: Unemployment by Age Groups

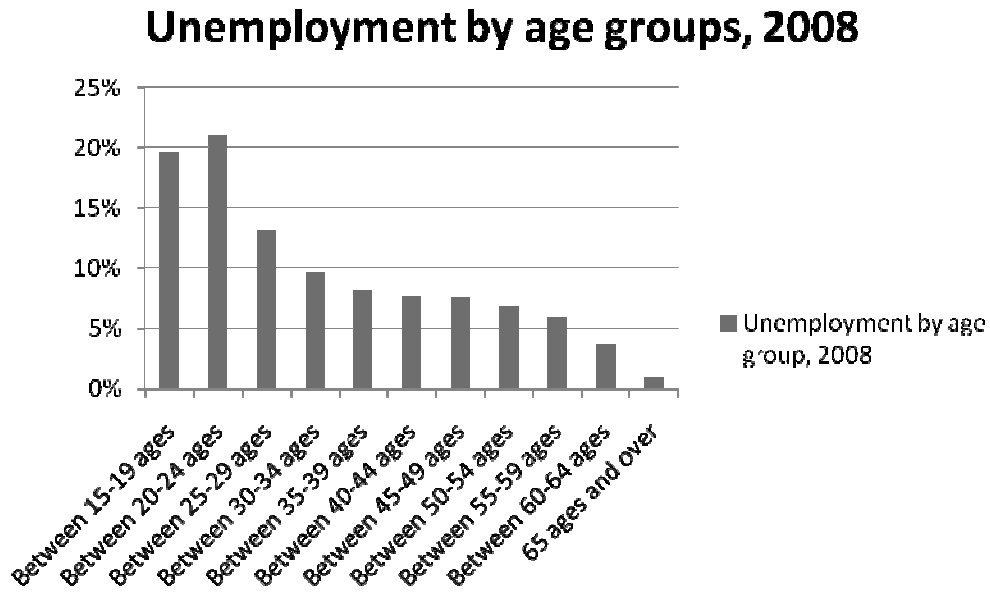


Figure H22: Unemployment by Education, Age Groups and Gender, Urban

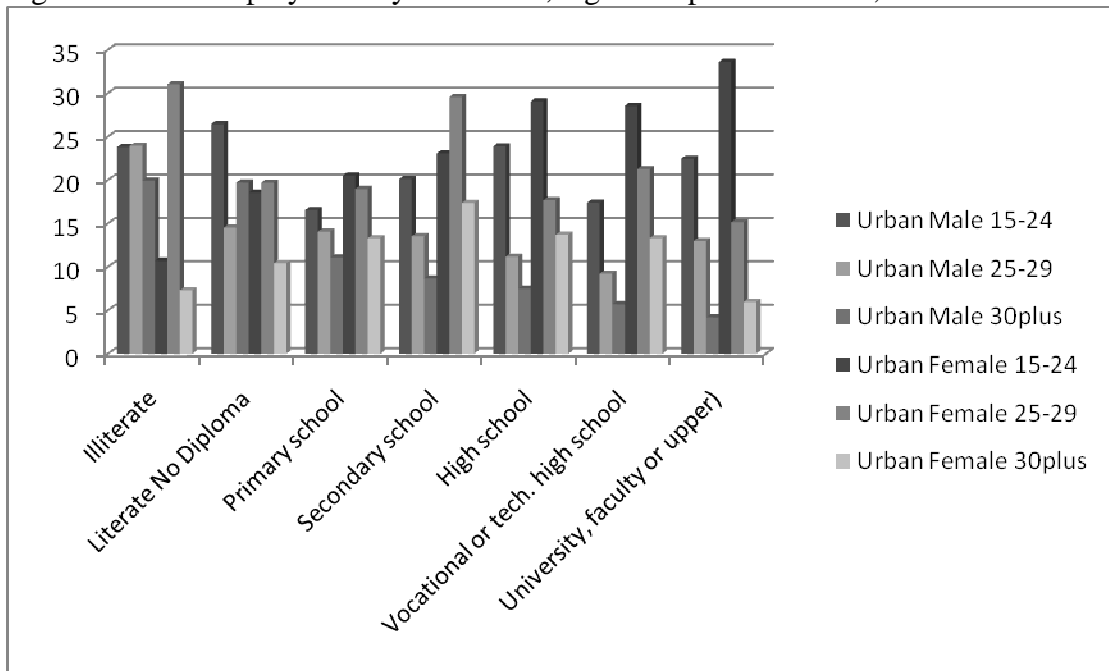
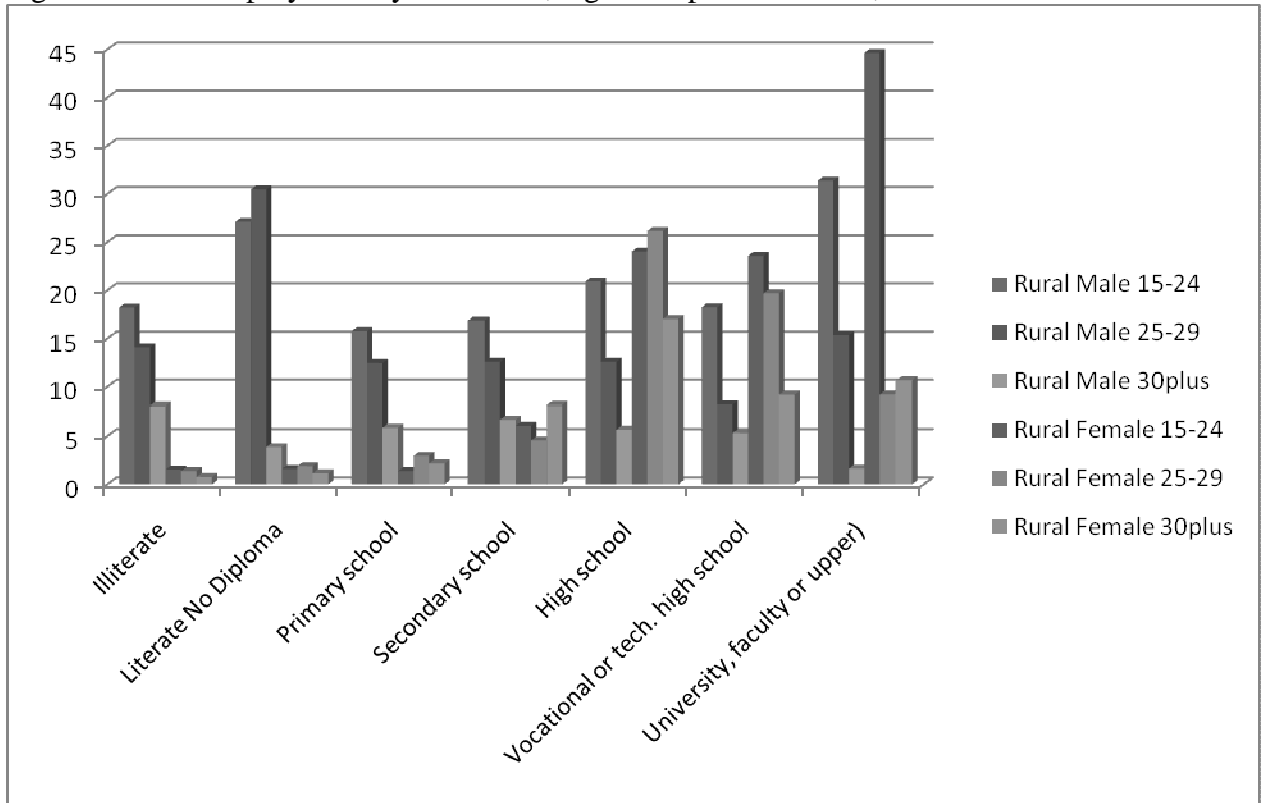


Figure H23: Unemployment by Education, Age Groups and Gender, Rural



APPENDIX I

TIME SERIES GRAPHICAL ANALYSIS OF VARIABLES ACROSS COUNTRIES:
1988 THROUGH 2009

Figure 11: Relative Youth Cohort Size in Advanced Countries

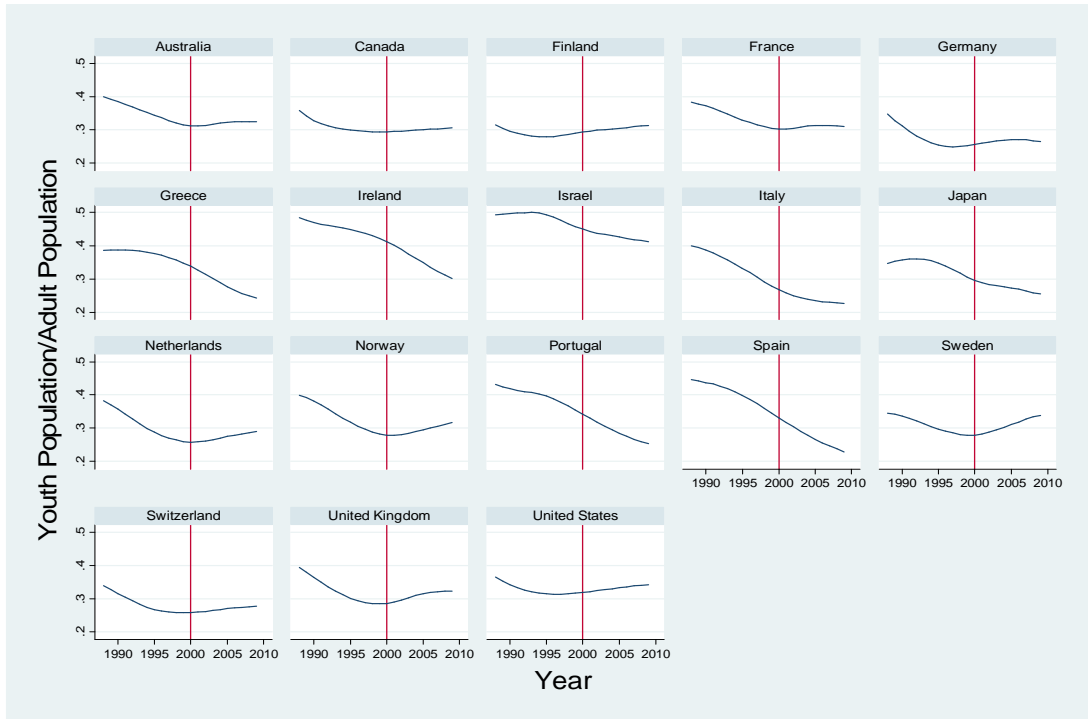


Figure I2: Relative Youth Cohort Size in Developing Countries

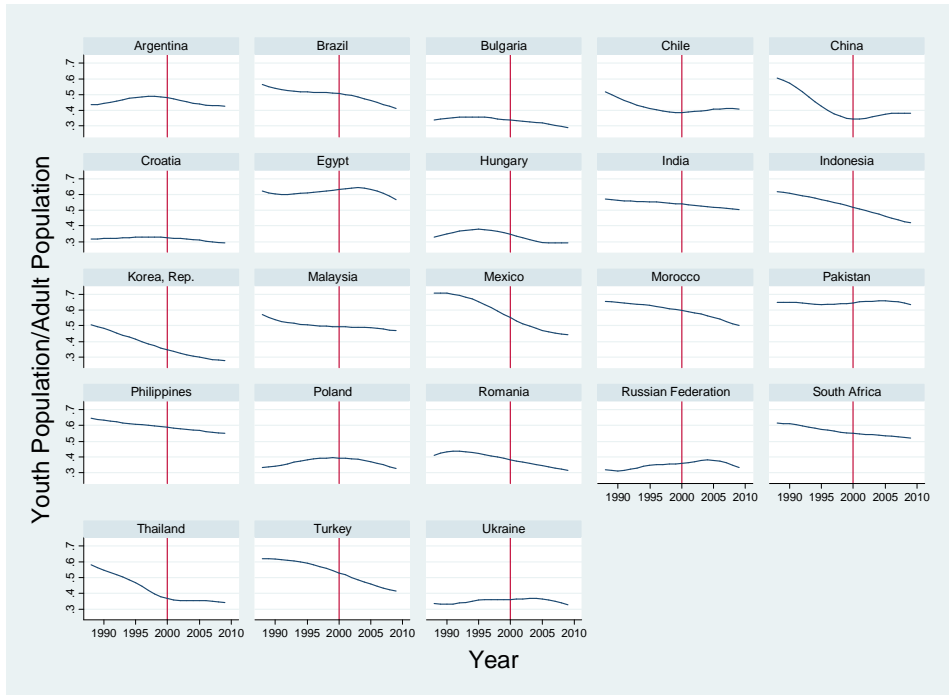


Figure I3: Youth Cohort Size & Unemployment Rate in Advanced Countries

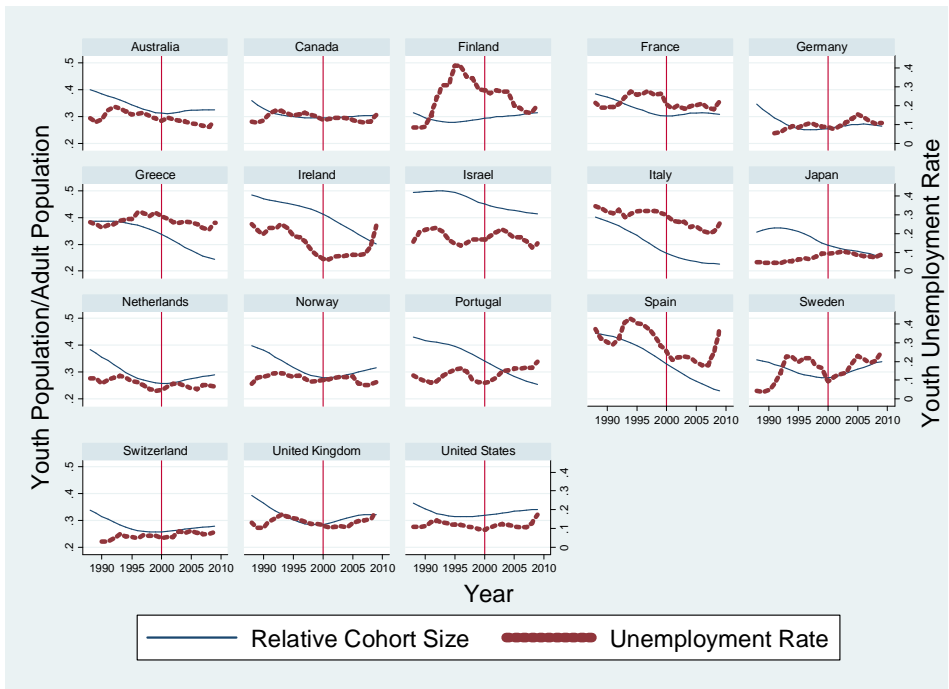


Figure I4: Youth Cohort Size & Unemployment Rate in Developing Countries

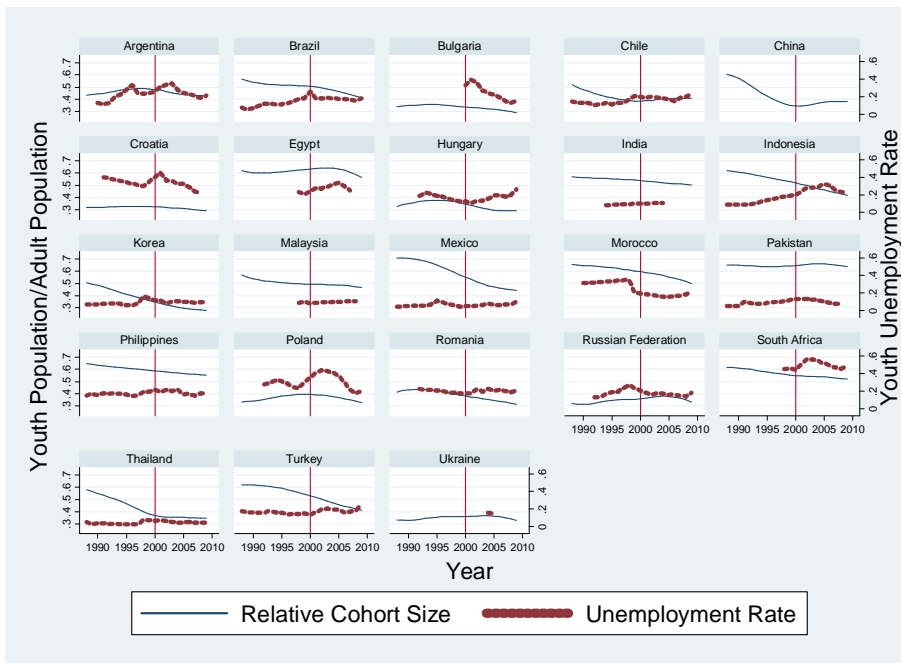


Figure I5: Youth Cohort Size & Employment Rate in Advanced Countries

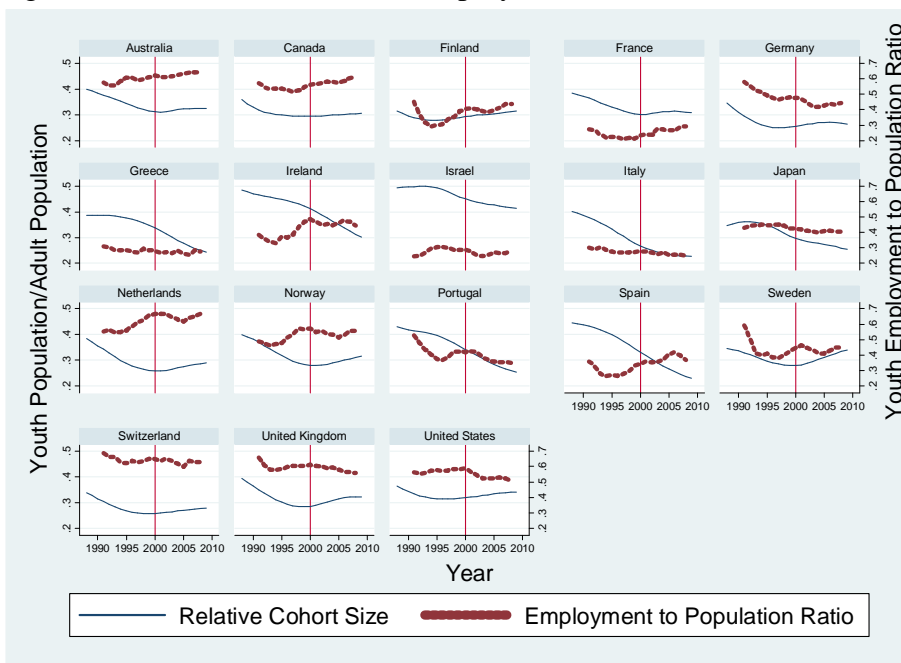


Figure I6: Youth Cohort Size & Employment Rate in Developing Countries

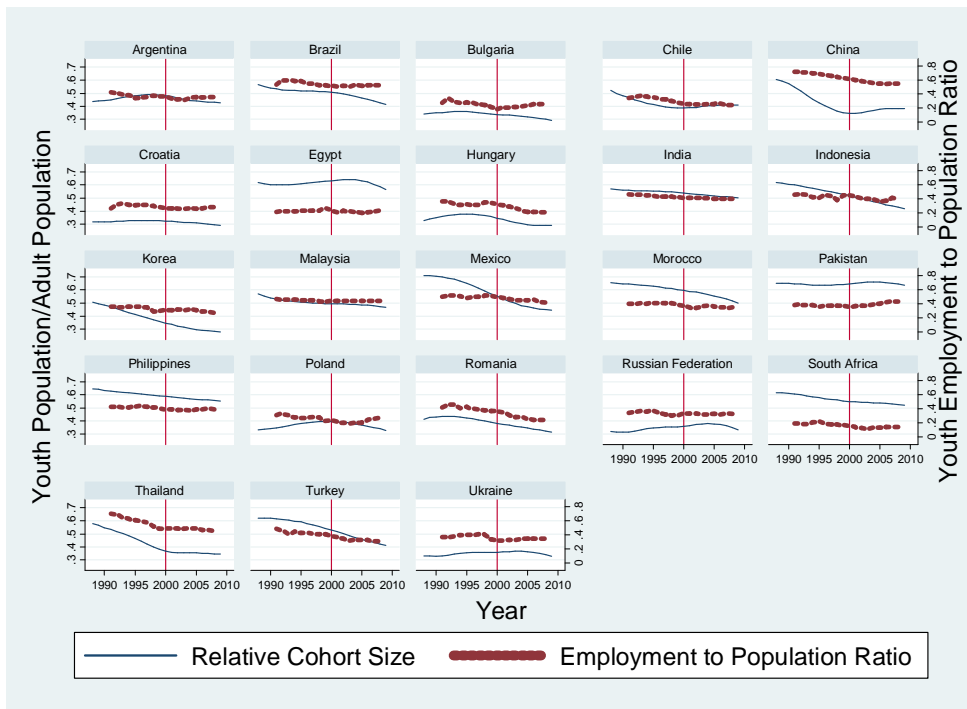


Figure I7: Tertiary Enrollment & Employment Rates in Advanced Countries

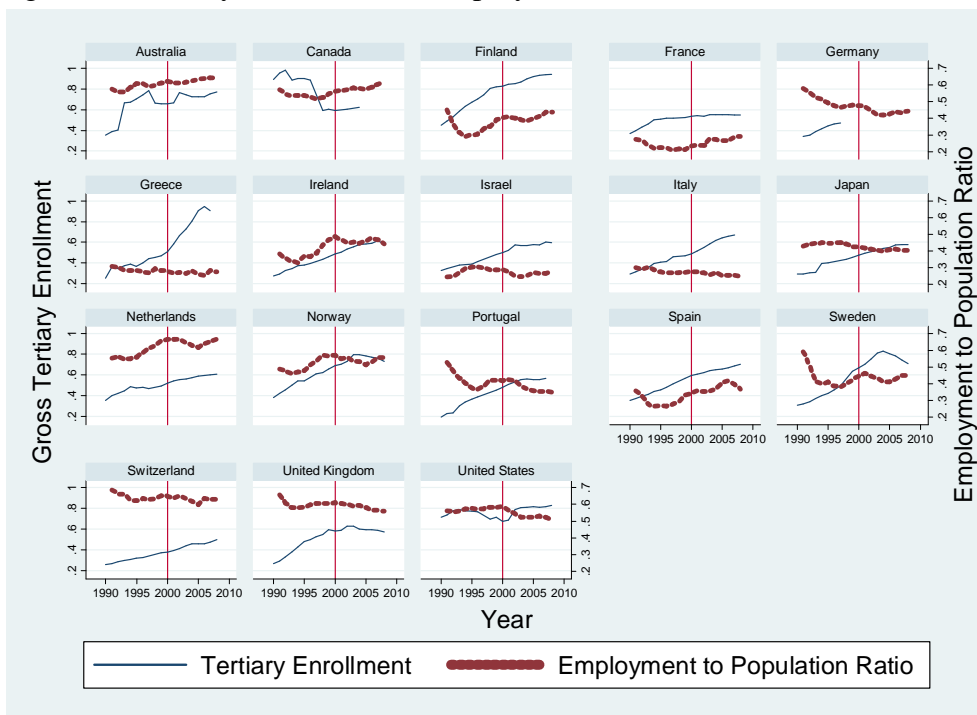


Figure I8: Tertiary Enrollment & Employment Rates in Developing Countries

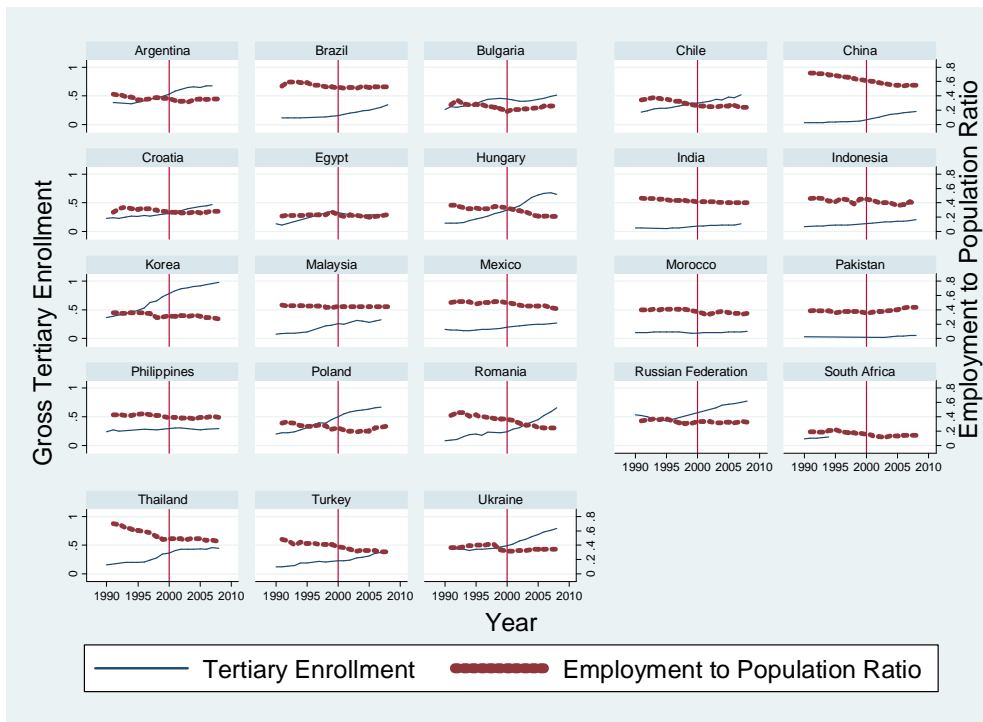


Figure I9: Adult & Youth Unemployment Rates in Advanced Countries

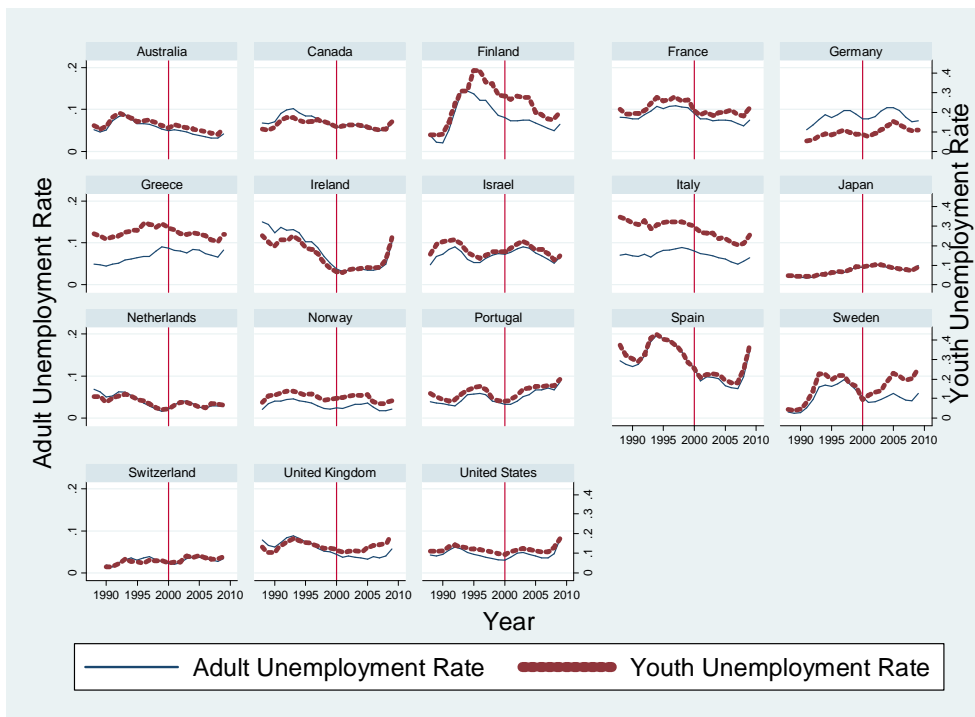


Figure I10: Adult & Youth Unemployment Rates in Developing Countries

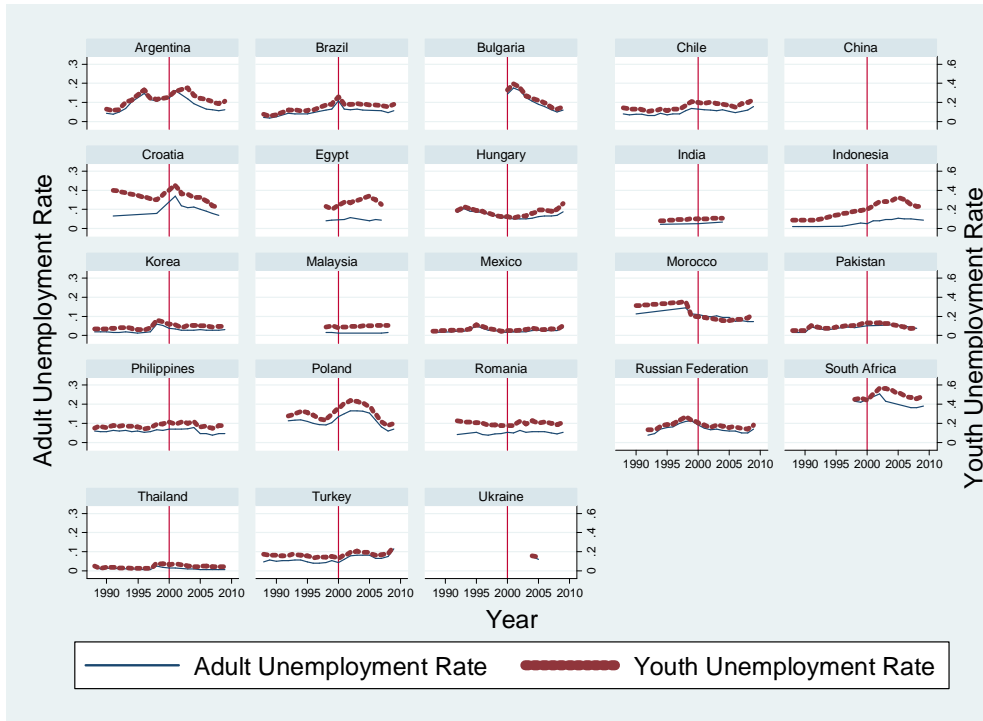


Figure I 11: Adult & Youth Employment Rates in Advanced Countries

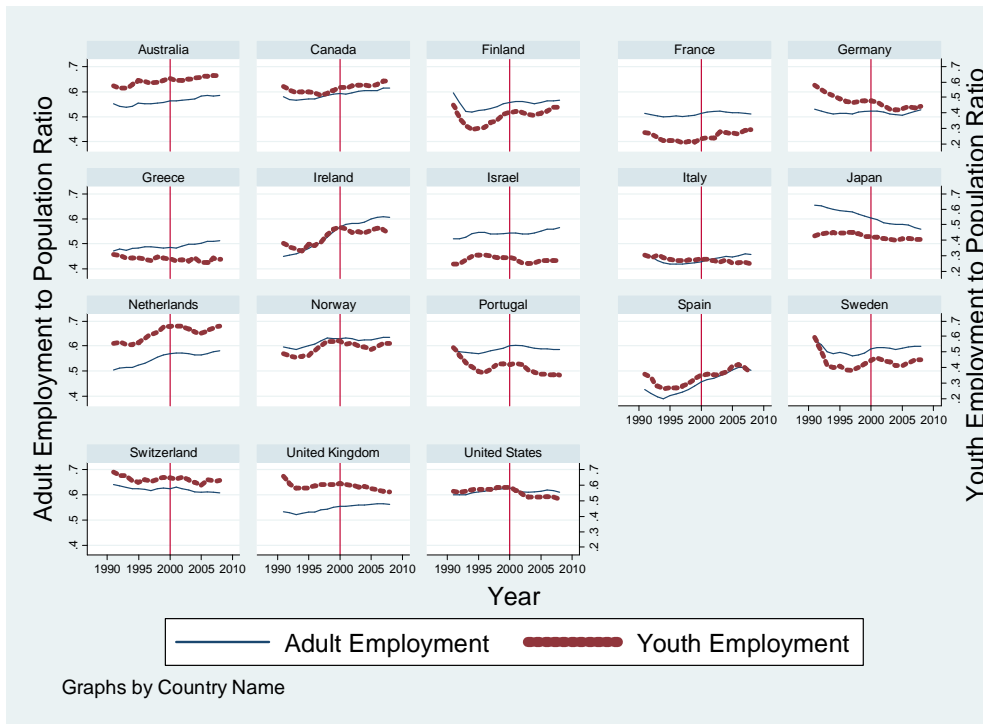


Figure I12: Adult & Youth Employment Rates in Developing Countries

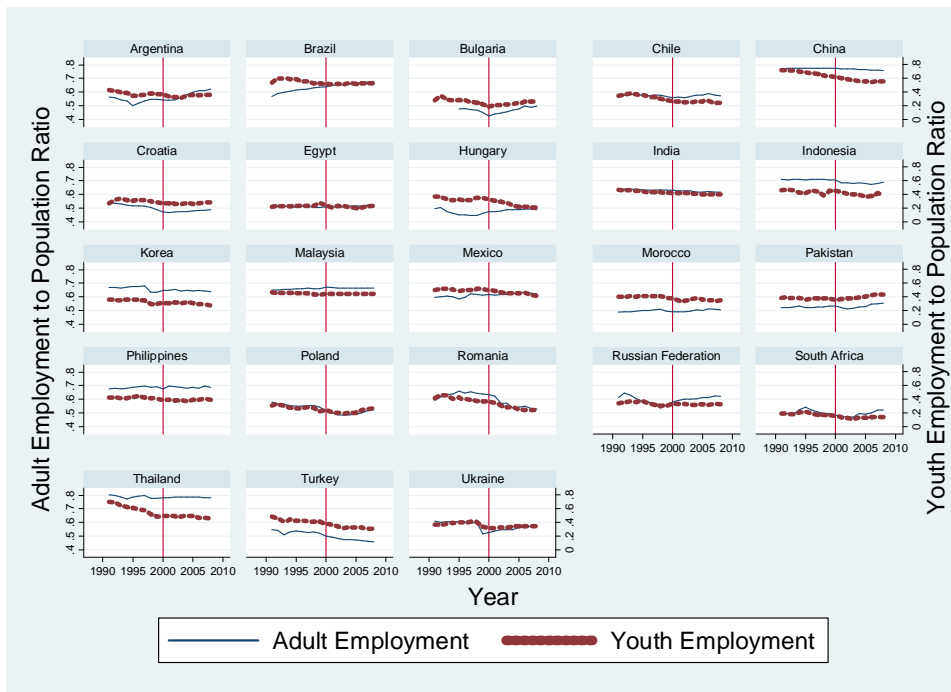


Figure I13: GDP Growth in Advanced Countries

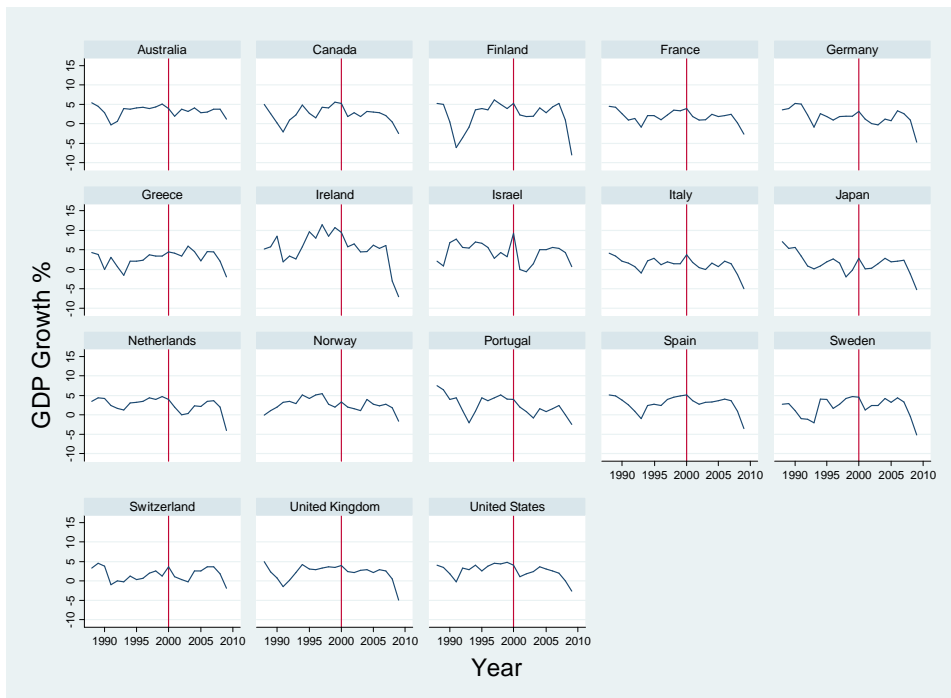


Figure I14: GDP Growth in Developing Countries

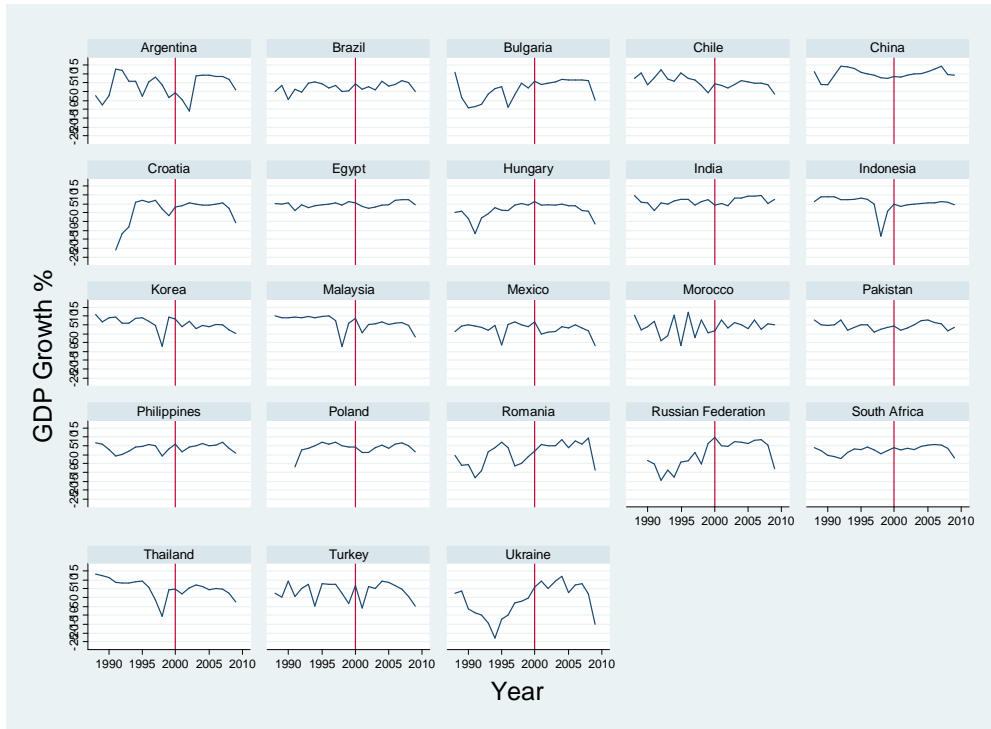


Figure I15: GDP per Capita and Youth Unemployment in Advanced Countries

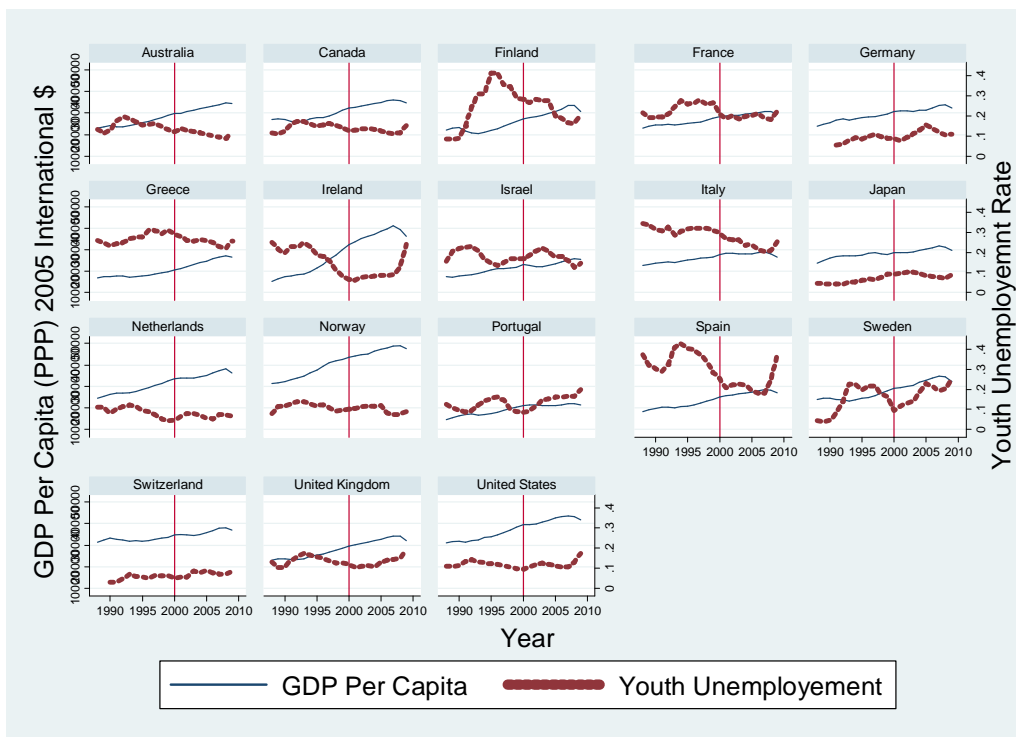


Figure I16: GDP per Capita and Youth Unemployment in Developing Countries

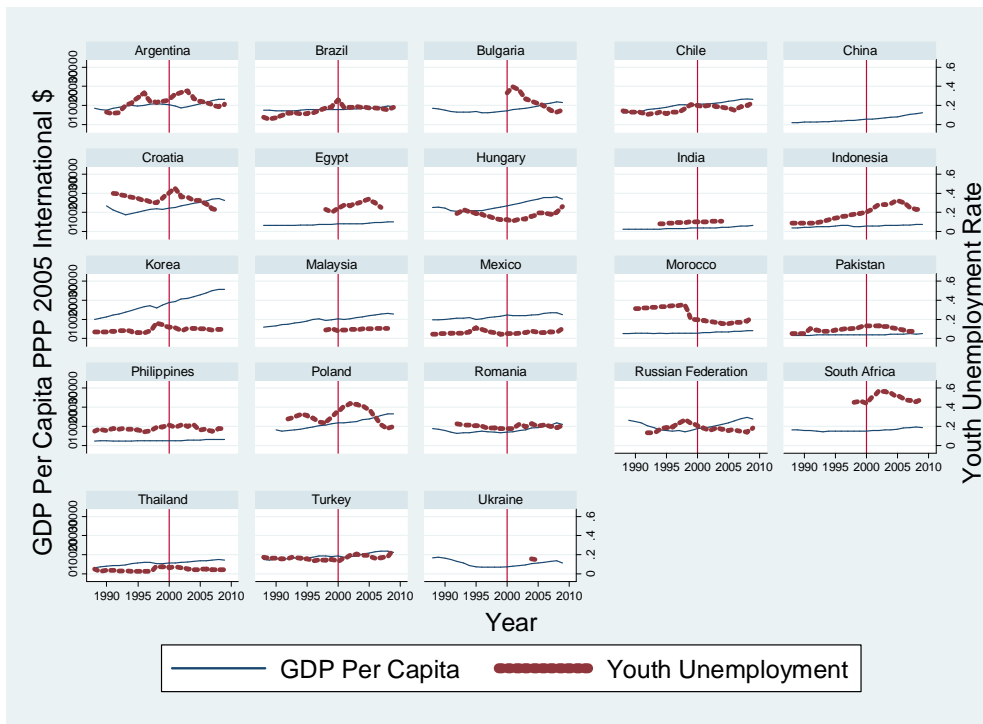


Figure I17: Ratio of Employment in Industry to Employment in Services in Advanced Countries

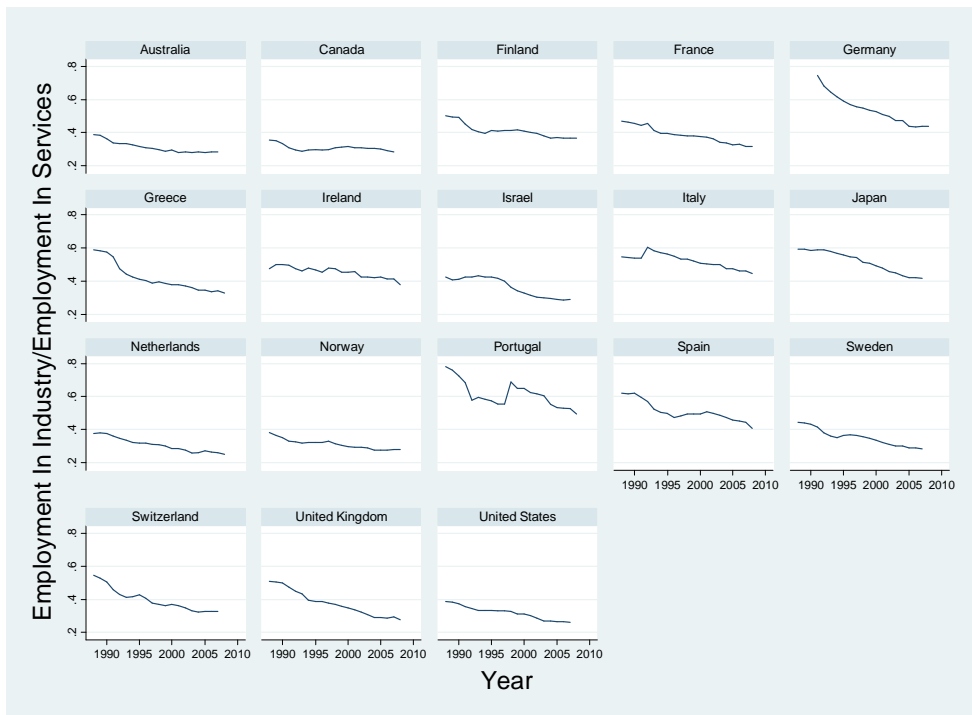


Figure I18: Ratio of Employment in Industry to Employment in Services in Developing Countries

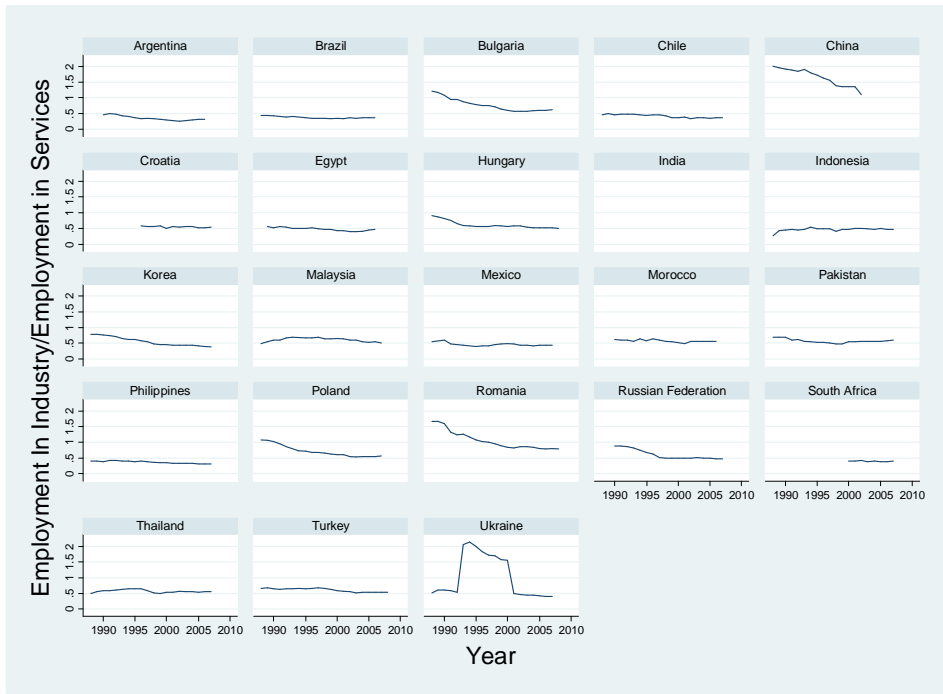


Figure I19: Share of Agricultural Sector in Employment in Advanced Countries

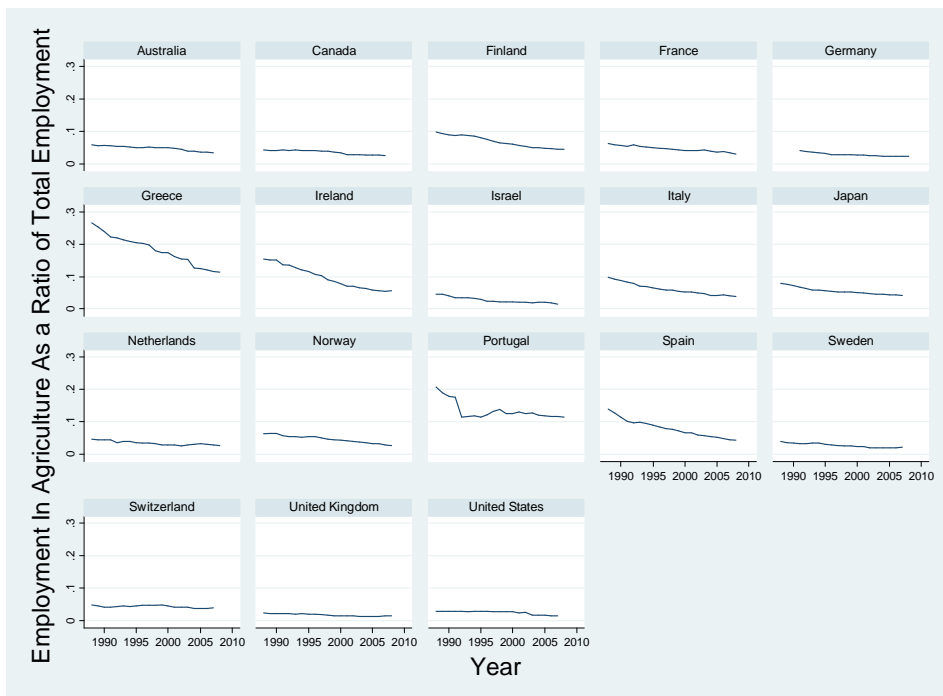


Figure I20: Share of Agricultural Sector in Employment in Developing Countries

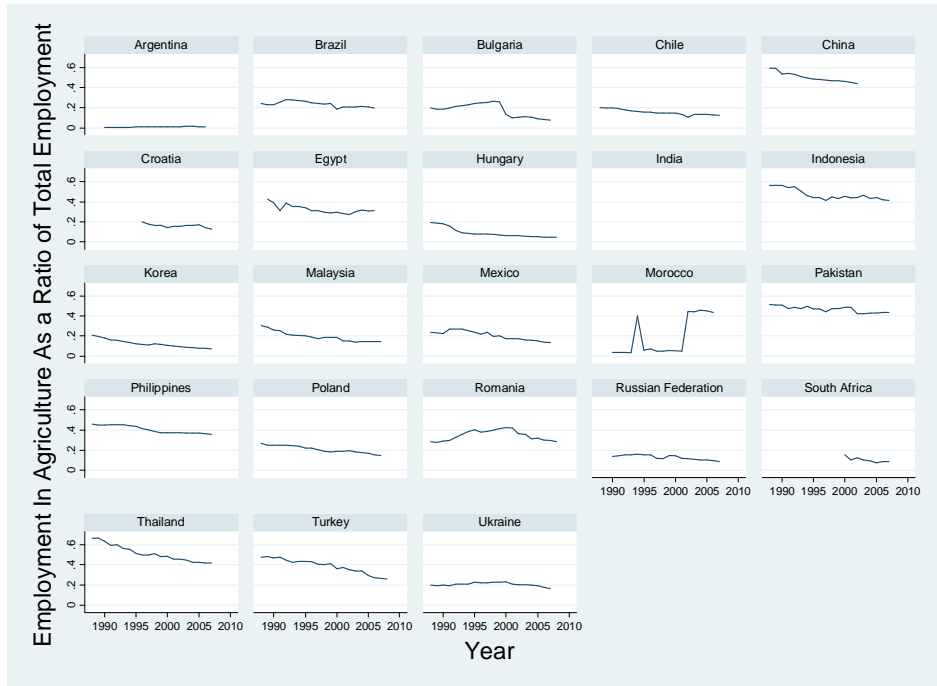


Figure I21: Share of Services Sector in Employment in Advanced Countries

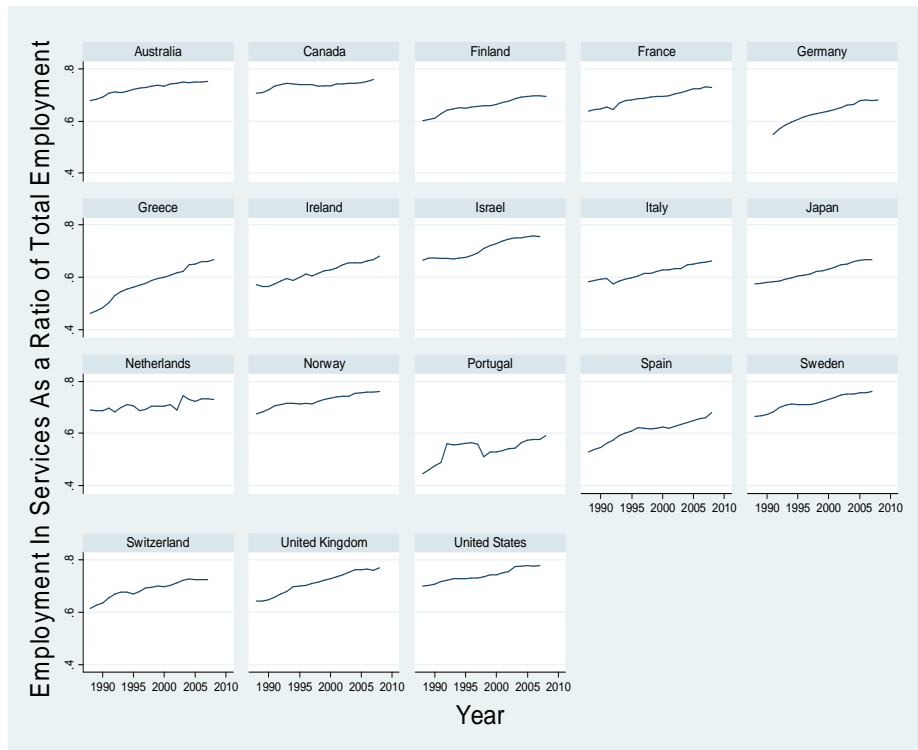


Figure I22: Share of Services Sector in Employment in Developing Countries

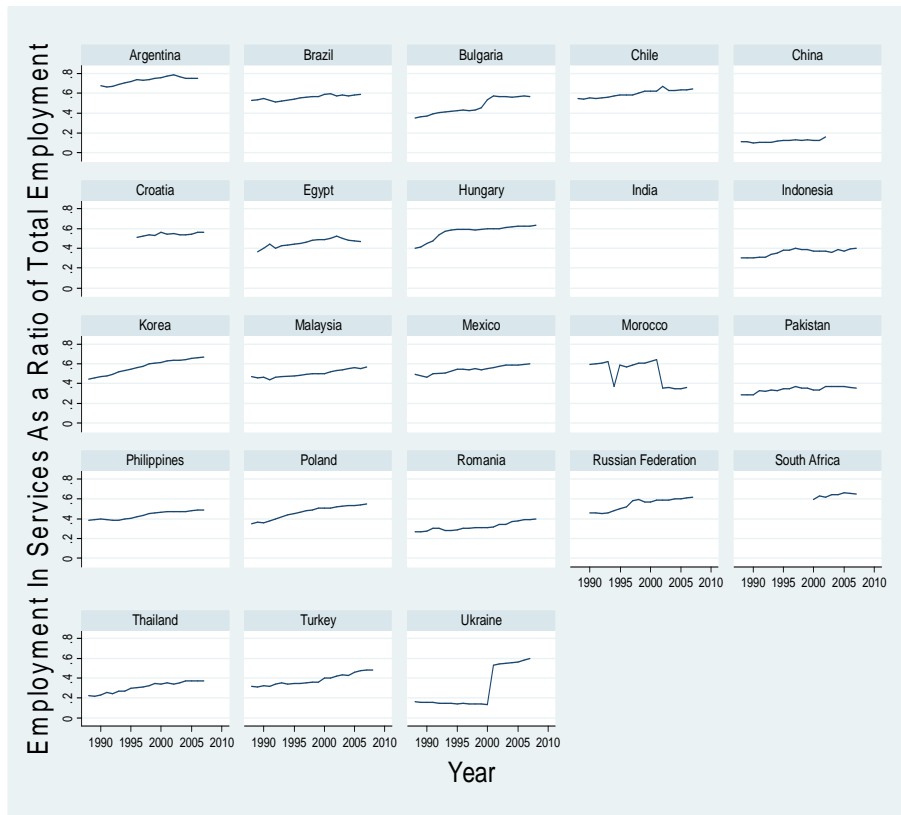


Figure I23: Share of Industry Sector in Employment in Advanced Countries

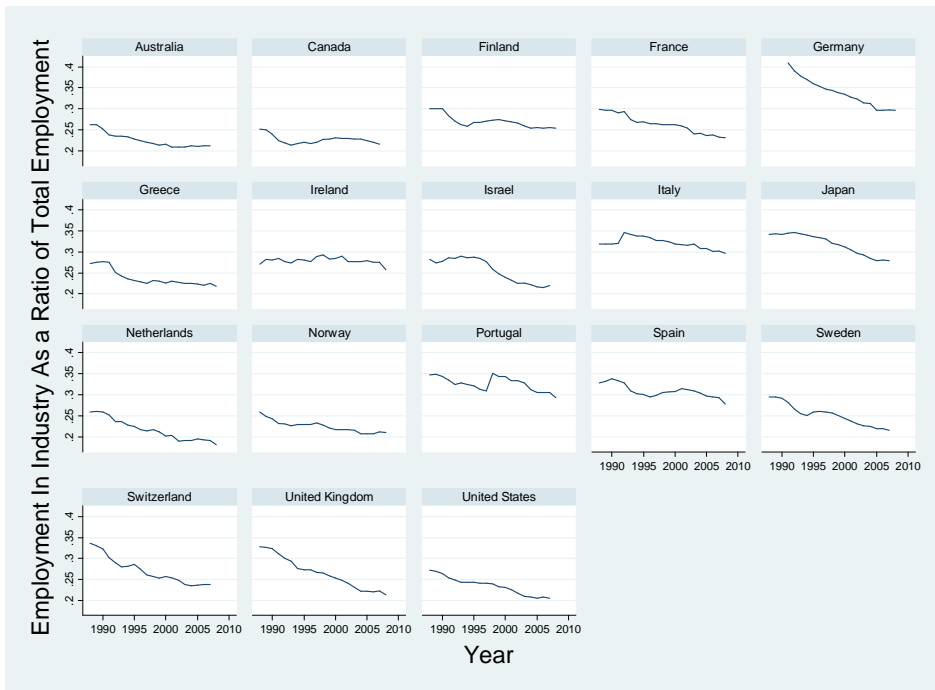
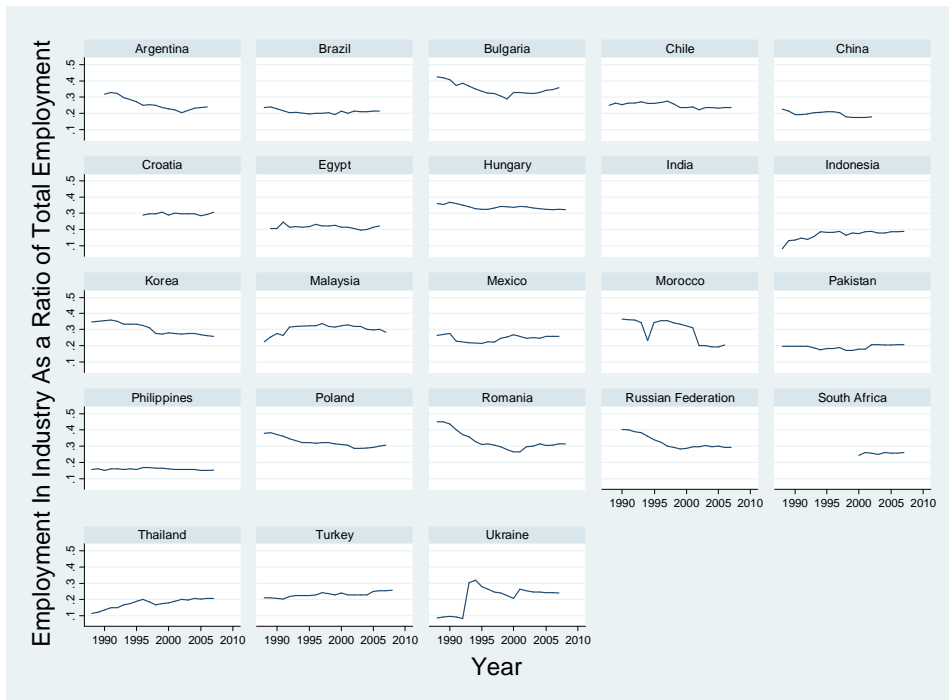


Figure I24: Share of Industry Sector in Employment in Developing Countries



APPENDIX J

EVALUATING THE MODELS: TIME SERIES GRAPHS FOR TURKEY

Figure J1: Youth Population Share, 1988-2009

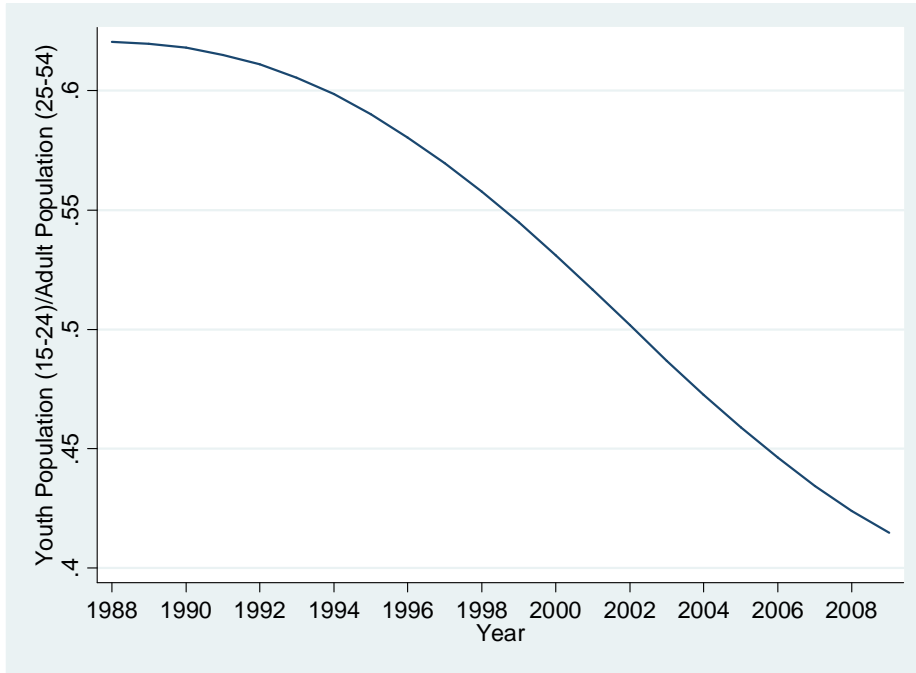


Figure J2: GDP Growth, 1988-2009

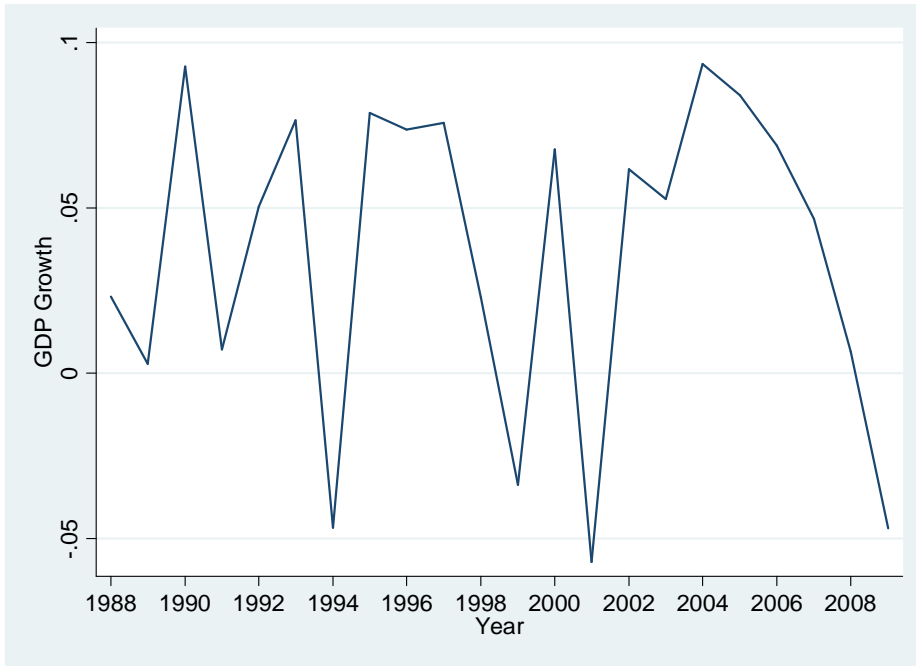


Figure J3: Tertiary Enrollment, 1988-2009

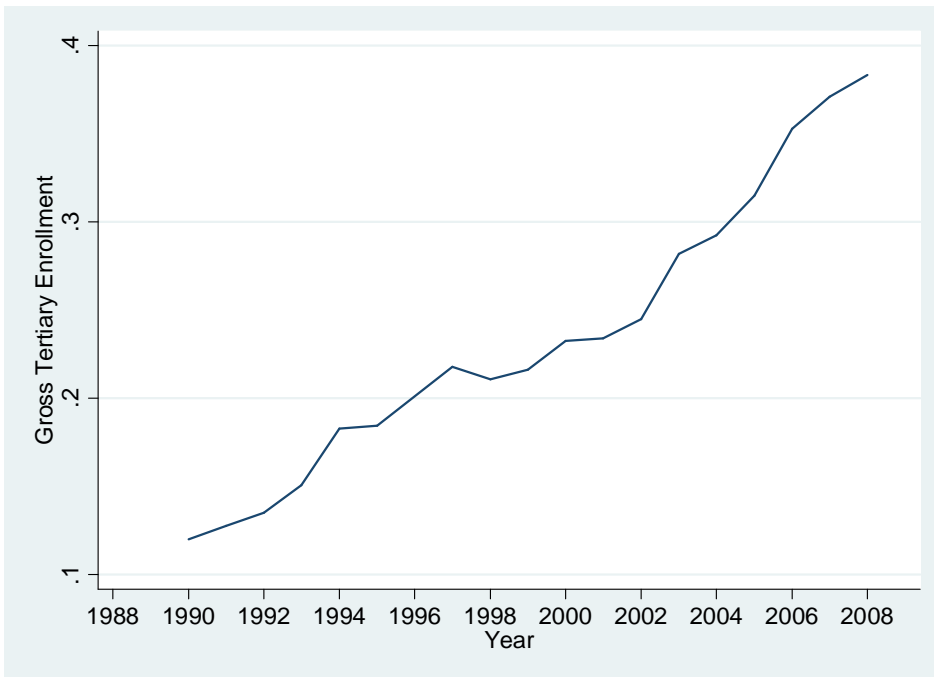


Figure J4: GDP Per Capita, 1988-2009

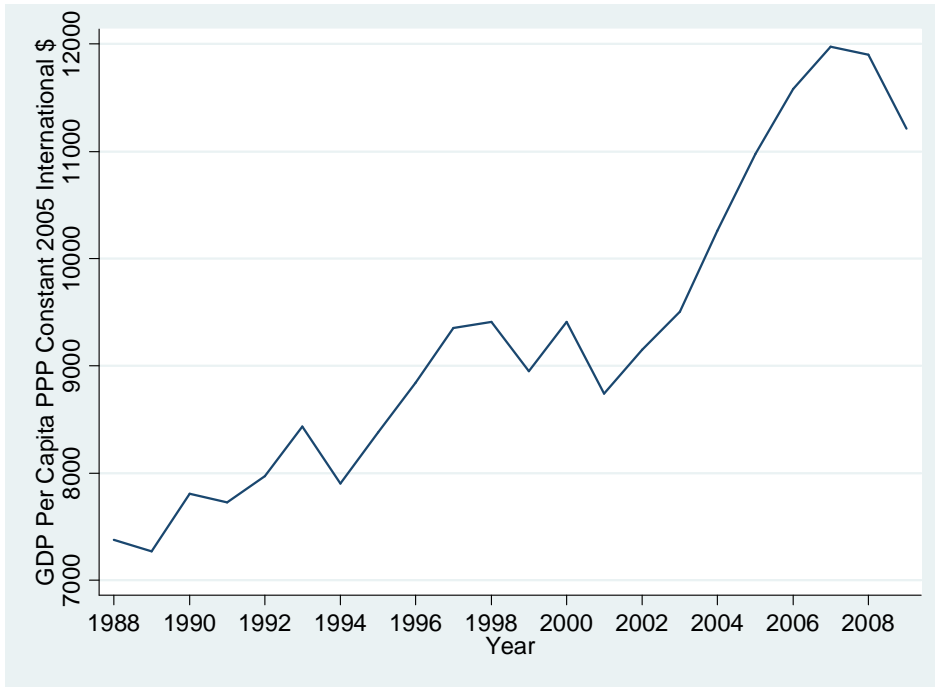


Figure J5: Terms of Trade, 1988-2009

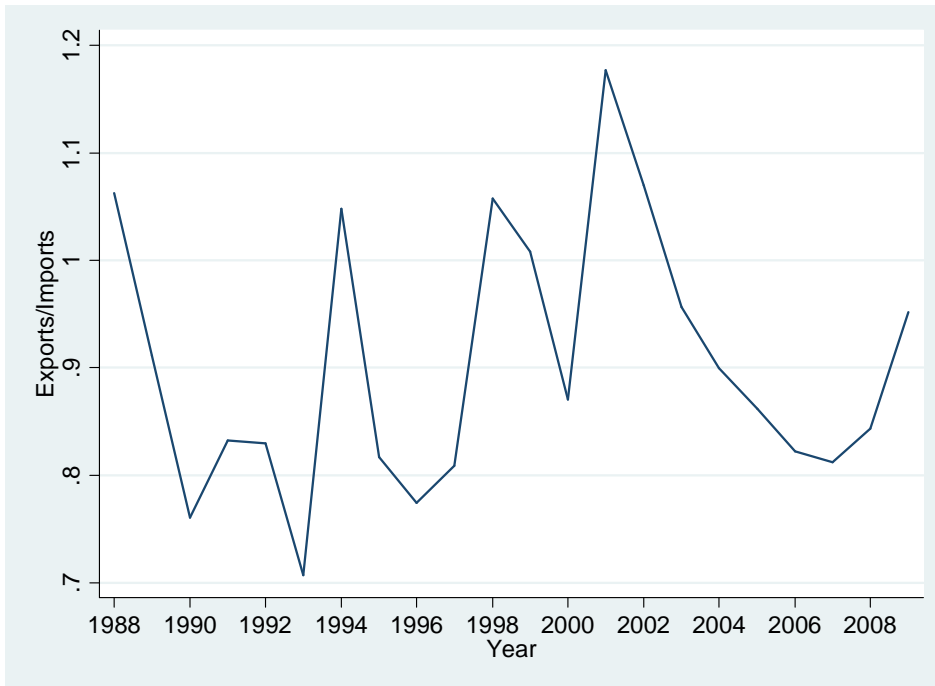


Figure J6: Ratio of Employment in Industry to Employment in Services, 1988-2009

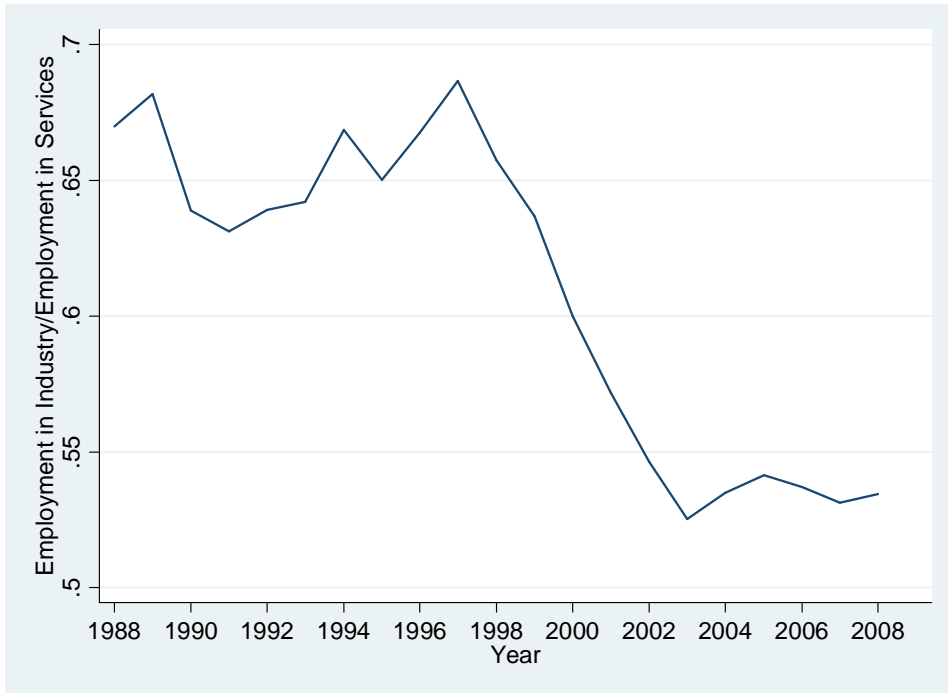


Figure J7: Gross Fixed Capital Formation, 1988-2009

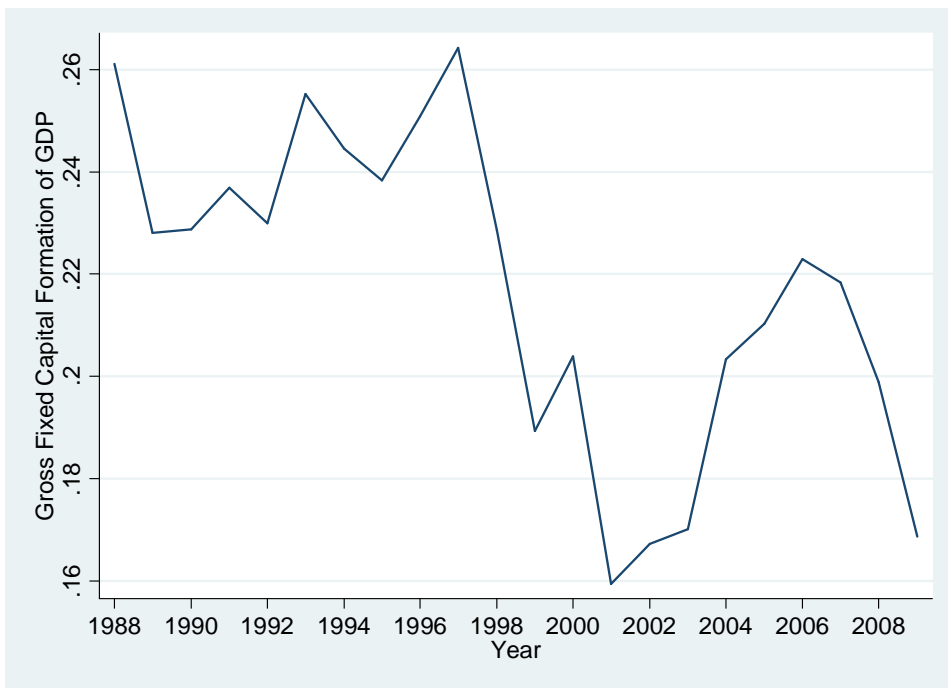
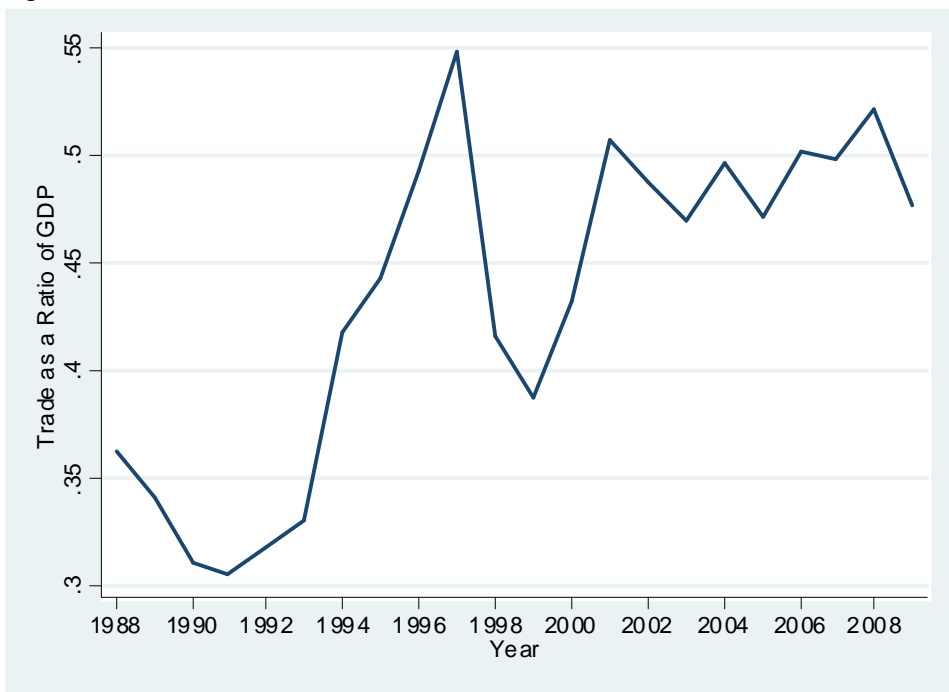


Figure J8: Trade as a Ratio of GDP, 1988-2009



APPENDIX K

RESULTS OF MICRO STUDY

EMPLOYED VS. NOT EMPLOYED

Dependent Variable: EMPLOYED (Takes the value of 1 if the person is employed 0 otherwise)					
Analysis of Results for Models <i>With</i> Level-2 Predictors		Odds-Ratios in Parentheses			
		Urban Females 15–24	Rural Females 15–24	Urban Males 15–24	Rural Males 15–24
Number of Observations: The maximum number of level-1 units =		28384	12498	25603	9540
The maximum number of level-2 units =		26	26	26	26
Educational attainment Reference Category: Middle School					
<i>Illiterate</i>		0.029 (1.02)	-0.252** (0.777)	-1.385** (0.250)	-2.164** (0.114)
<i>Literate with no diploma</i>		0.127 (1.134)	-0.083 (0.920)	-0.185** (0.830)	-0.347** (0.707)
<i>Primary School</i>		-0.078 (0.925)	-0.129 (0.879)	-0.013 (0.987)	0.073 (1.076)
<i>High School-General</i>		0.427** (1.532)	-0.523** (0.593)	-0.711** (0.491)	-0.434** (0.648)
<i>High School-Vocational/Technical</i>		0.986** (2.680)	0.057 (1.059)	0.150** (1.162)	0.024 (1.024)
<i>College and beyond</i>		1.348** (3.851)	0.323** (1.382)	0.013 (1.012)	-0.273* (0.761)
Attendance in School					
Currently attending School		-1.082** (0.339)	-1.888** (0.151)	-1.903** (0.149)	-2.006** (0.135)
Relationship to the head of the household (i.e. reference person) Reference Category: Other Relatives					
<i>Reference person</i>		0.198** (1.22)	-0.419** (0.658)	0.581** (1.787)	0.671** (1.956)
<i>Child of the reference person</i>		-0.677 (0.508)	0.535** (1.708)	-0.115 (0.891)	0.063 (1.065)
<i>Spouse(or cohabiting partner)</i>		-1.39** (0.250)	-1.086** (0.338)	0.905 (2.470)	^
<i>Son or Daughter in Law</i>		-1.233** (0.291)	-0.357** 0.700	-1.250** (0.287)	1.207 3.344
<i>Grandchild</i>		-0.174	-0.282	0.060	0.243

		(0.840)	(0.754)	(1.062)	(1.275)
<i>Non-relatives</i>		-0.206 (0.814)	-0.929** (0.395)	-0.236 (0.790)	-0.953** (0.386)
Marital Status: Reference Category: Single					
<i>Married</i>		-0.727** (0.483)	-0.158 (0.854)	0.702** (2.017)	0.703** (2.020)
<i>Divorced</i>		0.080 (1.083)	0.308 (1.361)	-1.275** (0.279)	^
Mother's Educational Attainment: Reference Category: Secondary school					
<i>Illiterate</i>		0.094 (1.098)	-0.100 (0.905)	0.256** (1.292)	0.388** (1.474)
<i>Literate with no diploma</i>		0.197* (1.217)	-0.523** (0.593)	0.110 (1.116)	0.226 (1.254)
<i>Primary School</i>		0.082 (1.086)	-0.318* (0.728)	0.016 (1.016)	0.282 (1.326)
<i>High School-General</i>		-0.203 (0.816)	-0.303 (0.738)	-0.426 ** (0.653)	-0.046 (0.955)
<i>High School-Vocational/Technical</i>		-0.328** (0.720)	-0.950* (0.387)	-0.454** (0.635)	0.173 (1.189)
<i>College and beyond</i>		-1.440** (0.236)	-1.184* (0.306)	-1.067** (0.344)	-0.978 (0.376)
Father's Educational Attainment: Reference Category: Middle School					
<i>Illiterate</i>		0.362** (1.435)	0.601** (1.823)	0.108 (1.113)	0.215 (1.240)
<i>Literate with no diploma</i>		0.292** (1.340)	0.251 (1.286)	0.278** (1.321)	0.108 (1.114)
<i>Primary School</i>		0.248** (1.281)	0.281** (1.325)	0.127** (1.135)	0.165* (1.179)
<i>High School-General</i>		-0.093 (0.911)	0.083 (1.086)	-0.418** (0.658)	-0.324* (0.724)
<i>High School-Vocational/Technical</i>		-0.369** (0.691)	-0.199 (0.819)	-0.486** (0.615)	-0.088 (0.916)
<i>College and beyond</i>		-0.700** (0.496)	0.220 (1.246)	-1.006** (0.365)	-1.015** (0.363)
Mother's Employment Status: Reference Category: Employed					
<i>Unemployed</i>		0.090 (1.094)	-0.519 (0.595)	-0.093 (0.910)	-1.167** (0.311)
<i>Not in the Labor Force</i>		-0.140** (0.869)	-1.336** (0.263)	-0.046 (0.955)	-0.922** (0.398)
Father's Employment Status: Reference Category: Employed					
<i>Unemployed</i>		0.996** (2.707)	-0.558** (0.573)	0.114 (1.121)	-0.724** (0.485)
<i>Not in the Labor Force</i>		0.830**	-0.143	0.256**	-0.317**

		(2.294)	(0.867)	(1.292)	(0.729)
Younger Female Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.0172 (0.983)	0.913** (2.490)	-0.012 (0.988)	0.483 (1.620)
<i># of siblings High School-Vocational/Technical</i>		-0.017 (0.983)	0.761 (2.140)	-0.090 (0.914)	0.669 (1.952)
<i># of siblings College and Beyond[^]</i>					
Same Age or Older Female Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.391** (0.676)	-0.695** (0.499)	-0.240** (0.787)	-0.060 (0.942)
<i># of siblings High School-Vocational/Technical</i>		-0.477** (0.620)	-0.519* (0.595)	-0.344** (0.709)	-0.349 (0.706)
<i># of siblings College and Beyond</i>		-0.871** (0.418)	-1.165** (0.312)	-0.276** (0.759)	-0.921** (0.398)
Younger Male Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.301* (0.740)	0.068 (1.071)	0.311** (1.364)	-0.180 (0.835)
<i># of siblings High School-Vocational/Technical</i>		-0.046 (0.954)	0.380 (1.462)	0.389* (1.475)	0.425 (1.529)
<i># of siblings College and Beyond[^]</i>					
Same Age or Older Male Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.328** (0.720)	-0.057 (0.945)	-0.082 (0.921)	-0.387** (0.679)
<i># of siblings High School-Vocational/Technical</i>		-0.338** (0.713)	-0.113 (0.893)	-0.168** (0.845)	-0.438** (0.645)
<i># of siblings College and Beyond</i>		-0.421** (0.656)	0.500** (1.649)	-0.424** (0.654)	-0.768** (0.464)
Female Sibling Employment Status:					
<i># of siblings employed</i>		0.300** (1.34)	1.332** (3.787)	-0.340** (0.712)	0.335** (1.398)
<i># of siblings unemployed</i>		0.215** (1.240)	-0.120 (0.887)	-0.295** (0.744)	-0.243 (0.784)
<i># of siblings not in the labor force</i>		-0.130** (0.878)	-0.717** (0.488)	-0.067 (0.935)	-0.219** (0.803)
Male Sibling Employment Status:					
<i># of siblings employed</i>		-0.492** (0.611)	0.205** (1.228)	-0.052 (0.949)	0.656** (1.927)
<i># of siblings unemployed</i>		-0.167* (0.846)	-0.321** (0.725)	-0.483** (0.617)	-0.546** (0.579)
<i># of siblings not in the labor force</i>		-0.158**	-0.518**	-0.263**	-0.368**

		(0.854)	(0.596)	(0.768)	(0.692)
Household Characteristics					
<i># of persons living in the household</i>		-0.197** (0.820)	0.028** (1.028)	-0.040** (0.960)	-0.041** (0.960)
<i># of female siblings living in the same household</i>		0.236** (1.266)	-0.010 (0.990)	0.125** (1.132)	0.080** (1.082)
<i># of male siblings living in the same household</i>		0.333** (1.395)	0.020 (1.020)	0.091** (1.095)	0.080 (1.082)
<i>Child of the reference person but mother not present in the house</i>		0.211 (1.235)	-0.005 (0.995)	0.061 (1.062)	0.187 (1.206)
<i>Child of the reference person but father not present in the house</i>		0.924** (2.52)	0.134 (1.143)	0.201** (1.222)	-0.341** (0.711)
<i>Household Earnings (casual and regular workers only)</i>		0.000** (1.001)	0.000** (1.000)	0.000** (1.000)	0.000** (1.000)
<i>Dummy Variable which indicates if the household earns positive (>0) income from casual or regular employment</i>		2.135** (8.454)	0.123 (1.131)	1.528** (4.608)	0.708** (2.029)
Regional Characteristics (Explained and Unexplained)					
Demographics					
<i>Relative size of the total young workforce (15–24) to total adult workforce (25–64) in the region of residence</i>		0.030 (1.030)	0.048 (1.049)	0.022 (1.022)	0.068** (1.071)
<i>Economic Structure: Reference category: Share of industrial workforce in the region of residence</i>					
<i>Share of agricultural workforce in the region of residence</i>		0.034** (1.034)	0.047** (1.048)	0.017** (1.017)	0.011 (1.011)
<i>Share of trade workforce in the region of residence</i>		0.036 (1.036)	-0.011 (0.989)	0.057** (1.059)	0.002 (1.00)
<i>Share of services workforce in the region of residence</i>		-0.046** (0.955)	-0.059* (0.942)	-0.006 (0.993)	0.024 (1.024)
<i>Educational Background of adult population: Reference category: Share of adult population with middle school attainment</i>					
<i>Share of adult illiterate population</i>		0.079 (1.082)	0.177* (1.194)	-0.127** (0.880)	0.175* (1.191)
<i>Share of adult population with no diploma</i>		-0.043 (0.958)	0.167 (1.182)	-0.137* (0.872)	0.288** (1.334)
<i>Share of adult population with primary school attainment</i>		0.070 (1.072)	0.202* (1.224)	-0.130* (0.878)	0.234** (1.263)
<i>Share of adult population with general high school attainment</i>		0.185 (1.204)	0.467** (1.595)	-0.237** (0.788)	0.348** (1.416)
<i>Share of adult population with vocational high school attainment</i>		0.207* (1.230)	0.362** (1.436)	-0.151 (0.860)	0.361** (1.435)
<i>Share of adult population with</i>		0.104	0.260**	-0.083	0.193**

<i>college and beyond attainment</i>		(1.109)	(1.297)	(0.920)	(1.213)
<i>Employment Outlook in previous years</i>					
<i>Employment growth of the region from 2004 to 2008</i>		-0.007 (0.993)	-0.005 (0.995)	0.004 (1.004)	-0.007934 (0.992)
<i>Share of the current total unemployed population who were unemployed 1 year ago</i>		-0.038** (0.962)	-0.040** (0.961)	-0.006 (0.993)	0.004 (1.004)
<i>Share of the current total employed population who were unemployed 1 year ago</i>		0.111** (1.117)	0.193** (1.213)	-0.033** (0.968)	-0.040 (0.961)
Dummy Variable for 20–24 year old youth					
<i>Dummy 20–24</i>		0.970** (2.637)	0.545** (1.725)	1.021 (2.774)	0.469** (1.599)
Reliability Estimate					
<i>Intercept B_0</i>		0.656	0.845	0.665	0.808
Estimation of Variance Components for Model Without Level-2 Predictors					
<i>Variance of intercept u_0</i>		0.293	0.583	0.056	0.141
<i>Standard Deviation of intercept u_0</i>		0.542	0.763	0.236	0.376
<i>Chi Square Statistic; P-Value</i>		491.718; 0.000	893.878; 0.000	185.839; 0.000	237.706; 0.000
Estimation of Variance Components for Model With Level-2 Predictors					
<i>Variance of intercept u_0</i>		0.030	0.10	0.020	0.0725
<i>Standard Deviation of intercept u_0</i>		0.173	0.311	0.141	0.269
<i>Chi Square Statistic; P-Value</i>		34.450; 0.001	119.567; 0.000	35.879; 0.001	77.371; 0.000

**Significant at the five percent level of significance; *Significant at the ten percent level of significance

EMPLOYED VS. UNEMPLOYED

Dependent Variable: EMPLOYED VS. UNEMPLOYED (Takes the value of 1 if the person is employed and 0 if the person is unemployed)					
Analysis of Results for Models With Level-2 Predictors		Odds-Ratios			
		Urban Females 15-24	Rural Females 15-24	Urban Males 15-24	Rural Males 15-24
Number of Observations: The maximum number of level-1 units =		6119	3646	12553	5312
The maximum number of level-2 units =		26	26	26	26
Variable names					
Educational attainment Reference Category: Middle School					
<i>Illiterate</i>		1.207**	0.364	0.212	-0.055

		(3.343)	(1.439)	(1.236)	(0.947)
<i>Literate with no diploma</i>		0.291*	1.272**	-0.365**	-0.240
		(1.337)	(3.570)	(0.695)	(0.787)
<i>Primary School</i>		0.347**	0.803**	0.046	0.172
		(1.414)	(2.232)	(1.047)	(1.188)
<i>High School-General</i>		-0.269**	-1.867**	-0.187**	-0.087
		(0.763)	(0.155)	(0.829)	(0.917)
<i>High School-Vocational/Technical</i>		-0.354**	-2.019**	0.0215	-0.143
		(0.702)	(0.133)	(1.022)	(0.867)
<i>College and beyond</i>		-0.660**	-3.306**	-0.417**	-1.000**
		(0.517)	(0.037)	(0.658)	(0.368)
Attendance in School					
Currently attending School		0.231**	-0.409*	0.213**	0.518**
		(1.259)	(0.664)	(1.237)	(1.678)
Relationship to the head of the household (i.e. reference person)					
Reference Category: Other Relatives					
<i>Reference person</i>		0.754**	0.346	0.560**	-0.229
		(2.126)	(1.413)	1.750	(0.795)
<i>Child of the reference person</i>		-0.389	0.125	0.415**	0.463
		(0.677)	(1.134)	(1.514)	(1.590)
<i>Spouse(or cohabiting partner)</i>		-0.224	-1.544042	0.893	^
		(0.799)	(0.214)	(2.444)	
<i>Son or Daughter in Law</i>		-0.533	-0.630	-1.354**	^
		0.587	(0.533)	(0.258)	
<i>Grandchild</i>		0.080	-1.459	0.097	-0.072
		(1.082)	(0.232)	(1.101)	(0.930)
<i>Non-relatives</i>		0.317	-1.151	-0.071	-1.424*
		(1.372)	(0.316)	(0.931)	(0.241)
Marital Status:					
Reference Category: Single					
<i>Married</i>		0.104	0.598	0.645**	0.656**
		(1.110)	1.818	(1.91)	(1.928)
<i>Divorced</i>		-0.618**	-2.181**	-1.316**	^
		(0.539)	(0.113)	(0.268)	
Mother's Educational Attainment:					
Reference Category: Secondary school					
<i>Illiterate</i>		0.059	0.234	0.086	-0.409
		(1.061)	(1.263)	(1.089)	(0.664)
<i>Literate with no diploma</i>		0.124	-0.747	0.0531	-0.816
		(1.132)	(0.474)	(1.055)	(0.442)
<i>Primary School</i>		0.198	-0.029	-0.052	-0.487
		(1.219)	(0.971)	(0.950)	(0.614)
<i>High School-General</i>		0.247	0.155	0.082	-0.666
		(1.280)	(1.168)	(1.085)	(0.514)
<i>High School-Vocational/Technical</i>		0.106	-0.048	-0.061	-0.674
		(1.111)	(0.953)	(0.941)	(0.510)
<i>College and beyond</i>		-0.477*	-0.726	-0.423	-1.266
		(0.620)	(0.484)	(0.655)	(0.282)

Father's Educational Attainment: Reference Category: Middle School					
<i>Illiterate</i>		0.263 (1.300)	0.339 (1.403)	0.0964 (1.101)	0.115 (1.122)
<i>Literate with no diploma</i>		-0.198 (0.820)	0.679 (1.972)	0.320** (1.376)	-0.103 (0.902)
<i>Primary School</i>		0.150 (1.162)	0.402 (1.495)	0.0318 (1.032)	-0.103 (0.902)
<i>High School-General</i>		0.131 (1.140)	0.040 1.041	-0.129 (0.878)	-0.437 (0.646)
<i>High School-Vocational/Technical</i>		-0.448** (0.639)	0.455 (1.575)	-0.186 (0.830)	-0.445 (0.641)
<i>College and beyond</i>		-0.321* (0.726)	1.477** (4.381)	-0.578** (0.561)	-0.315 (0.730)
Mother's Employment Status: Reference Category: Employed					
<i>Unemployed</i>		-0.814** (0.443)	-1.881** (0.152)	-0.794** (0.452)	-1.303** (0.272)
<i>Not in the Labor Force</i>		-0.154 (0.858)	-1.827** (0.161)	-0.167** (0.846)	-0.916** (0.400)
Father's Employment Status: Reference Category: Employed					
<i>Unemployed</i>		0.290** (1.336)	-1.371** (0.254)	-0.554** (0.575)	-1.441** (0.236)
<i>Not in the Labor Force</i>		0.585** (1.794)	-0.003 (0.100)	-0.060 (0.941)	-0.398** (0.672)
Younger Female Sibling Educational Attainment:					
<i># of siblings High-School General</i>		0.162 (1.176)	0.261 (1.298)	-0.094 (0.910)	0.219 (1.245)
<i># of siblings High School-Vocational/Technical</i>		-0.164 (0.849)	4.292 (73.129)	0.256 (1.291)	-0.618 (0.539)
<i># of siblings College and Beyond[^]</i>					
Same Age or Older Female Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.267* (0.765)	-0.542 (0.581)	-0.126 (0.881)	0.892** (2.441)
<i># of siblings High School-Vocational/Technical</i>		-0.069 (0.933)	-0.914 (0.401)	-0.430** (0.650)	-0.430 (0.651)
<i># of siblings College and Beyond</i>		-0.190 (0.827)	-1.44** (0.238)	-0.131 (0.877)	1.100** (0.333)
Younger Male Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.088 (0.915)	-0.165 (0.848)	-0.246 (0.782)	0.336 (1.399)
<i># of siblings High School-Vocational/Technical</i>		0.024 (1.024)	0.151 (1.16)	0.235 (1.264)	0.353 (1.423)

<i># of siblings College and Beyond[^]</i>					
Same Age or Older Male Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.064 (0.938)	0.025 (1.026)	0.056 (1.057)	-0.121 (0.886)
<i># of siblings High School-Vocational/Technical</i>		0.083 (1.087)	-0.203 (0.816)	-0.127 (0.880)	0.011 (1.011)
<i># of siblings College and Beyond</i>		-0.222 (0.801)	-0.228 (0.796)	-0.390** (0.677)	-0.188 (0.829)
Female Sibling Employment Status:					
<i># of siblings employed</i>		-0.119 (0.888)	0.883** (2.420)	-0.533** (0.587)	0.315* (1.370)
<i># of siblings unemployed</i>		-0.679** (0.507)	-1.771** (0.170)	-0.678** (0.507)	-0.492 (0.611)
<i># of siblings not in the labor force</i>		0.215** (1.240)	0.106 (1.111)	-0.068 (0.933)	-0.020 (0.980)
Male Sibling Employment Status:					
<i># of siblings employed</i>		-0.559** (0.571)	0.019 (1.019)	-0.079 (0.924)	0.676** (1.967)
<i># of siblings unemployed</i>		-0.620** (0.538)	-0.708** (0.492)	-0.869** (0.419)	-1.196** (0.302)
<i># of siblings not in the labor force</i>		-0.284** (0.752)	-0.504** (0.604)	0.107 (1.112)	-0.205* (0.814)
Household Characteristics					
<i># of persons living in the household</i>		0.052 (1.053)	0.294** (1.342)	-0.009 (0.990)	-0.053* (0.949)
<i># of female siblings living in the same household</i>		-0.085 (0.918)	-0.372** (0.689)	0.185** (1.202)	0.002 (1.002)
<i># of male siblings living in the same household</i>		0.222** (1.249)	-0.116 (0.890)	-0.020 (0.980)	-0.003 (0.997)
<i>Child of the reference person but mother not present in the house</i>		0.566 (1.760)	0.182 (1.199)	-0.403* (0.668)	-0.641* (0.527)
<i>Child of the reference person but father not present in the house</i>		0.754** (2.12)	0.611 (1.842)	-0.189* (0.827)	-0.691** (0.501)
<i>Household Earnings (casual and regular workers only)</i>		0.001** (1.000)	0.001** (1.000)	0.001** (1.000)	0.000** (1.000)
<i>Dummy Variable which indicates if the household earns positive (>0) income from casual or regular employment</i>		1.953** (7.050)	1.538** (4.653)	1.403** (4.067)	0.807** (2.241)
Regional Characteristics (Explained and Unexplained)					
Demographics					
<i>Relative size of the total young workforce (15–24) to total adult workforce (25–64) in the region of</i>		0.026 (1.026)	0.056 (1.058)	-0.015 (0.984)	0.032 (1.032)

<i>residence</i>					
<i>Economic Structure: Reference category: Share of industrial workforce in the region of residence</i>					
<i>Share of agricultural workforce in the region of residence</i>		0.0121 (1.012)	0.042 (1.042)	0.006 (1.006)	0.013 (1.013)
<i>Share of trade workforce in the region of residence</i>		-0.001 (0.100)	0.121 (1.128)	0.031 (1.031)	0.017 (1.017)
<i>Share of services workforce in the region of residence</i>		-0.024 (0.976)	-0.013 (0.987)	-0.006 (0.994)	0.0125 (1.013)
<i>Educational Background of adult population: Reference category: Share of adult population with middle school attainment</i>					
<i>Share of adult illiterate population</i>		0.109 (1.114)	-0.280 (0.756)	-0.037 (0.963)	0.125 (1.133)
<i>Share of adult population with no diploma</i>		0.036 (1.037)	-0.453* (0.636)	-0.002 (0.998)	0.234* (1.264)
<i>Share of adult population with primary school attainment</i>		0.074 (1.076)	-0.346* (0.708)	-0.0373 (0.963)	0.176* (1.193)
<i>Share of adult population with general high school attainment</i>		0.131 (1.139)	-0.893** 0.410	-0.0867 (0.916)	0.198 (1.219)
<i>Share of adult population with vocational high school attainment</i>		0.164 (1.178)	-0.426 (0.653)	-0.0713 (0.931)	0.287* (1.333)
<i>Share of adult population with college and beyond attainment</i>		0.106 (1.111)	-0.136058 0.873	-0.003 (0.100)	0.136 (1.146)
<i>Employment Outlook in previous years</i>					
<i>Employment growth of the region from 2004 to 2008</i>		-0.0164** (0.984)	-0.007 (0.993)	-0.003 (0.997)	-0.007 (0.993)
<i>Share of the current total unemployed population who were unemployed 1 year ago</i>		-0.021 (0.979)	0.017 (1.017)	-0.003 (0.996)	0.008 (1.008)
<i>Share of the current total employed population who were unemployed 1 year ago</i>		0.079 (1.082)	-0.087 (0.917)	-0.005 (0.994)	0.029 1.030
Dummy Variable for 20–24 year old youth					
<i>Dummy 20–24</i>		0.057 (1.058)	0.724** (2.063)	0.027 (1.027)	-0.399** (0.671)
Reliability Estimate					
<i>Intercept B_0</i>		0.422	0.353	0.496	0.609
Estimation of Variance Components for Model Without Level-2 Predictors					
<i>Variance of intercept u_0</i>		0.072	0.170	0.020	0.0635
<i>Standard Deviation of intercept u_0</i>		0.269	0.412	0.143	0.252
<i>Chi Square Statistic; P-Value</i>		68.733; 0.000	57.959 (0.000)	51.116; 0.002	71.137 0.000
Estimation of Variance Components for Model With					

Level-2 Predictors					
<i>Variance of intercept u_0</i>		0.034	(0.073)	0.0203	0.060
<i>Standard Deviation of intercept u_0</i>		0.184	(0.269)	0.143	0.244
<i>Chi Square Statistic; P-Value</i>		22.192; 0.035	19.167; 0.084	23.576 (0.023)	32.266; 0.002

LABOR FORCE PARTICIPANT

Dependent Variable: LABOR FORCE PARTICIPANT (Takes the value of 1 if the person is in the labor force and 0 if the person is not in the labor force)					
Analysis of Results for Models <i>With</i> Level-2 Predictors		Odds-Ratios			
		Urban Females 15-24	Rural Females 15-24	Urban Males 15-24	Rural Males 15-24
Number of Observations: The maximum number of level-1 units =		28384	12498	25603	9540
The maximum number of level-2 units =		26	26	26	26
Variable names					
Educational attainment Reference Category: Middle School					
<i>Illiterate</i>		-0.333** (0.716)	-0.263** (0.769)	-2.059** (0.127)	-2.757** (0.064)
<i>Literate with no diploma</i>		0.035 (1.035)	-0.141* (0.869)	-0.032 (0.968)	-0.340** (0.712)
<i>Primary School</i>		-0.184** (0.832)	-0.152** (0.859)	0.152 (1.164)	0.020 (1.020)
<i>High School-General</i>		0.504** (1.655)	-0.200** (0.818)	-1.026** (0.358)	-0.640** (0.528)
<i>High School-Vocational/Technical</i>		1.283** (3.607)	0.523** (1.687)	0.046 (1.046)	0.067 (1.070)
<i>College and beyond</i>		2.285** (9.827)	1.922** (6.832)	0.202** (1.224)	0.389** (1.476)
Attendance in School					
Currently attending School		-1.359** (0.257)	-1.916 (0.147)	-2.46** (0.085)	-2.444** (0.087)
Relationship to the head of the household (i.e. reference person) Reference Category: Other Relatives					
<i>Reference person</i>		-0.505** (0.603)	-0.556** (0.573)	0.371** (1.450)	1.004** (2.729)
<i>Child of the reference person</i>		-0.459** (0.632)	0.651** (1.917)	-0.264* (0.768)	-0.188 (0.829)
<i>Spouse(or cohabiting partner)</i>		-1.552** (0.211)	-0.992** (0.371)	^	^
<i>Son or Daughter in Law</i>		-1.235** (0.291)	-0.311* (0.732)	-0.75 (0.474)	0.852 (2.343)

<i>Grandchild</i>		-0.300 (0.740)	-0.234 (0.791)	-0.016 (0.983)	0.356* (1.427)
<i>Non-relatives</i>		-0.806** (0.446)	-0.670 (0.512)	-0.602** (0.548)	-0.810** (0.445)
Marital Status: Reference Category: Single					
<i>Married</i>		-0.807** (0.446)	-0.208 (0.812)	0.756** (2.12)	0.661** (1.938)
<i>Divorced</i>		0.453** (1.573)	0.876** (2.401)	-0.561 (0.570)	^
Mother's Educational Attainment: Reference Category: Secondary school					
<i>Illiterate</i>		-0.001 (0.999)	-0.210 (0.811)	0.284** (1.329)	0.787** (2.196)
<i>Literate with no diploma</i>		0.107 (1.113)	-0.410** (0.663)	0.101 (1.107)	0.884** (2.42)
<i>Primary School</i>		0.007 (1.007)	-0.400** (0.677)	0.050 (1.051)	0.665** (1.945)
<i>High School-General</i>		-0.290** (0.747)	-0.402 (0.669)	-0.468** (0.626)	0.426 (1.531)
<i>High School-Vocational/Technical</i>		-0.500** (0.607)	-0.837 (0.433)	-0.470** (0.625)	0.745** (2.105)
<i>College and beyond</i>		-1.391** (0.248)	-1.257** (0.285)	-0.935** (0.392)	0.853 (2.347)
Father's Educational Attainment: Reference Category: Middle School					
<i>Illiterate</i>		0.287** (1.332)	0.495** (1.640)	0.099 (1.103)	0.173 (1.188)
<i>Literate with no diploma</i>		0.367** (1.443)	0.132 (1.141)	0.147 (1.157)	0.148 (1.159)
<i>Primary School</i>		0.221** (1.247)	0.217** (1.242)	0.150** (1.162)	0.217** (1.242)
<i>High School-General</i>		-0.174* (0.840)	0.277 (1.319)	-0.398** (0.671)	-0.325* (0.723)
<i>High School-Vocational/Technical</i>		-0.176* (0.839)	-0.339 (0.713)	-0.526** (0.591)	0.010 (1.010)
<i>College and beyond</i>		-0.495** (0.609)	-0.156 (0.855)	-0.879** (0.415)	-0.989** (0.372)
Mother's Employment Status: Reference Category: Employed					
<i>Unemployed</i>		0.471** (1.601)	-0.336 (0.715)	0.489** 1.630	-0.643** (0.526)
<i>Not in the Labor Force</i>		0.227** (0.796)	-1.132** (0.322)	-0.027 (0.973)	-0.756** (0.470)
Father's Employment Status: Reference Category: Employed					
<i>Unemployed</i>		0.978** (2.659)	-0.037 (0.964)	0.542** (1.719)	0.290* (1.337)

<i>Not in the Labor Force</i>		0.599** (1.820)	-0.094 (0.910)	0.279** (1.322)	-0.189** (0.828)
Younger Female Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.123 (0.884)	1.087** (2.966)	-0.061 (0.941)	0.330 (1.391)
<i># of siblings High School-Vocational/Technical</i>		-0.232 (0.792)	-0.236 (0.789)	-0.420* (0.657)	2.673** (14.490)
<i># of siblings College and Beyond[^]</i>					
Same Age or Older Female Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.250** (0.778)	-0.623** (0.536)	-0.249** (0.779)	-0.310** (0.733)
<i># of siblings High School-Vocational/Technical</i>		-0.483** (0.616)	-0.393 (0.675)	-0.258** (0.773)	-0.236 (0.790)
<i># of siblings College and Beyond</i>		-0.919** (0.400)	-1.059** (0.346)	-0.342** (0.710)	-0.432 (0.650)
Younger Male Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.292** (0.746)	0.141 (1.152)	0.857** (2.356)	-0.422 (0.656)
<i># of siblings High School-Vocational/Technical</i>		-0.130 (0.878)	0.351 (1.420)	0.489** (1.629)	0.207 (1.230)
<i># of siblings College and Beyond[^]</i>					
Same Age or Older Male Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.330** (0.719)	-0.058 (0.943)	-0.126** (0.882)	-0.418** (0.658)
<i># of siblings High School-Vocational/Technical</i>		-0.435** (0.647)	-0.140 (0.869)	-0.181** (0.834)	-0.649** (0.522)
<i># of siblings College and Beyond</i>		-0.355** (0.701)	0.768** (2.155)	-0.397** (0.673)	-0.833** (0.435)
Female Sibling Employment Status:					
<i># of siblings employed</i>		0.494** (1.638)	1.341** (3.822)	-0.095 (0.909)	0.310** (1.363)
<i># of siblings unemployed</i>		0.951** (2.588)	1.467** (4.337)	0.268** (1.307)	-0.061 (0.941)
<i># of siblings not in the labor force</i>		-0.270** (0.762)	-0.716** (0.488)	-0.036 (0.964)	-0.266** (0.767)
Male Sibling Employment Status:					
<i># of siblings employed</i>		-0.302** (0.739)	0.191** (1.210)	-0.005 (0.995)	0.563** (1.756)
<i># of siblings unemployed</i>		0.061 (1.062)	-0.223* (0.800)	0.304** (1.355)	0.595** (1.812)

<i># of siblings not in the labor force</i>		-0.131** (0.877)	-0.480** (0.619)	-0.453** (0.636)	-0.388** (0.679)
Household Characteristics					
<i># of persons living in the household</i>		-0.204** (0.815)	0.023* (1.0237)	-0.042** (0.959)	-0.034* (0.966)
<i># of female siblings living in the same household</i>		0.249** (1.282)	-0.022 (0.978)	0.057* (1.058)	0.093** (1.097)
<i># of male siblings living in the same household</i>		0.264** (1.302)	0.018 (1.018)	0.121** (1.128)	-0.015 (0.985)
<i>Child of the reference person but mother not present in the house</i>		0.004 (1.003)	-0.068 (0.934)	0.242 (1.273)	0.579** (1.785)
<i>Child of the reference person but father not present in the house</i>		0.640** (1.900)	0.038 (1.039)	0.321** (1.378)	-0.154 (0.858)
<i>Household Earnings (casual and regular workers only)</i>		0.000** (1.000)	0.000** (1.000)	0.000** (1.000)	0.000* (1.000)
<i>Dummy Variable which indicates if the household earns positive (>0) income from casual or regular employment</i>		1.106** (3.021)	0.039 (1.040)	1.035** (2.816)	0.547** (1.727)
Regional Characteristics (Explained and Unexplained)					
Demographics					
<i>Relative size of the total young workforce (15-24) to total adult workforce (25-64) in the region of residence</i>		0.030 (1.031)	0.039 (1.040)	0.040** (1.040)	0.071** (1.073)
<i>Economic Structure: Reference category: Share of industrial workforce in the region of residence</i>					
<i>Share of agricultural workforce in the region of residence</i>		0.037** (1.037)	0.043** (1.044)	0.021** (1.021)	0.008 (1.007)
<i>Share of trade workforce in the region of residence</i>		0.043 (1.044)	-0.021 (0.979)	0.056** (1.057)	0.003 (1.003)
<i>Share of services workforce in the region of residence</i>		-0.0318 (0.968)	-0.056* (0.945)	-0.006 (0.994)	0.0215 (1.022)
<i>Educational Background of adult population: Reference category: Share of adult population with middle school attainment</i>					
<i>Share of adult illiterate population</i>		0.087 (1.091)	0.182* (1.199)	-0.165** (0.848)	0.176** (1.193)
<i>Share of adult population with no diploma</i>		-0.019 (0.981)	0.189031 (1.208)	-0.190** (0.827)	0.245* (1.277)
<i>Share of adult population with primary school attainment</i>		0.088 (1.092)	0.211* (1.234)	-0.168** (0.845)	0.223** (1.249)
<i>Share of adult population with general high school attainment</i>		0.239 (1.270)	0.504** (1.654)	-0.293** (0.745)	0.349** (1.417)
<i>Share of adult population with vocational high school attainment</i>		0.244* (1.276)	0.377** (1.457)	-0.176* (0.838)	0.325** (1.384)

<i>Share of adult population with college and beyond attainment</i>		0.087 (1.090)	0.256** (1.292)	-0.120** (0.887)	0.211** (1.234)
<i>Employment Outlook in previous years</i>					
<i>Employment growth of the region from 2004 to 2008</i>		-0.002 (0.998)	-0.004 (0.996)	0.007* (1.007)	-0.005316 (0.995)
<i>Share of the current total unemployed population who were unemployed 1 year ago</i>		-0.041** (0.960)	-0.040 (0.961)	-0.008** (0.992)	0.004 (1.004)
<i>Share of the current total employed population who were unemployed 1 year ago</i>		0.109** (1.115)	0.199 (1.221)	-0.034** (0.966)	-0.0808 (0.922)
Dummy Variable for 20–24 year old youth					
<i>Dummy 20–24</i>		1.125** (3.080)	0.519** (1.680)	1.487** (4.425)	0.925** (2.523)
Reliability Estimate					
<i>Intercept B_0</i>		0.790	0.846	0.629	0.782
Estimation of Variance Components for Model Without Level-2 Predictors					
<i>Variance of intercept u_0</i>		0.358	0.575	0.080	0.151
<i>Standard Deviation of intercept u_0</i>		0.598	0.758	0.284	0.388
<i>Chi Square Statistic; P-Value</i>		680.871; 0.000	904.005 0.000	266.923; 0.000	236.823; 0.000
Estimation of Variance Components for Model With Level-2 Predictors					
<i>Variance of intercept u_0</i>		0.050	0.0904	0.019	0.0698
<i>Standard Deviation of intercept u_0</i>		0.224	0.301	0.136	0.264
<i>Chi Square Statistic; P-Value</i>		59.094; 0.000	118.981; 0.000	37.185; 0.000	66.528; 0.000

NEET

Dependent Variable: NEET (Takes the value of 1 if the person is NEET and 0 if the person is not NEET)					
Analysis of Results for Models With Level-2 Predictors		Odds-Ratios			
		Urban Females 15–24	Rural Females 15–24	Urban Males 15–24	Rural Males 15–24
Number of Observations: The maximum number of level-1 units =		28384	12498	25603	9540
The maximum number of level-2 units =		26	26	26	26

Intercept					
B_0					
Educational attainment					
<i>Middle School</i>		-1.052** (0.349)	-0.751** (0.472)	-1.327** (0.265)	-0.799** (0.450)
Relationship to the head of the household (i.e. reference person) Reference Category: Other Relatives					
<i>Reference person</i>		-1.083** (0.338)	-0.043 (0.957)	-1.198** (0.301)	-0.998** (0.368)
<i>Child of the reference person</i>		-0.271** (0.762)	-0.974** (0.222)	-0.233* (0.792)	-0.385 (0.681)
<i>Spouse(or cohabiting partner)</i>		0.815** (2.259)	0.969** (2.634)	-1.034 (0.355)	^
<i>Son or Daughter in Law</i>		1.125** (3.080)	0.345** (1.412)	1.614** (5.020)	^
<i>Grandchild</i>		-0.573** (0.564)	-0.046 (0.955)	0.069 (1.071)	-0.543** (0.581)
<i>Non-relatives</i>		-2.775** (0.062)	-1.277** (0.279)	-2.037** (0.130)	-2.043** (0.130)
Marital Status: Reference Category: Single					
<i>Married</i>		1.781** (5.937)	0.412** (1.510)	-0.115 (0.891)	-0.582** (0.559)
<i>Divorced</i>		0.944** (2.570)	-0.069 (0.933)	1.668** 5.30	
Mother's Educational Attainment: Reference Category: Secondary school					
<i>Illiterate</i>		0.636 ** (1.889)	0.587** (1.780)	0.195** (1.214)	0.079 (1.083)
<i>Literate with no diploma</i>		0.505** (1.657)	0.757** (2.132)	0.314** (1.368)	0.213 (1.238)
<i>Primary School</i>		0.247** (1.279)	0.436** (1.547)	0.190** (1.210)	-0.036 (0.965)
<i>High School-General</i>		-0.452** (0.636)	-0.331 (0.718)	-0.142 (0.868)	-0.112 (0.894)
<i>High School-Vocational/Technical</i>		-0.414** (0.661)	-0.344 (0.709)	0.065 (1.067)	-0.228 (0.796)
<i>College and beyond</i>		-0.076 (0.926)	0.078 (1.081)	-0.246* (0.782)	-3.909 (0.020)
Father's Educational Attainment: Reference Category: Secondary school					
<i>Illiterate</i>		0.257** (1.293)	-0.126 (0.882)	0.066 (1.068)	-0.027 (0.974)
<i>Literate with no diploma</i>		0.161* (1.174)	0.261** (1.299)	0.066 (1.068)	0.073 (1.076)

<i>Primary School</i>		0.0512 (1.052)	0.163* (1.177)	0.172** (1.188)	-0.045 (0.956)
<i>High School-General</i>		-0.101221 (0.903)	-0.190 (0.827)	0.275** (1.316)	0.019 (1.020)
<i>High School-Vocational/Technical</i>		0.081 (1.084)	-0.185 (0.831)	0.268** (1.308)	-0.209 (0.811)
<i>College and beyond</i>		-0.113 (0.893)	-0.725** (0.484)	0.366** (1.442)	0.288 (1.333)
Mother's Employment Status: Reference Category: Employed					
<i>Unemployed</i>		-0.115 (0.891)	-0.362 (0.696)	0.323** (1.381)	0.909** (2.481)
<i>Not in the Labor Force</i>		0.174** (1.190)	0.728** (2.070)	0.031 (1.031)	0.651** (1.918)
Father's Employment Status: Reference Category: Employed					
<i>Unemployed</i>		-0.243** (0.784)	0.283* (1.327)	0.104 (1.110)	0.413** (1.511)
<i>Not in the Labor Force</i>		-0.272** (0.762)	0.101 (1.106)	-0.126** (0.881)	0.271** (1.311)
Younger Female Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.097 (0.907)	-0.351** (0.704)	-0.117 (0.900)	-0.603 (0.547)
<i># of siblings High School-Vocational/Technical</i>		0.018 (1.018)	-0.589** (0.554)	0.061 (1.063)	-0.161 (0.851)
<i># of siblings College and Beyond</i>					
Same Age or Older Female Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.246** (0.782)	-0.300 (0.742)	0.088 (1.091)	-0.318** (0.727)
<i># of siblings High School-Vocational/Technical</i>		-0.138 (0.871)	-0.899 (0.407)	0.202** (1.223)	0.273 (1.313)
<i># of siblings College and Beyond</i>		-0.116 (0.890)	0.151 (1.163)	0.091 (1.095)	0.828** (2.288)
Younger Male Sibling Educational Attainment:					
<i># of siblings High-School General</i>		0.026 (1.026)	0.219 (1.244)	-0.337** (0.713)	-0.061** (0.941)
<i># of siblings High School-Vocational/Technical</i>		0.098 (1.103)	-0.268 (0.765)	-0.651** (0.521)	-0.773** (0.462)
<i># of siblings College and Beyond[^]</i>					
Same Age or Older Male Sibling Educational Attainment:					
<i># of siblings High-School General</i>		-0.091 (0.913)	-0.522** (0.593)	-0.211** (0.810)	0.075 (1.078)
<i># of siblings High School-</i>		0.074	-0.269**	-0.072	0.047

<i>Vocational/Technical</i>		(1.077)	(0.764)	(0.931)	(1.048)
<i># of siblings College and Beyond</i>		-0.154* (0.857)	-0.730** (0.482)	0.053 (1.054)	0.292 (1.339)
Female Sibling Employment Status:					
<i># of siblings employed</i>		-0.161** (0.850)	-1.090** (0.336)	0.271 (1.311)	-0.257** (0.774)
<i># of siblings unemployed</i>		0.040 (1.041)	0.357* (1.429)	0.308 (1.360)	0.094 (1.099)
<i># of siblings not in the labor force</i>		0.043 (1.044)	0.469** (1.598)	0.091 (1.095)	0.142** (1.153)
Male Sibling Employment Status:					
<i># of siblings employed</i>		0.397** (1.487)	-0.001 (0.998)	0.145** (1.155)	-0.436** (0.647)
<i># of siblings unemployed</i>		0.301** (1.351)	0.290** (1.337)	0.678** (1.971)	0.501** (1.651)
<i># of siblings not in the labor force</i>		0.106** (1.112)	0.468** (1.596)	0.213** (1.237)	0.198** (1.219)
Household Characteristics					
<i># of persons living in the household</i>		0.179** (1.196)	-0.008 (0.992)	0.041** (1.042)	0.056** (1.058)
<i># of female siblings living in the same household</i>		-0.126** (0.881)	-0.028 (0.972)	-0.105** (0.900)	-0.067* (0.935)
<i># of male siblings living in the same household</i>		-0.188** (0.828)	-0.004 (0.996)	-0.060** (0.942)	-0.019 (0.981)
<i>Child of the reference person but mother not present in the house</i>		0.343** (1.408)	0.261 (1.298)	0.408** (1.503)	-0.026 0.974
<i>Child of the reference person but father not present in the house</i>		-0.096 (0.908)	0.040 (1.041)	0.186** (1.204)	0.356** (1.427)
<i>Household Earnings (casual and regular workers only)</i>		-0.001** (0.999)	-0.000** (0.100)	-0.000** (0.100)	-0.000** (0.999)
<i>Dummy Variable which indicates if the household earns positive (>0) income from casual or regular employment</i>		-0.268** (0.764)	0.022 (1.022)	-0.547** (0.579)	-0.331** (0.718)
Regional Characteristics (Explained and Unexplained)					
Demographics					
<i>Relative size of the total young workforce (15–24) to total adult workforce (25–64) in the region of residence</i>		0.010 (1.010)	-0.021 (0.980)	0.000 (1.000)	-0.040* (0.960)
<i>Economic Structure: Reference category: Share of industrial workforce in the region of residence</i>					
<i>Share of agricultural workforce in</i>		-0.003	-0.047**	-0.005	-0.011

<i>the region of residence</i>		(0.996)	(0.954)	(0.995)	(0.989)
<i>Share of trade workforce in the region of residence</i>		0.005 (1.004)	-0.032 (0.969)	-0.004 (0.996)	-0.019 (0.981)
<i>Share of services workforce in the region of residence</i>		0.021** (1.021)	0.035 (1.036)	0.001 (1.001)	-0.005 (0.996)
Educational Background of adult population: Reference category: Share of adult population with middle school attainment					
<i>Share of adult illiterate population</i>		-0.150** (0.860)	-0.006 (0.994)	0.050 (1.051)	-0.139* (0.871)
<i>Share of adult population with no diploma</i>		-0.100* (0.904)	0.020 (1.021)	0.002 (1.002)	-0.205* (0.815)
<i>Share of adult population with primary school attainment</i>		-0.133** (0.875)	-0.002 (0.998)	0.045 (1.045)	-0.174** (0.840)
<i>Share of adult population with general high school attainment</i>		-0.248** (0.780)	-0.0950 (0.909)	0.055 (1.056)	-0.289** (0.749)
<i>Share of adult population with vocational high school attainment</i>		-0.271** (0.762)	-0.096 (0.908)	0.039 (1.039)	-0.335** (0.715)
<i>Share of adult population with college and beyond attainment</i>		-0.138** (0.871)	-0.081 (0.922)	0.015 (1.015)	-0.137* (0.872)
Employment Outlook in previous years					
<i>Employment growth of the region from 2004 to 2008</i>		0.006* (1.006)	0.004 (1.004)	0.003 (1.002)	0.002274 (1.00)
<i>Share of the current total unemployed population who were unemployed 1 year ago</i>		0.023** (1.023)	0.037** (1.038)	0.008 (1.007)	-0.011 (0.989)
<i>Share of the current total employed population who were unemployed 1 year ago</i>		-0.042* (0.959)	-0.150** (0.861)	-0.006 (0.994)	0.035 (1.036)
Dummy Variable for 20–24 year old youth					
<i>Dummy 20–24</i>		-0.080** (0.922)	-0.013 (0.987)	-0.310** (0.733)	0.243** (1.275)
Reliability Estimate					
<i>Intercept B_0</i>		0.456	0.840	0.539	0.720
Estimation of Variance Components for Model Without Level-2 Predictors					
<i>Variance of intercept u_0</i>		0.119	0.271	0.0304	0.083
<i>Standard Deviation of intercept u_0</i>		0.345	0.521	0.174	0.287
<i>Chi Square Statistic; P-Value</i>		398.878; 0.000	697.191 0.000	141.290; 0.000	151.794; 0.000
Estimation of Variance Components for Model With Level-2 Predictors					
<i>Variance of intercept u_0</i>		0.006	0.063	0.010	0.041
<i>Standard Deviation of intercept u_0</i>		0.079	0.251	0.100	0.203
<i>Chi Square Statistic; P-Value</i>		22.255; 0.034	95.591 0.000	25.990 0.011	52.615; 0.000

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