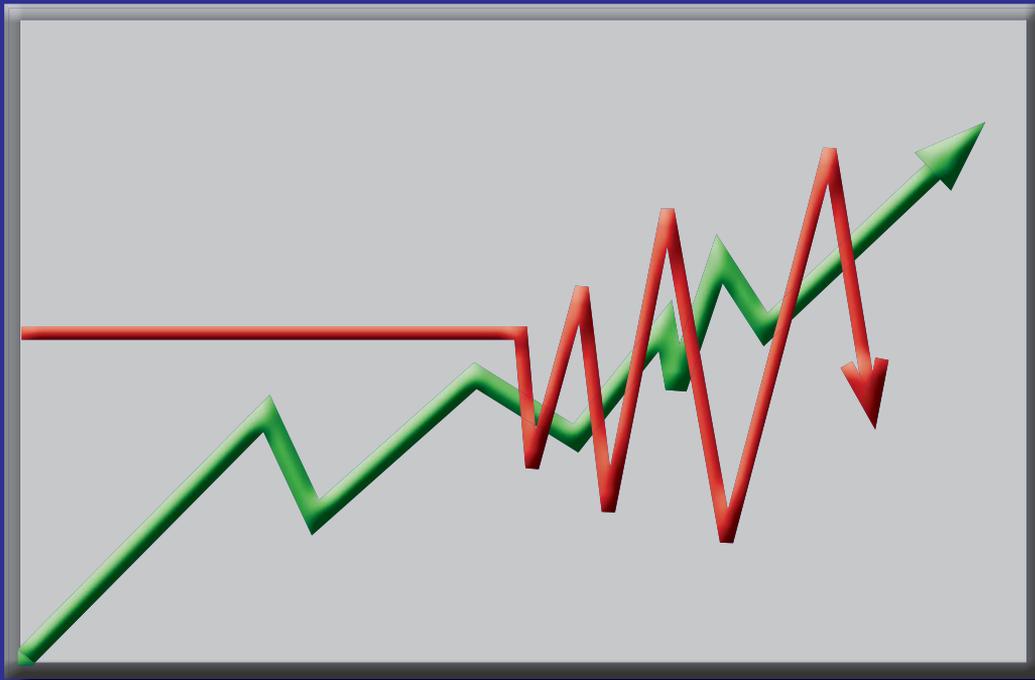




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# Occupational Outlook in Turkey

Hakan Ercan



ILO - Ankara



ILO Office for Turkey  
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Labour  
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# **OCCUPATIONAL OUTLOOK IN TURKEY**

**Hakan ERCAN**

**ILO - ANKARA**

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*ILO Cataloguing in Publication Data*

Ercan, Hakan

Occupational Outlook in Turkey / Hakan Ercan ; International Labour Organization. - Ankara: ILO, 2011  
1 v.

ISBN: 9789220256152

ISBN: 9789220256169 (web pdf)

ILO Office in Ankara

employment / labour force participation / occupation / wages / projection / Turkey

13.01.3

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Printed in Turkey

## FOREWORD

“Occupational Outlook in Turkey”, which is one of the national level outputs of the United Nations Joint Programme “Growth with Decent Work for All: A National Youth Employment Programme and Pilot Implementation in Antalya”, has been prepared by Assoc. Prof. Dr. Hakan Ercan from the Department of Economics of the Middle East Technical University to develop population, labour force and employment related projections for Turkey by using brand new data. The report is also intended to provide a basis for the regular publication of “Occupational Outlook” in the next years as a sustained endeavour.

“Occupational Outlook in Turkey” has been prepared by using two-digit microdata on occupations and economic activities obtained from the Household Labour Force Surveys conducted by the Turkish Statistical Institute (TURKSTAT) between 2004-2010 and the “Survey on Transition of Young People into the Labour Market” conducted by the same agency in 2009. Microdata prepared specifically for this study with extraordinary efforts of TURKSTAT staff, in particular Enver Taştı, Head of the Department of Social Statistics and Didem Sezer from the same Department, has been analyzed by Assoc. Prof. Dr. Hakan Ercan to forecast occupational trends in Turkey up to year 2020.

Furthermore, two-digit microdata of Household Labour Force Survey, which was provided specifically for this study by TURKSTAT, is now prepared annually and is accessible to anyone interested in return for a small fee. Besides having produced “Occupational Outlook in Turkey”, providing such a public service is also a significant achievement of the United Nations Joint Programme.

I am very grateful to Assoc. Prof. Dr. Hakan Ercan, who prepared “Occupational Outlook in Turkey” meticulously in a long and challenging process; to Enver Taştı and Didem Sezer along with all TURKSTAT staff involved in the preparation of the microdata; and to Ozan Çakmak, who has been implementing the ILO components of the United Nations Joint Programme with dedication and success.

Ümit Deniz Efendioğlu  
Director, ILO Office for Turkey



# INTRODUCTION

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## OCCUPATIONAL OUTLOOK IN TURKEY

HAKAN ERCAN, MIDDLE EAST TECHNICAL UNIVERSITY, ANKARA\*<sup>1</sup>

### 1. INTRODUCTION

This report presents basic medium-term projections of population, labour force, and industrial employment projections to 2020.<sup>2</sup> Medium-term framework assumes that current industrial structure will prevail along its existing growth trends.

The following quote from Lacey and Wright (2009, p.82, in an article based on their work for the US Bureau of Labour Statistics' Occupational Outlook ) frames this report well: "Professional and related occupations and service occupations are expected to create more new jobs than all other occupational groups from 2008 to 2018. In addition, growth will be faster among occupations for which postsecondary education is the most significant form of education or training, and, across all occupations, replacement needs will create many more job openings than will job growth." Similarly, Human Resources and Skills Development Canada (2008, p. iv) expects two-thirds of all job openings over the next ten years to be in occupations that require postsecondary education (university, college or apprenticeship training) or in management occupations (which often require postsecondary education). HRSD Canada (2008) expects new job creation to be weakest in occupations that require a high school diploma or only on-the-job training.

Although the above references concern the North American market, future job growth being in service industries, faster growing occupations being the ones that require post-secondary degrees, and weakest job growth to be expected in low-education occupations should be easy generalizations to the Turkish labour market. These expectations have strong implications for designing effective education and training policies for joblessness, especially for the women and the youth in Turkey. Today's<sup>3</sup> statistics already hint at the current existence of the seeds of these expectations. Finding a job is easiest for college graduates, vocational high school graduates, primary school graduates, and high school graduates, in that order, for the young (15-29 year-old cohort). Primary school graduates in today's Turkey can find jobs easier than the high school graduates because their reservation wages are lower (they accept to work for lower wages) and they are more likely to accept informal (undesirable) (implicit) employment contracts. Turkey is not likely to remain an economy where such low skills will continue to be in demand.

One must be aware of the Turkish labour market's three inter-connected salient features. Rural-urban migration is yet to be completed. Average education level is low. Labour force participation rates are the lowest in the OECD region. Its female LFPR is currently 28%, which is an anomaly in its income group of countries, upper middle income according to World Development Indicators online database of the World Bank. Turkey kept its population in rural areas (50% urbanization rate was reached only in the mid 1980's) by subsidizing its agricultural sector. Through IMF-led stabilization policies, governments gradually removed these subsidies in the last decade. Agricultural employment was already slowly dissolving at the time. These out-migrants at best had five years of primary education for males, and less than that for females (mandatory schooling went up to eight years only in 1997-

1 \* hercan@metu.edu.tr . The author gratefully acknowledges support from the ILO Ankara Office and its former director Ms. Gülay Aslantepe, current director Ms. Ümit Efendioğlu, and Mr. Ozan Çakmak.

2 Population projections are those of the Turkstat. The author is grateful to Mr. Enver Taştı and Ms. Didem Sezer from Turkstat for their careful review of statistics in this text.

3 2009 microdata Turkstat Youth Education-Employment Transition Survey results analysed by this author, later in this report.

98). In the twelve years that passed since, the average education level of the population went up to six years from five. Previous unpaid agricultural workers (unskilled women) do not participate in the urban labour market and Turkish female and thus overall participation rates keep falling as a trend. These are the underlying pre-pre-crisis (2000-07) trends.

Uneducated young males could work in seasonal agriculture, construction, and tourism sectors. Young unskilled urban women could work in informal clothing and textiles or in urban personal services and retail trade. Informality in the labour market is very high. The following quote from the executive summary of World Bank (2010) defines informality as used by Turkstat and exposes the pre-crisis trend:

“Although the headline measure of informality has been falling, this is almost entirely explained by migration out of agriculture into more formal sectors. The headline measure of informality (provided by TUIK, Turkish Statistical Institute, the proportion of workers unregistered for social security) fell from 53 % to 44 % between 2004 and 2008. However, this aggregate decline hides important patterns. Most of the decline between 2001 and 2006 is explained by migration of the workforce out of agricultural employment (where nearly all workers are informal) to manufacturing and services, mainly in urban areas (where informality rates are below 20 % for wage earners). Moreover, during this period – a period of rapid expansion of the economy – urban and non-agricultural informality increased (from 29 % to 34 % for non-agricultural employment).”

Note that, Turkey is still going through its demographic transition’s final stage. This transition will be going on well into the mid 21<sup>st</sup> century (Hoşgör and Tansel, 2010, p. 14). The above dynamics thus will only slowly go away. In the meantime, thanks to increasing urbanization and slowly increasing education levels that also increase the age at first marriage, average family size has been going down (to 4.5 in 2010 from 5.6 in 1955, see Hoşgör, 2010, p.46). Turkish population growth rate has been converging to the industrial country averages. It is estimated that net reproduction rate became one in Turkey in 2010. Turkish population is now increasing because of population momentum.

There are implications of the rural-urban transition not being complete, for employment. Turkish urban areas should expect another ten-twelve million or so migrants from its rural areas in the coming two decades (Ercan, 2007a, Ch.2). Rural young migrate into urban areas in search of education and jobs. Rural population has thus stabilized at below eighteen million with a slightly declining trend (according to Turkstat’s downward population correction of 3.5 million in rural areas, while conducting its first de jure population census in 2007). Rural population’s proportion will diminish, as only the urban population will keep rising.

Presently, agricultural employment (mostly rural) almost totally lacks social security coverage. Rural-urban migrants are uneducated, they form the casual wage and self-employed segment of the urban labour force, where the first is almost fully and the latter is two-thirds informal (HLFS results, 2008). There is a strong negative correlation of education and informality in the labour market. The trend is favouring education and formal work, but this is a slow process. As things turned out from an examination of microdata from HLFS, an employment impact analysis of the crisis was best conducted along the job status and occupation lines, not necessarily on the industrial composition of employment (except broad-brush findings).

The remainder of the report is structured as follows. Section 2 presents an overview of the pre-crisis trends and global financial crisis’ impact on employment and unemployment. This section concludes with an analysis of recovery. Section 3 analyzes recent informal employment trend and crisis impact using microdata. Section 4 discusses Turkey’s near-term outlook, with a particular focus on implications for employment recovery. Section 5 concludes the report with some policy recommendations.



## 2. ANALYSIS OF POPULATION AND LABOUR MARKET TRENDS

### POPULATION TRENDS TO 2020

In the 1990 and 2000 intercensal period, Turkey's young population (0-14 year-olds) reached its peak at 20.0 million. According to Turkstat population projections in 2008, Turkey's 2010 population would be 73 million. Children (0-14) constituted 19 million of this population. In 2050, number of children will fall to 16.6 million. Turkish population will reach 94.6 million. While the number of children is falling, at the other end of the dependency spectrum, numbers are rising. The number of 65+ year-olds was 5.1 million in 2010 (6.9% of the population). Their number will rise to 17.3 million in 2050 (18.3% of the population, one in five persons)! Working age population in Turkey (15-64 years) will be rising at a decreasing rate before stabilizing in 2050. By then, the numbers in the young cohorts of 15-24 and 25-34 will have already started to decline (in 2020 and 2030, respectively). Working age population in 2010 was 49 million (67.1% of total population), and the number in 2050 will be 60.7 million (64.2% of total population). The dependency rate will thus have climbed from 49.2% (number of children plus the number of elderly, divided by the working age population) to 55.8%. Therefore, Turkish young population is slightly declining, its working age population is increasing at a decreasing rate, and its older population is rising fast. The above proportions are good relative to the industrialized countries that have a population-aging problem. There is a downside however. Turkish population is not well educated and its labour force participation rate is low (49%) and it is very low for women (27%). Along with the rural-urban migration trends, these numbers paint the long-term labour supply picture in Turkey.

Current participation ratio of 49% is thus a mixed blessing in the Turkish labour market. Given the current education trends where continuation rate after the mandatory eight years is 50% (according to the Ministry of National Education's, MoNE's online statistics) and employment growth trends, a rising participation rate would increase the unemployment rate. This is because, in the next ten to fifteen years, Turkish employment creation capacity will not be sufficient (see the next section). On the other hand, Turkey is sidelining half of its working age population (and three quarters of its women). This surely must have consumption and growth implications. The key challenge for Turkey is thus how not to miss its once-and-for-all demographic window of opportunity. That is, Turkey must modernize and reform its general and vocational school system to impart contemporary skills to its uneducated population (average education level of the population is six years, of the workforce is seven years) so that they may have better labour market opportunities. This point is repeatedly made in various reports concerning the Turkish labour market (e.g. Ercan, 2007b; Tunalı 2003; ETF 2006; World Bank, 2005 on education, 2006 on labour market, 2009 on women's labour force participation, and 2010 on informality). Quoting ETF (2006) in its first paragraph, "A continuation of the recent acceleration of economic growth will increase the need for medium and highly skilled workers." that Turkey generally lacks now.

The Turkish non-institutional working age population, including individuals aged 15 to 64, is expected to increase by 7 million from 2010 to 2020. Total population will rise by 8.8 million. The projection is taken from Turkstat. The 2010-20 annual average growth rate of this population is 1.2 %.

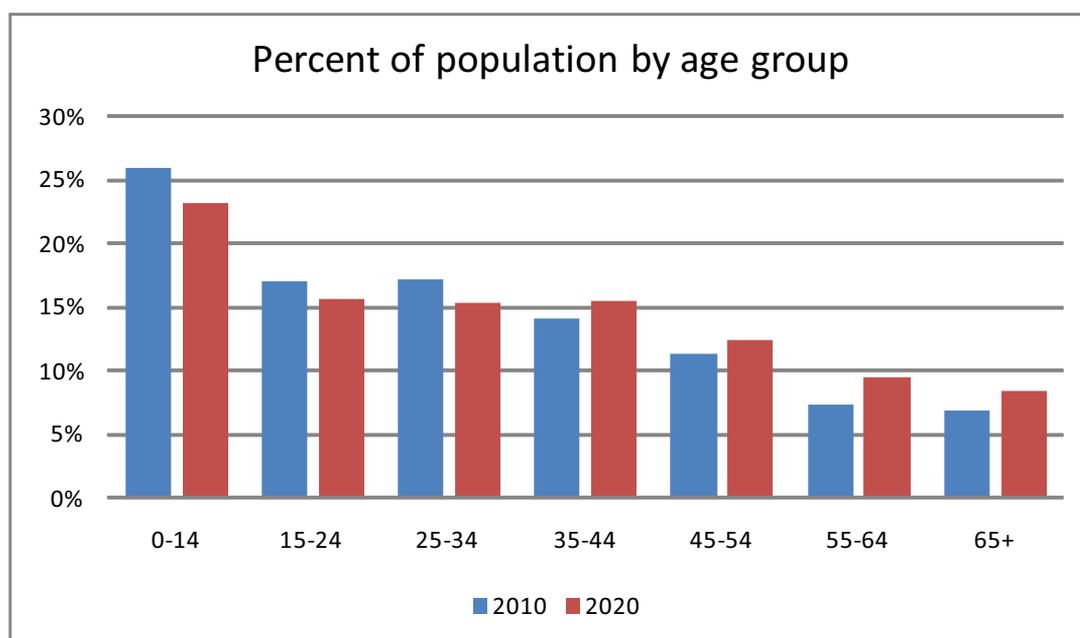
The working age population in the 15-64 age range is increasing at a decreasing rate. Young age group is diminishing in numbers in Turkey. Given the prevailing labour force participation rate (LFPR) of roughly 50% in Turkey, this population increase will mean 3.5 million more participants in the labour force in the next ten years. Assuming a stable 70-71% LFPR for men, and a slight improvement in

women’s LFPR from 26-27% to 28%, the total LFPR will still be less than 51%. Turkish labour force will thus reach 28 million individuals.

With the above rates, there will be a 2.1 million increase in the number of men in the labour force, and a 900 thousand increase in the number of women in the labour force by 2020. The share of the youth labour force will go down from 17% to 15-16% both because of increasing school enrolment trend, and because of the decline in their numbers. During this period, the number of 65+ year-olds will increase by 1.9million. There will be 6.9 million persons in this age group in 2020.

Assuming that these trends will be reflected in the labour force as well, in Figure 2.1, percent of population by age group is shown. The share of the younger labour force, workers aged 15 to 34, is expected to decrease. Of the remaining working-age group, those between 35 and 64 years old, the number is projected to increase.

**Figure 2.1. Percent of population by age group (2010-2020).**



Source: Turkstat projections (Table 43 of population projections, [www.tuik.gov.tr](http://www.tuik.gov.tr)).

The period that is used for the labour market analysis is 2000-2009. This consists of two phases: **pre-crisis (2000-2007)** and **crisis (2008-2009)**. All statistics are also presented disaggregated by sex and age where possible. One question needs to be answered at this point in order for the analysis to make more sense. Why has there been such a large share of agriculture in employment in Turkey (which is still close to 30%)? The answer is agricultural subsidies that went on between 1950 and 2000. These subsidies slowed down the flow of population from rural to urban areas that should have started after agricultural mechanization. Agricultural productivity is therefore low in Turkey. Furthermore, Turkish population’s average schooling level is six years. The implications of this in the urban labour markets are profound. In addition to informality and low levels of education (hence low levels of labour productivity), participation rates of urban women are very low, about 25%. Turkish production (and per capita income level) clearly suffers from not utilizing much of its working age women. This is a downward spiral, as improvements to technology may not be translated easily into productivity with this kind of a work force composition.

Not surprisingly, Turkish Employment Agency’s annual survey of establishments (2009) reports eight of the top ten occupations as unskilled occupations like bodily work or general (unspecified) services. Long-term supply of skilled occupations depends on urbanization and the resultant increases



in schooling levels. This development will also push age at first marriage up and increase women's labour-force participation rates eventually.

Understanding these fundamental dynamics of the Turkish labour market allows one to conduct informed analyses of past and present trends of industrial activity and occupational distribution.

## **PRE-CRISIS (2000-07) LABOUR MARKET TRENDS**

In 2000, there was an IMF-led expansionary stabilization program. In 2001, there was a severe banking crisis. In 2002-07, there was continuous growth. Turkey started an IMF-led stabilization program in 2000. The program pegged the TL to USD. The economy initially expanded as expected in such programs, employment levels went up, and unemployment rates fell. In 2001 there was a banking crisis, economy contracted, employment levels fell, unemployment rate went back up to its 'normal' plateau and kept climbing up to its new plateau. In the tables and figures that follow, this basic sequence of events is visible. To start the analysis, in Table 2.1 we report the headline labour force statistics of Turkey by sex for 2000-10 (September, the latest available at the time of writing of this report). These are aggregate figures as reported by Turkstat. Crisis shows in 2009 figures (it was late 2008 when it hit Turkey but the impact is visible even in 2008 statistics), recovery should be in the 2010 statistics (September, which happens to be a seasonally good month for employment with agriculture, construction, and tourism in full swing).

In Table 2.1, we colour-code 2008 as yellow (pre-crisis values, but one should also check the italicized 2007 values, because in the last quarter of 2008 job losses started in Turkey), the crisis year 2009 as red, and the recovery year of 2010 (September round of HLFS) as green.

Table 2.1. Labour force status by non-institutional population (by sex) (x1000), 2000-2010.

Year	Pop.	Pop 15+	LF	Empl.	Unempl.	LFPR %	Unempl %	Non-agri Unempl %	Empl %	NILF
<b>TOTAL</b>										
2000	66.187	46.211	23.078	21.581	1.497	49,9	6,5	9,3	46,7	23 133
2001	67.296	47.158	23.491	21.524	1.967	49,8	8,4	12,4	45,6	23 667
2002	68.393	48.041	23.818	21.354	2.464	49,6	10,3	14,5	44,4	24 223
2003	69.479	48.912	23.640	21.147	2.493	48,3	10,5	13,8	43,2	25 272
2004	66.379	47.544	22.016	19.632	2.385	46,3	10,8	14,2	41,3	25.527
2005	67.227	48.359	22.455	20.067	2.388	46,4	10,6	13,5	41,5	25.905
2006	68.066	49.174	22.751	20.423	2.328	46,3	10,2	12,7	41,5	26.423
2007	68.901	49.994	23.114	20.738	2.376	46,2	10,3	12,6	41,5	26.879
2008	69.724	50.772	23.805	21.194	2.611	46,9	11,0	13,6	41,7	26.967
2009	70.542	51.686	24.748	21.277	3.471	47,9	14,0	17,4	41,2	26.938
2010	71.343	52.541	25.641	22.594	3.046	48,8	11,9	14,8	43,0	26.901
<b>MALE</b>										
2000		22.916	16 890	15 780	1 111	73,7	6,6	8,4	68,9	6.026
2001		23.389	17 040	15 555	1 485	72,9	8,7	11,3	66,5	6.349
2002		23.827	17 058	15 232	1 826	71,6	10,7	13,3	63,9	6.769
2003		24.260	17 086	15 256	1 830	70,4	10,7	12,6	62,9	7.174
2004		23.251	16.348	14.585	1.762	70,3	10,8	12,9	62,7	6.903
2005		23.673	16.704	14.959	1.746	70,6	10,5	12,2	63,2	6.969
2006		24.094	16.836	15.165	1.671	69,9	9,9	11,3	62,9	7.258
2007		24.513	17.098	15.382	1.716	69,8	10,0	11,4	62,7	7.415
2008		24.917	17.476	15.598	1.877	70,1	10,7	12,3	62,6	7.441
2009		25.369	17.898	15.406	2.491	70,5	13,9	16,0	60,7	7.471
2010		25.801	18.257	16.170	2.088	70,8	11,4	13,2	62,7	7.544
<b>FEMALE</b>										
2000		23 295	6 188	5 801	387	26,6	6,3	13,5	24,9	17 108
2001		23 769	6 451	5 969	482	27,1	7,5	17,7	25,1	17 318
2002		24 214	6 760	6 122	638	27,9	9,4	19,8	25,3	17 455
2003		24 652	6 555	5 891	663	26,6	10,1	18,9	23,9	18 098
2004		24.293	5.669	5.047	622	23,3	11,0	19,6	20,8	18.624
2005		24.686	5.750	5.108	642	23,3	11,2	18,7	20,7	18.936
2006		25.080	5.916	5.258	658	23,6	11,1	17,9	21,0	19.165
2007		25.480	6.016	5.356	660	23,6	11,0	17,3	21,0	19.464
2008		25.855	6.329	5.595	734	24,5	11,6	18,1	21,6	19.526
2009		26.317	6.851	5.871	979	26,0	14,3	21,9	22,3	19.466
2010		26.740	7.383	6.425	959	27,6	13,0	20,2	24,0	19.357

Source: www.tuik.gov.tr

Note: Pre-2004 series were not revised according to the 2007 address based population census. There was a downward population adjustment of 3.5 million in total population. Most of this correction fell onto the rural areas. There was double counting of individuals who immigrated into the cities, which was corrected by Turkstat.

Turkish labour force stands at 25.6 million with 18.3 million men and 7.4 million women. Pre-crisis unemployment level stood at 2.4 million with 1.7 million men and 700 thousand women. After climbing to 3.5 million in the first quarter of 2009, it came down to 3 million in 2010 (a detailed breakdown will be given in the crisis impact section). Turkish stock of unemployed has gone up by 500 thousand and the post-crisis recovery trend levelled in August and September (not shown here, but available



from the Turkstat monthly bulletins at [www.tuik.gov.tr](http://www.tuik.gov.tr) ). Women's unemployment numbers contributed more to this increase than men's unemployment numbers. Women's employment numbers contributed more to the employment recovery than men's employment numbers. This suggests an increasing labour force participation rate for women and it is borne in the statistics. Women's LFPR went up from a pre-crisis 24% to a post-crisis 28%. It kept rising right through the crisis.

Overall unemployment rate went back to its pre-crisis level of 11% after registering 14% in 2009 (15% in the first quarter of 2009). Women's unemployment rate rose from a pre-crisis 11% to 13% in 2010. Non-agricultural unemployment rate (a better indicator for international comparison because of high agricultural employment proportion in Turkey, where almost all women in the agricultural labour force are 'gainfully' employed as unpaid family workers) did not go back to its pre-crisis level for women (it did for men, from 12% to 12% with 16% in between). The trajectory for women was 18%, 22%, and 21%.

Turkey grew for six years straight between 2002 and 2007. This sustained economic growth did not reflect itself in an increase in labour force participation. Unemployment rate remained around 10.5%. Turkish participation rate fell because women's participation rate fell. This is because of the ongoing rural-urban migration. Former uneducated unpaid family workers in agriculture do not participate in the urban labour market. This component still dominates the overall participation rate although rising urban education levels are pushing participation rates up at the same time. Unemployment rate remains level until its next jump to a new plateau (as in this crisis) because the better educated (high school, median education level is primary) urban younger cohort participate more, but the jobs are not forthcoming at this rate.

As the agricultural employment exodus will still be important in the coming decade or so, this pattern will drive the participation rate and unemployment patterns in Turkey. This is regardless of the impact of the recent economic crisis. The crisis put the unemployment rate in the first half of 2009 to its historic high. It may have hastened this outcome maybe by a few years, but this outcome was in the making. Unemployment levels for urban youth are considerably higher than the general rate. In the coming decade, these rates would have translated themselves into the overall rates. The across-the-board employment support programs in Turkey (there was an important regulation in 2008 that provided incentives for employing first-time job entrant women or the young) have not yet made a difference for urban youth, likely because of the crisis. We should see such impact given time. This suggests that there are significant barriers that young people face when trying to get a job or remain in one (some evidence for this will be provided ahead). The issues of low-skills and a general lack of childcare facilities come to mind right away.

In Figures 2.2-2.4 LFPR, employment, and unemployment rates are shown by sex. While male overall and non-agricultural unemployment rates receded to their pre-crisis values, female unemployment rates rose sharply during the crisis and remained high with only a slight improvement in 2010.

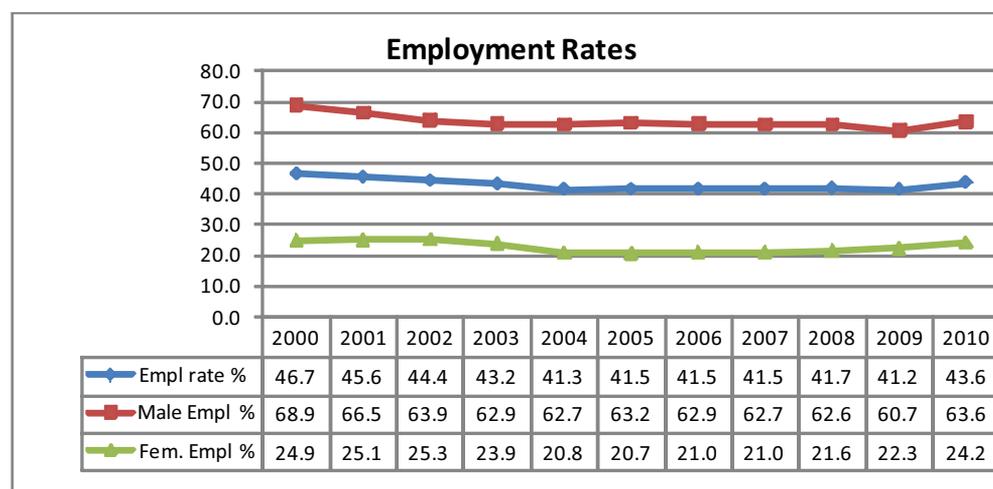
Note: September values for 2010. Annual rates for 2010 are in Table 2.1.

**Figure 2.2. Labour force participation rates (source: Table 2.1).**



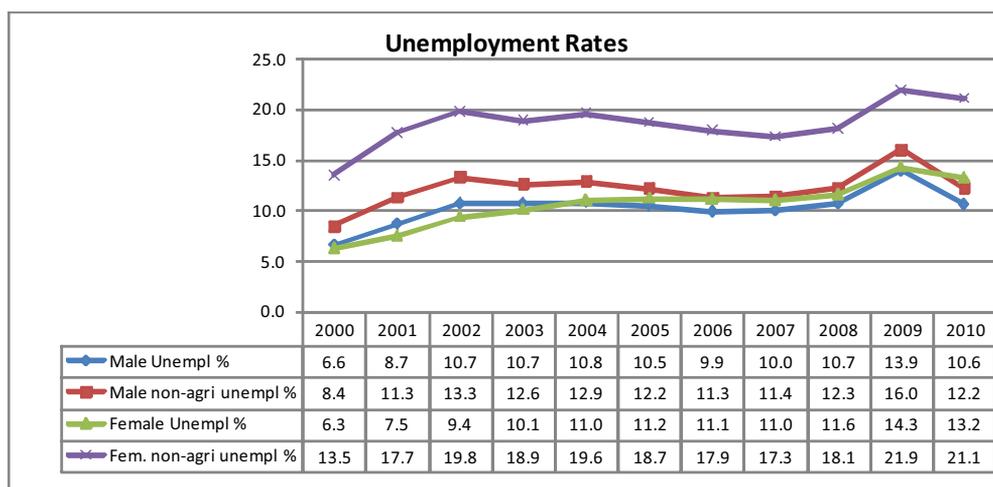
Source: Table 2.1

**Figure 2.3. Employment rates**



Source: Table 2.1

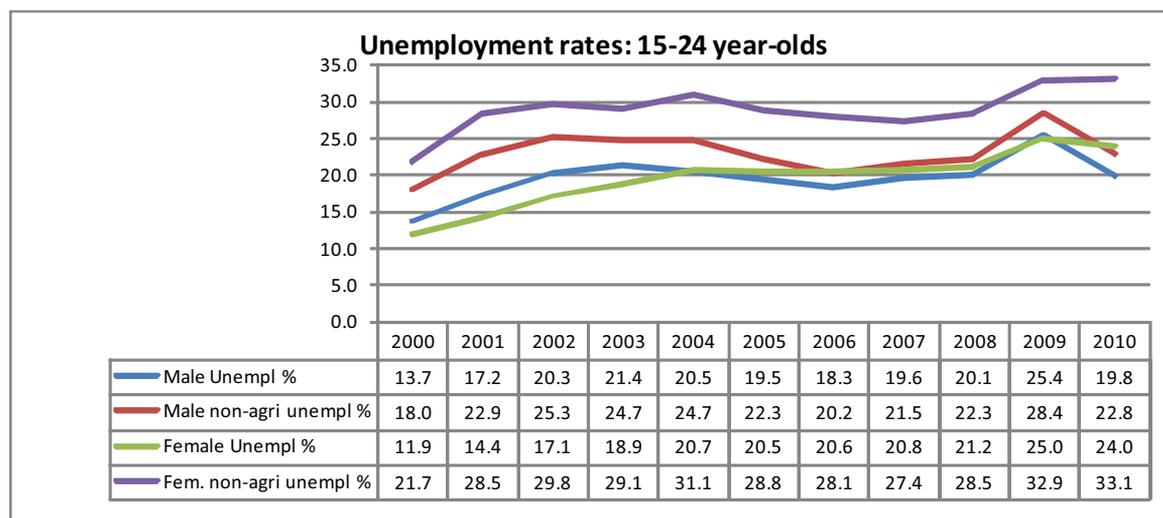
**Figure 2.4. Unemployment rates**



Source: Table 2.1

Unemployment statistics for the youth (15-24 year-olds) reveal a dire picture (Figure 2.6). Non-agricultural unemployment rate for young males hit 28% in 2009 and came back down close to its 2005 level in 2010 (22.3% and 22.8%, respectively). Young female non-agricultural unemployment rate hit 33% in 2009 and remained there in 2010. General female youth unemployment rate did not go back down to its pre-crisis plateau of 21%, either. It went up to 25% in 2009 and fell to 24% in 2010. These rates are very high (OECD region's youth unemployment rate was 16.4% in 2009; OECD, 2010). Young women's participation rates follow the general trend of all women (not shown).

**Figure 2.5. Youth unemployment rates**

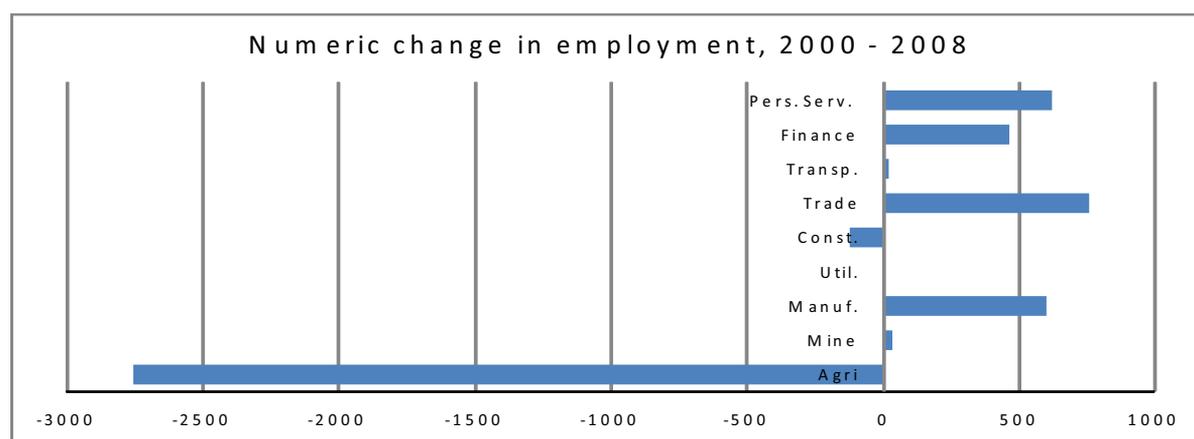


Source: Turkstat

## SECTORAL EMPLOYMENT TREND<sup>4</sup>

Using aggregate data from 2000 and 2008 HLFS, in Figure 2.7, the employment creation tight spot of the Turkish labour market is observed. Agriculture lost 2.75 million workers in this period. The rest of the economy created 2.4 million jobs. There was a deficit of 375 thousand. Had the Turkish LFPR, especially for women, not been low, the unemployment problem would have escalated. Manufacturing employment gain was 630 thousand during the period. Service sector total job creation was 1.9 million.

**Figure 2.6. Numeric change in employment (2000 to 2008).**



Source: Aggregated Turkstat HLFS data are used.

<sup>4</sup> This and the following section draw freely on Ercan (2010).

In Table 2.2, employment shares of the industries used in Figure 2.6 are reported. Agriculture lost employment. Mining, utilities, construction, and transportation total remained quite the same. Manufacturing gained three points, service industries gained nine points of what agriculture lost in employment share, twelve points. One may expect these broad trends to prevail in the coming decade as well. If the agricultural employment shares of other upper middle-income countries are any indication, Turkish agricultural employment share will likely go down to the 10-12% range. This means a twelve-plus point loss still to come from agriculture (which means a loss of approximately three million jobs). Some of this share-shift could go to manufacturing; the bulk must end up in the service-sector employment share.

**Table 2.2. Employment shares of industries, 2000 – 2008.**

Year	Agri.	Mine	Manuf.	Util.	Const.	Trade	Transp.	Finance	Pers. Serv.
2000	36,0%	0,4%	16,9%	0,4%	6,3%	17,7%	4,9%	3,3%	14,1%
2008	24,7%	0,5%	18,6%	0,4%	5,9%	21,6%	5,1%	5,5%	17,3%

Source: Aggregated Turkstat HLFS data.

## EDUCATION AND JOB STATUS

Low skill (education) level in Turkish employment is shown in Table 2.3. Schooling classifications used by the Turkstat need to be explained to the reader. No schooling means not being able to read or write. As this proportion was historically higher, there was once widespread (today’s equivalent of) lifelong learning programs for the adult generations: Courses that taught how to read and write to adults. Men’s mandatory military service was also put to good use once and conscripts were taught how to read and write. The classification ‘no diploma’ is for people who could read and write but who do not have a primary school (five years) diploma, including dropouts. Junior high is eight years and senior (or vocational) high is eleven years (now twelve years) of schooling. These were pre-1997 denominations when mandatory schooling went up to eight years from five. Senior high became four years. ‘Elementary’ classification refers to this shift. This is eight years of schooling and it implies that the person has graduated after the mandatory schooling level increase. As this proportion goes up, slowly, average education level in Turkey will go up. The ‘elementary’ statistic also reflects the young age of the cohort, less than 2% of these are employed or self-employed in 2008.

*The median education level of those in employment is still primary (five years).* More than a quarter of the unpaid family workers have no diploma; 87% have less than high school education. Primary school graduates constitute more than half of the casual wage (daily or seasonal) workers and the self-employed. Median education level of the employers is junior high (eight years). Wage-salary workers are the best educated; their median education is senior high (eleven years). They constitute more than half of the Turkish work force. Table 2.3 strongly suggests that *self-employed look more like casual wagers in Turkey, as opposed to employers.* This lends credence to the belief that, failing to obtain regular wage-salary employment because of their poorer human capital stock, this segment of the work force exists in the secondary segment.

**Table 2.3. Education and job status in Turkish employment (2008).**

15 + year-olds	No schooling	No diploma	Primary	Junior high	Senior high	Voc. high	College	Elementary (8 years)		Number (x1000)	(%)
<b>Wage- salary</b>	0.7%	2.0%	29.2%	10.4%	14.2%	14.6%	23.3%	5.7%	100.0 %	11527	54.4%
<b>Casual wage</b>	7.6%	8.9%	54.3%	7.9%	6.2%	4.7%	1.4%	8.9%	100.0 %	1409	6.6%
<b>Employer</b>	0.7%	1.8%	39.4%	14.1%	14.1%	10.2%	18.9%	0.8%	100.0 %	1250	5.9%
<b>Self- employed</b>	7.4%	7.7%	58.5%	10.2%	6.5%	5.3%	3.5%	1.0%	100.0 %	4325	20.4%
<b>Unpaid family</b>	16.5%	10.1%	44.2%	4.0%	6.7%	4.1%	1.6%	12.7%	100.0 %	2683	12.7%
<b>TOTAL</b>	4.5%	4.6%	39.4%	9.6%	11.1%	10.4%	14.8%	5.5%	100.0 %	21194	100.0%
<b>Unempl. rate</b>	7.0%	12.8%	9.4%	13.4%*	14.0%	11.5%	10.0%			10.9%	
<b>Population proportion</b>	9.1%	6.7%	39.1%	17.5%*	11.0%	7.9%	8.8%				

Source: Turkstat online database and microdata. Average schooling level from this table (for the employed) is computed as 5.082 years.

\* Includes elementary (eight years) classification.

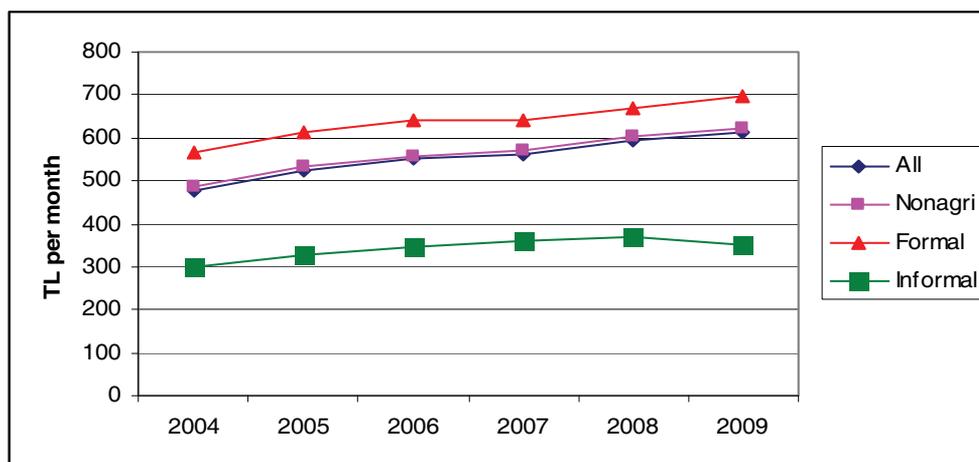
In the last rows of Table 2.3, unemployment rates by education level and population proportions by education level are reported. No-diploma category is overrepresented in unemployment. Basic education/secondary graduates are overrepresented in the unemployed category. Overall unemployment rate for the data is 10.9%. Excluding the no schooling category, with the exception of primary and tertiary education levels, at other levels of education, unemployment rates are higher than the overall unemployment rate. College graduates constitute the managers, engineers, and professional occupations. Primary graduates are the bulk of the unskilled or informal employment.

## WAGES AND EARNINGS: 2004 – 2010 HLFS MICRODATA

Monthly earnings of wage earners (regular and casual employees) have been on the rise.<sup>5</sup> In comparison to 2004, monthly earnings were up by almost 30 % in 2009 (in 2003 prices!). Monthly earnings in the formal (registered to social security in current job) non-agricultural sector are substantially higher than earnings reported in the informal non-agricultural sector (Figure 2.7 - prepared by Meltem Dayıoğlu in this section). For instance, in 2008, informal sector earnings were only about 55 % of formal sector earnings. This gap increased further in 2009, informal sector earnings dropping to about a half of formal sector earnings. Since the new entrants in 2009 were not formal or informal waged workers (see the next section) but rather unpaid family workers in agriculture and self-employed women, this increase is likely due to increasing skill premium. Supporting evidence for rising skill premium is provided later in this chapter when we report wages by occupations for 2004-09. Although average monthly earnings overall and in the formal sector continued to increase in 2009, informal sector earnings registered a drop of about 6 % in a single year from 2008 to 2009.

<sup>5</sup> This includes earnings from main job only. Turkstat asks “monthly net income from main job” question for earnings question since 2002 (the first survey in 1988 was an exception). Question is only asked of wage-salary workers (less than 60% of employment in 2008). Earnings are corrected for inflation using CPI as reported by Turkstat. The base year is 2003 in this subsection. Wage data for 2002 and 2003 were not available to researchers at the time of writing the earlier draft of this report in early 2011.

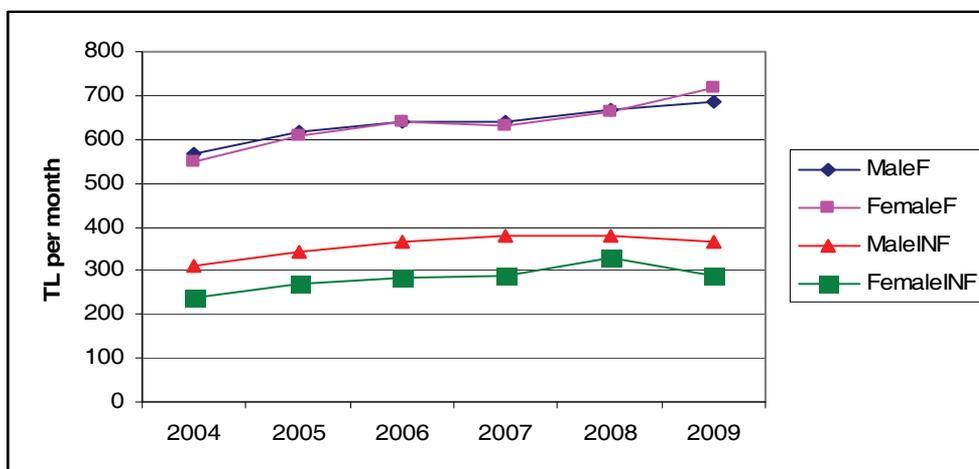
**Figure 2.7. Monthly earnings by year and sector (non-agriculture).**



Source: HLFS microdata files.

Note: Data covers individuals aged 15-64. Formal and informal sector wages exclude agriculture.

**Figure 2.8. Monthly earnings by year, sex, and sector (non-agriculture).**



Source: HLFS microdata files.

Monthly earnings of non-agricultural formal sector male and female workers have been quite similar (Figure 2.8). The average monthly earnings for both groups increased over time including the crisis years of 2008 and 2009. In the non-agricultural informal sector, monthly earnings of men have been higher than monthly earnings for women. Unlike the formal sector, monthly earnings of men and women employed in the informal sector have shown a decline over 2008-2009.

Finally, in Figure 2.9a-c, observed age-earnings profiles for men and women are given for 2010. In Figure 2.9a, there is a difference in the prime working age years between the monthly earnings of men and women. In Figure 2.9b, only college graduates are shown. Wages for all men and women at all ages move up relative to Figure 2.9a. Note also that, while college graduate men and women start at similar earnings levels after school, men get ahead faster. As these are actual (observed) patterns, the author will spare his comments. Clearly, further regression analysis controlling for observable characteristics in the data are needed for further interpretation. Figure 2.19c reveals the striking wage difference caused by a college education across all age groups for women.

Figure 2.9a. Age-earnings profiles for men and women, 2010 (monthly earnings).

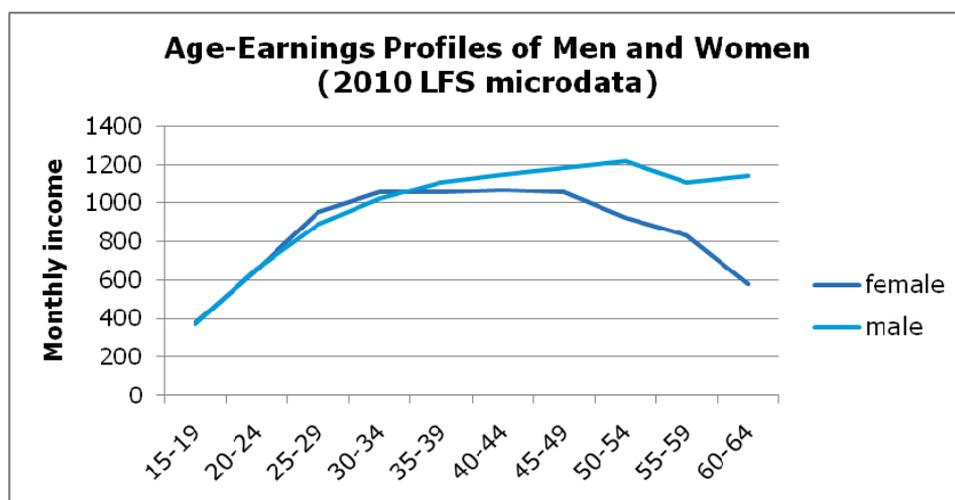


Figure 2.9b. Age-earnings profiles for men and women, 2010 (college graduates).

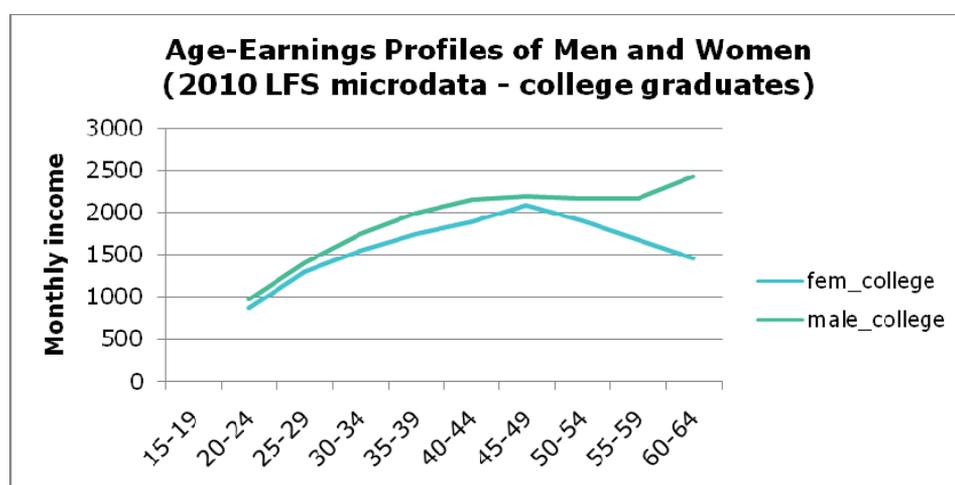
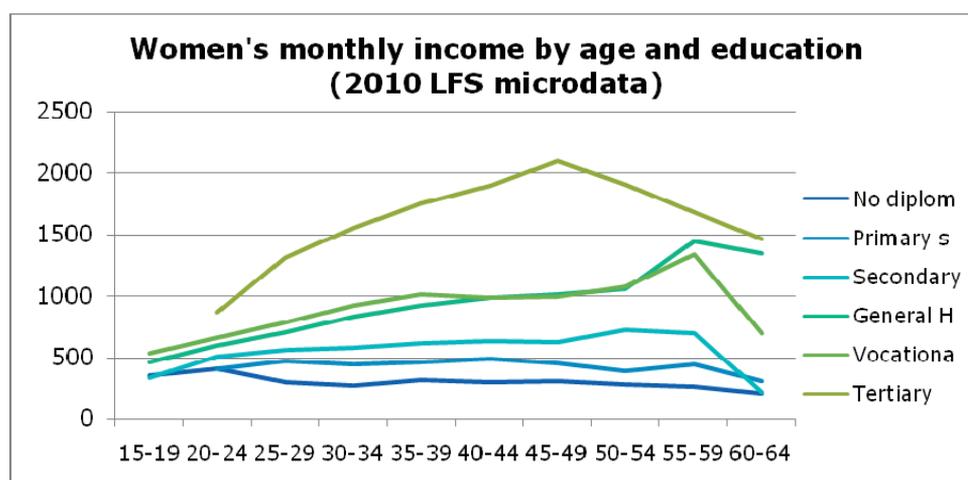


Figure 2.9c. Women's earnings by age and education level, 2010.



Source: Author's computations from 2010 LFS (Turkstat) microdata.

## 2009 TURKSTAT SURVEY: EDUCATION – EMPLOYMENT TRANSITION

In this section, tabulated results from the 2009 Education-Employment transition survey of Turkstat are presented. The survey was the first of its kind in Turkey, conducted at the same time with the EU countries with the same questionnaire structure. It has detailed questions for the young age group, which is defined by 15-34 year-olds, on their first permanent job or its absence. Education is the key determinant of future occupational prospects and therefore wages. Table 2.4 provides the broad picture of the education-employment transitions of the young people.

**Table 2.4. Education-Employment transitions of 15-34 year-olds (in thousand persons).**

First permanent job	Freq.	Percent	Percent
35-64 year-olds	39,796	71.4	
<b>15-34 year olds:</b>			
<b>Current job</b>	4,251	7.6	26.7
<b>Different job</b>	3,995	7.2	25.1
<b>Had worked</b>	2,615	4.7	16.4
<b>No job</b>	5,083	9.1	31.9
<b>Young total</b>	15,944		
<b>Total</b>	55,740	100.0	100.0

Note: First permanent job is defined as the first job that lasts for three months or more.

Source: Tabulated by the author from 2009 Turkstat survey microdata.

Working age population was 55.7 million at the time of the survey in 2009. Of these, 39.8 million persons (71% of the total) were 35 years old or older. There were 15.9 million young people at working age. Of these, 4.25 million (27% of the young people) had found work and kept the same job. Close to four million of them (25%) had found work, but later switched jobs. That is, more than half of the young people (52%) found a job and was working at the time of the survey. Some (2.6 million, 16%) had worked at one time. Close to a third of them (5.1 million, 32%) never worked. Total non-working youth at the time of the survey was 48% of the young total. This is not a good statistic. Table 2.5 hints at the reason, low levels of educational attainment.

**Table 2.5. Education-Employment transitions of 15-34 year-olds, by education level (in thousand persons).**

Education	35-64 year-olds	15-34 year olds				Total
		Current job	Different job	Had worked	No job	
Can't read or write	6,540					6,540
(column percent)	16.4					11.7
No diploma	14,904					14,904
	37.5					26.7
Primary (five years)	8,376	1,144	1,383	960	2,175	14,037
	21.1	26.9	34.6	36.7	42.8	25.2
Basic (eight years)*	3,489	732	280	339	1,050	5,890
	8.8	17.2	7.0	13.0	20.7	10.6
Junior high	1,498	327	488	250	335	2,898
	3.8	7.7	12.2	9.6	6.6	5.2
Senior high	2,196	583	513	429	837	4,558
	5.5	13.7	12.8	16.4	16.5	8.2
Vocational high	1,343	476	738	389	3791	3,323
	3.4	11.2	18.5	14.9	7.5	6.0
College and above	1,451	988	594	248	307	3,589
	3.7	23.3	14.9	9.5	6.1	6.4
<b>Total</b>	39,796	4,251	3,995	2,615	5,083	55,740
	100.0	100.0	100.0	100.0	100.0	100.0

\* Compulsory eight years (which implies that the school completion was after the 1997-98 school year when there was an increase in mandatory schooling from five to eight years).

Source: Tabulated by the author from 2009 Turkstat survey microdata.

Table 2.5 is sadly informative of the Turkish working age population and the young population in particular. Of the older segment (35-64 year olds), 59% have no diploma; most of these would be (rural) women. Thankfully, all of the younger cohort have a diploma. Sadly again, the largest education share category is still primary (five years). Of those young persons who never worked, 43% are primary school graduates. Of the total working age population in Turkey, 79% have less than high school education. This means that, a meaningful occupational outlook exercise could only apply to 21% of the population who have high school and university degrees. These two tables reveal the dire problem of the Turkish working age population, no occupational qualification. Young women are in worse shape (Table 2.6).

**Table 2.6. Education-Employment states of all 15-34 year-olds, by sex (in thousand persons).**

	Men	Women	Total
<b>No job</b>	1,128	3,955	5,083
<b>Has job or had job</b>	7,009	3,852	10,860
<b>Total</b>	8,137	7,807	15,944

Source: Tabulated by the author from 2009 Turkstat survey microdata

Of the young women, 49% has a job or had a job after graduation. Of the young men, 86% has a job or had a job after graduation. The observed odds ratio for finding a job after graduation for young women against men is 0.16 (or men against women is the reciprocal of 0.16, which is 6.25; very good betting odds in favour of men). This can be calculated from the table as the ratio of women with jobs over women with no jobs ( $3.85 / 3.96 = 0.97$ ) over the ratio of men with jobs over men with no jobs ( $7.0 / 1.13 = 6.2$ ), that is,  $0.97 / 6.2 = 0.16$ . The picture is somewhat better for the younger half of the young women. The odds ratio is 0.26 for 15-19 year-olds and 0.24 for 20-24 year-olds. The present striking difference between young men and women in finding a job is likely to diminish in the coming years (assuming that young women will keep their jobs and not drop out of the labour force when they get married, which is an expected outcome as urban young women's education levels keep rising). Table 2.7 reports the result of a similar exercise for calculating odds ratios for various explanatory variables in the survey data set. Such analysis is done through a technique called logistic regression.

**Table 2.7. Education-Employment transition determinants of 20-29 year-olds.**

20-24 year-olds					25-29 year-olds				
Found a job	Odds Ratio	Std. Err	z	P> z	Odds Ratio	Std. Err	z	P> z	
<b>female</b>	0.2633	0.0007	-504.6400	0	0.1159	0.0003	-853.5200	0	
<b>primary</b>	0.6264	0.0032	-91.7100	0	0.2337	0.0010	-357.1100	0	
<b>junior high</b>	0.6827	0.0032	-80.3700	0	0.3318	0.0016	-235.6800	0	
<b>high school</b>	0.5908	0.0028	-112.0300	0	0.3876	0.0018	-206.0700	0	
<b>voc. high</b>	1.1470	0.0059	26.5600	0	0.6932	0.0034	-74.3900	0	
<b>training</b>	0.2792	0.0019	-191.3000	0	1.0161	0.0103	1.5700	0.117	
<b>married</b>	0.7276	0.0020	-116.5900	0	1.0395	0.0027	14.9900	0	
<b>urban</b>	0.7916	0.0022	-83.4900	0	0.9430	0.0024	-22.8400	0	
<b>mother primary</b>	0.8775	0.0040	-28.7200	0	0.7694	0.0036	-55.6800	0	
<b>father primary</b>	1.2872	0.0042	76.6000	0	1.2520	0.0041	68.6300	0	

Note: Dependent variable is the binary variable that takes on a value of one if the person has (or had) a job, zero otherwise (i.e. the person had no job) in a logistic regression. Omitted (reference) education category is university.

Source: Computed by the author from 2009 Turkstat survey micro-data, using Stata 11.

Table 2.7 reveals a few interesting findings. Odds ratios from a logistic regression are reported in the table for 20-24 year-olds and for 25-29 year-olds. Dependent variable is having (or having had) a

job. Younger women do better than older women do. Relative to a university education, all education categories (except vocational high school for the younger group) fare worse. Note that, this younger group result may be driven by the fact that the age bracket includes those who are still attending college while vocational high school graduates could participate in the labour force. Regardless, a vocational high school degree is the next best thing to a university degree in terms of securing a job. Getting married at a young age is not good for job prospects while it has a positive impact in later years. Urban odds ratios being less than one (that is, logistic regression coefficients being negative) should simply mean that one is more likely in rural areas to be classified as an unpaid family worker in agriculture.

The unexpected result comes from the coefficients of the mother's education being primary school and father's education being primary school. While mother's education being low has a negative impact on finding a job, father's education being low has a positive impact on finding a job. One could only conjecture that, mothers whose education levels are low are likely to be non-participants and they may not be prone to appreciate the value of an education in finding a job, especially for their daughters. ("What is an uneducated daughter to do anyway, except getting married at a young age like her uneducated mother?") may be the accepted wisdom for the uneducated mother, submitting to her 'fate'.) Fathers, on the other hand, who participate in the labour force regardless of their education levels, may be in a superior position to appreciate the benefits of more education in securing a better paying job. They may be more likely to encourage their children to stay in school (with the possible exception of older southeast Anatolian fathers who do not put a value on girls' education; women's labour force participation rates are very low even by Turkish standards in the southeast).

### 3. CRISIS IMPACT

In this section, we provide a breakdown of labour market statistics in order to gauge the impact of the crisis. In addition to the annual headline statistics, we use monthly data for employment and unemployment so that we could see the trough and peak months within the year. HLFs microdata tabulations are also used in the analysis for occupations and wages. These annual micro-data sets with wage data are only available starting in 2004 and ending in 2009. This precludes us from forming longer-term wage trends. The data simply do not exist. This is a sore point with the Turkish labour market researchers.

In Figure 2.10, we show monthly data on employment and unemployment for 2006 to 2010. We plot employment change (in percentage, year-on-year) for total and urban employment levels. Although total and urban employment change patterns are similar, differences in magnitudes and timing are instructive. There are two episodes in 2007 and 2008 for example, that urban employment growth was negligible when total employment growth remained around 2%. This could only be possible with an increase in agricultural employment. It is large enough a proportion in the Turkish labour market to influence the overall labour market statistics.

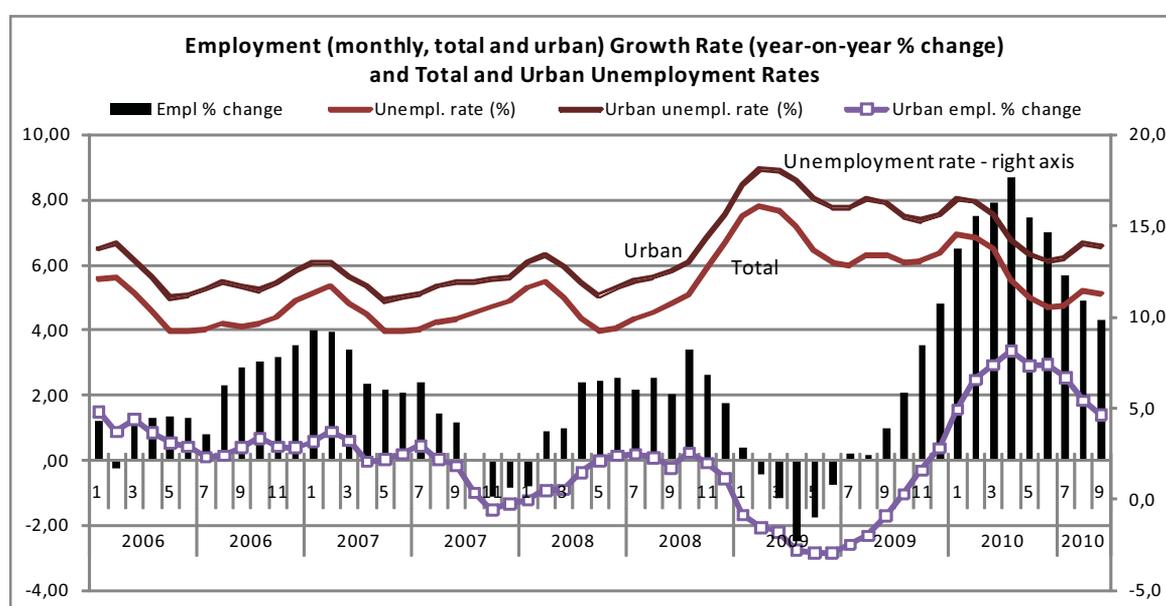
In the recent crisis, total employment growth turned positive as early as July 2009, while urban employment growth was negative until December 2009. Urban employment level started to fall in November 2008 and kept falling until December 2009. In the July to November 2009 period, agricultural employment rise (most rural is agricultural in Turkey) was strong enough to pull the overall employment level up from its previous year's value. This is in spite of the still bleeding urban employment in which there was also a strong increase in the numbers of informal self-employed women (new entrants, more on this later).

Part of this agricultural employment increase could be due to return migrants who were then classified as unpaid family workers in their family plots. Part of the agricultural employment stock could be

the portion that did not move into urban areas because of the crisis, as they have been doing for some decades now (Turkish urban population and rural population crossed the 50% point as recently as the early 1980's). We have no data to identify separately these two components. Note also that, monthly Turkstat HLFS results were showing a slight upward trend in agricultural employment before the crisis months during 2008 (not shown here).

Both total and urban unemployment rates peaked in the first quarter of 2009. There was a sharp rise in the last quarter of 2008. After this fast and heavy blow to employment levels in late 2008 and early 2009, there was a slight decrease of the unemployment rates from the peak in the second quarter. (We will discuss later that agricultural employment rise, self-employed women entrants, and discouraged long-term unemployed contributed to this decrease in the statistics.) The rates remained more or less level in the summer months, rose slightly in the winter, decreased until June 2010. Both the total and urban rates are higher than their 2008 values (September to September) despite the above-mentioned boosts to the statistics.

**Figure 2.10. Employment growth rate and unemployment rate (monthly).**



Source: Turkstat.

In Table 2.8, we provide a further breakdown of the information presented in Figure 2.7. Percentage change in employment by sex, total-urban, and young are presented between September 2008 and September 2009, and September 2009 to September 2010. Total employment adjustment was over within the year; that is, losses were suffered during the year and these numbers rebounded from 2008 September to 2009 September. Total employment and men's employment grew strongly within the last year (2009 September to 2010 September). Note that these total figures look good because of even stronger growth in women's employment throughout the crisis and recovery. Youth (15-24 year-olds) employment remained level. The small increase in young men's employment during recovery was somewhat offset by the small decrease in young women's employment.

The table shows that crisis impact was heaviest for urban men. They did rebound during the recovery. The urban employment component looks solid in the table because of women's urban employment growth during the crisis and recovery. This provides preliminary evidence that there was an added worker component during the crisis that still goes on into the recovery. We will further breakdown this component later. During the 2001 crisis and 2002 recovery, neither the increase in agricultural employment nor the increase in the number of self-employed urban women was observed.

**Table 2.8. Percentage change in employment by workforce group.**

	2008 Sep to 2009 Sep	2009 Sep to 2010 Sep
<b>Total employment</b>	1,00	4,33
<b>Men</b>	-0,53	3,83
<b>Women</b>	5,18	5,60
<b>Youth (15-24)</b>	0,03	0,70
<b>Men</b>	-0,04	1,48
<b>Women</b>	0,16	-0,81
<b>Urban employment</b>	-0,93	4,63
<b>Men</b>	-2,21	3,73
<b>Women</b>	3,57	7,60

Source: Calculated from aggregated Turkstat – HLFS data.

Note: In September 2008, employment impact of the crisis was felt for the first time. The table compares the same month one and two years hence.

## IMPACT ON UNEMPLOYMENT DURATION

One group of participants that one should surmise to be low skilled, is the long term unemployed. Duration of unemployment has been going up in Turkey. Long-term unemployed (more than 12 months) constituted 21% of the unemployed in 2000, a good year for labour market indicators (see Figure 2.8) as evidenced earlier in the figures for the pre-crisis trends section. By 2005, however, long term unemployed reached 39% of the unemployed. In 2009, long-term unemployed proportion dipped down to 25% (not shown, OECD total was 24%). In the recovery year of 2010 (September), it went back up to 29%. What is likely to have happened is that, although the trend in the proportion of long-term unemployed is upwards, during the crisis, many of the longest term unemployed (2-3 years and above) dropped out of the labour force and became discouraged workers. Then they came back to the statistics during the recovery and reported their total spell of joblessness in the HLFS.

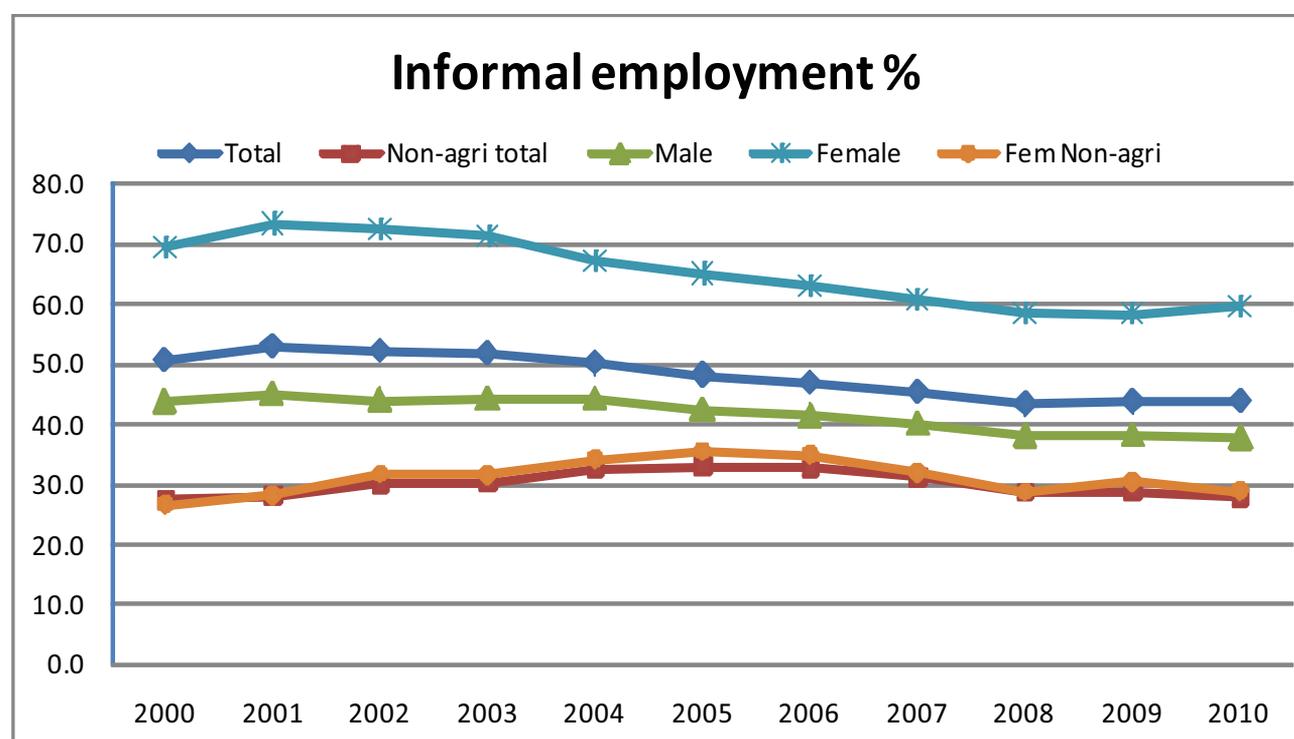
## INFORMAL EMPLOYMENT TRENDS AND CRISIS IMPACT

In Figure 2.12, the proportion of informal employment is shown. This proportion was 43.8% in 2009, down from 45.4% in 2007. The total and male proportions remained level after the drop in the crisis. The total proportion is currently 44.1% (2010). Note that, during the 2001 crisis, informal employment rose by 2.3 points and remained high for another two years before settling into its downward trend in 2004-08. For women, the pattern was more pronounced. The rise in proportion in 2001 was 3.8 points. Non-agricultural proportions rose in 2000-05. This is in line with the widespread assumption that the informal economy is where formal workers who lose their jobs go. This would suggest that employment in the informal economy might expand during an economic crisis.

The response in the recent crisis is not like the response in the 2001 crisis. Overall and male informal employment proportions remained level after an initial fall and women's proportion has fallen in 2008, remained level in 2009, and rose in the recovery. The observation is not a fluke. There are 445 thousand more unregistered women in 2010 (September) over the 2009 average. Only, for non-agricultural women's employment, the proportion is in the 'expected' direction, but small (see below). There was a slight rise in informality that diminished during the recovery.

The story that fits into these patterns is this. During the 2001 crisis, informality increased because of formal job losses, with some of the outflow ending in informal jobs. This is the usual expectation. During the recent crisis, job losses must have been disproportionately higher in the informal segments so that the proportion of informal employment fell overall and for males. Women's rising informal employment proportions suggest an added worker effect in addition to the observed rise in agricultural employment (return migration or staying put at the family plot). Two observations further support this informal employment being hit proportionately more deduction. Firstly, Turkish Employment Agency statistics for unemployment insurance beneficiaries never exceeded 10% of the total job loss attributed to the crisis in any given month (Ercan, 2010). Secondly, Taymaz (2010) provides solid evidence of heavy employment loss in the automotive support industries (part producers for the major manufacturers, generally on the informal side of the economy) during the crisis. There was hardly any employment loss in the top five car manufacturers who benefited from both of the significant anti-crisis measures, short-time work compensation and reduction in consumption taxes that prevented an inventory build-up in 2009. Informal sector absorbed the shock for the rest of the economy both in numbers and wages (see the previous subsection), it seems.

**Figure 2.11. Informal employment proportions for workgroups in Turkey.**



Note: Turkstat reports unregistered work based on the survey question "Are you registered for social security coverage because of the job you are working now?"

One component of unregistered employment has seen a significant rise; non-agricultural self-employed women were 80.6% unregistered in 2008 and 85.7% unregistered in the first quarter of 2010 (March). These women occupy the bottom level of the Turkish labour market after the unpaid family workers in agriculture. They have no social protection. *Self-employment is not a good alternative to salaried employment.* Public authorities ignore unregistered work including self-employment during crises, lest unemployment rate rise. Self-employment constitutes one fifth of Turkish employment (see the next section).

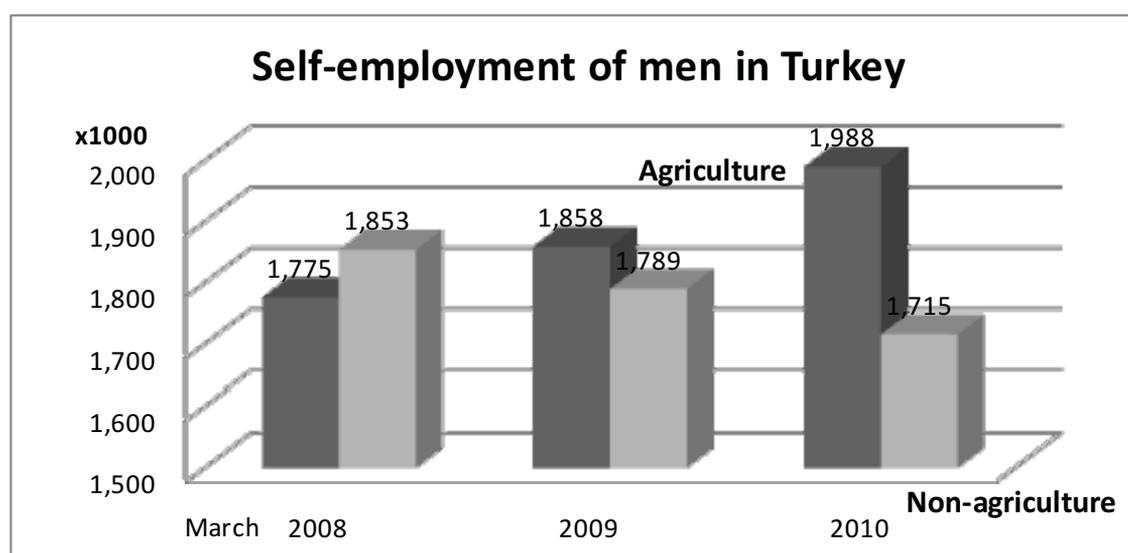
## SELF-EMPLOYMENT DURING THE CRISIS

Self-employment is two-thirds informal employment (not registered in current job) in Turkey. Agricultural self-employment is three-fourths informal employment. For women, self-employment is 90% informal employment. For women in agriculture, almost all self-employment is informal employment. Self-employment not only exhibited resilience through the crisis, it flourished, especially for women. This observation strongly suggests that, self-employment during the crisis was a coping mechanism for the income loss of the household (added worker effect).

Note that, families in which the main providers are informal workers are frequently totally outside of Turkey's social safety net (World Bank, 2010). At best, some would qualify for health coverage through the so-called Green Card program, a means-tested health care program. Informal workers generally lack coverage of any public social assistance program. Once the main provider was out of his job during the crisis, it is likely that his wife or daughter stepped into the informal labour market as self-employed.

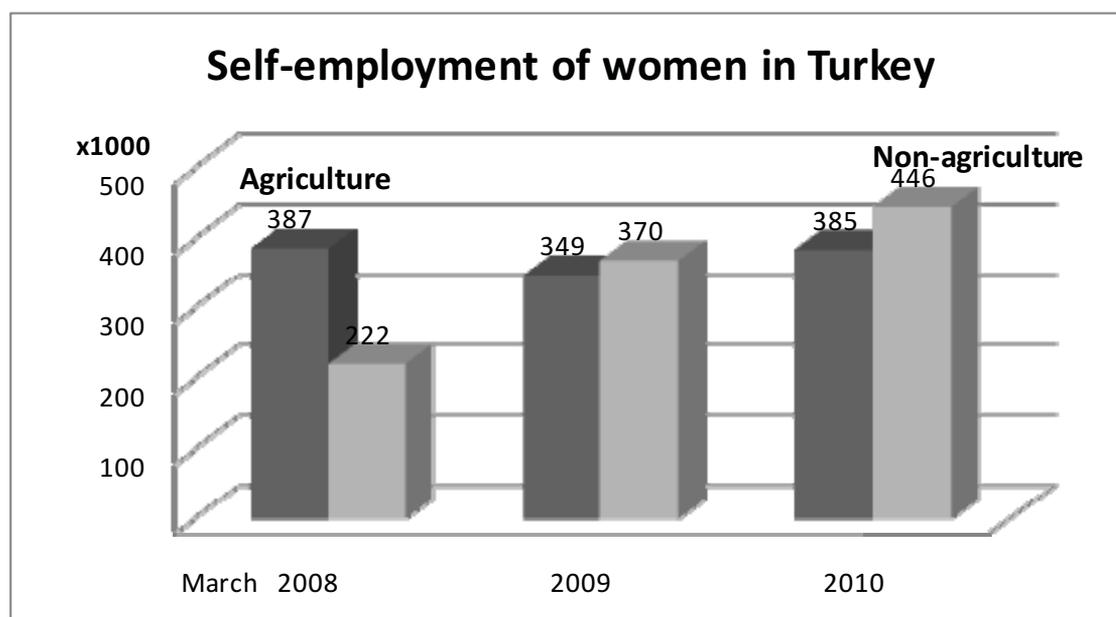
The pre-crisis, crisis-trough, and current self-employment statistics are shown in Figure 2.12 (a) for men and in Figure 2.12 (b) for women (first quarter value of each year, the unemployment peak was reached in February-March 2009 at 16%).

**Figure 2.12 (a). Self-employment of men in Turkey, 2008-2010, first quarter values.**



Source: Turkstat.

Figure 2.12 (b). Self-employment of women in Turkey, 2008-2010.



Source: Turkstat.

Agricultural self-employment rose during the crisis for men, stayed level for women. (Agricultural employment rose in Turkey during the crisis.) Non-agricultural self-employment fell during the crisis for men, and the slack was picked up by women. The rise is unprecedented. Self-employed women in non-agriculture (low-skilled urban women) more than doubled from 222 thousand in 2008 to 446 thousand in 2010 (March values).

Note that, self-employment in Turkey is close to the casual (daily) wage work, that is, another option after ‘failing’ to obtain regular wage-salary work. Labour law in Turkey regulated social security for the self-employed under a third institution (after government employees and private sector wage employment institutions). This one traditionally had the lowest contribution and highest dropout (payment arrears) rates.

## OCCUPATIONAL DISTRIBUTION, 2004-2010: CRISIS IMPACT

In this subsection, personal records from the 2004-10 HLFS data are used to obtain a detailed *occupational picture* (at 2-digit ISCO88 level) for recent years. No comparable microdata files exist before 2004. (Turkstat reports and provides microdata for industry and occupation codes at the single digit level; they were kind enough to provide the author with this more detailed data upon ILO Ankara Office’s request.) The data have 2-digit industry codes as well. However, cross tabulating these two resulted in too few observations in many cells. Occupational distribution revealed a more legible picture of the crisis in line with the salient features of the Turkish labour market than the 2-digit industrial detail (on top of the sectoral employment trend already discussed; Appendix Table A1 reports this industrial distribution with 2-digit classification for 2008 and 2009. Although detailed, it does not go much beyond the already stated obvious: Agricultural employment has gone up during the crisis (because of return migration, it was argued before in this chapter) and manufacturing employment has declined during the crisis. The largest occupations are divided neatly along regular employment and casual wageworker lines. These wage differences were broadly reported in the previous section. Unfortunately, Turkstat stopped asking for and reporting the much useful casual (daily) wage work job status in 2009. It will be somewhat possible to construct this classification status artificially with the help of two questions on social security registration and seasonal work, but this predictive construc-

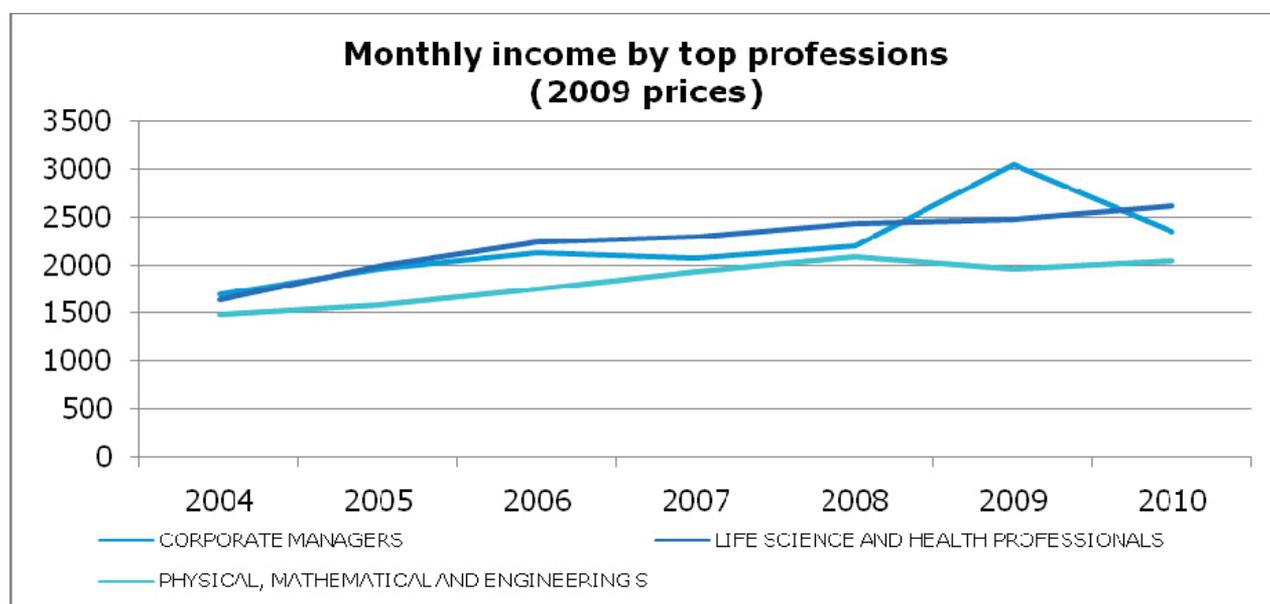
tion would not be as sharp as the statistic from the direct question. The occupational wage patterns provide richer support to earlier more general discussion about the state of the Turkish labour market immediately before and during the crisis.

In the Appendix Table A2, we present the 2-digit occupational classification for wage and casual wage earners for 2004-10. In 2009 and 2010, these two job status categories were reported under a single heading. We report Turkstat’s monthly net income from the main job variable in 2009 prices; data from earlier years were inflated using the CPI. Professions that require higher education levels (e.g. health professionals, teachers) did not suffer wage losses and registered small increases in 2009 in their incomes. They constitute the top 5% of the wage distribution. Technical blue-collar occupations and skilled service occupations (e.g. machine and plant operators, assembly workers, customer representatives) maintained their income levels during the crisis. Construction workers and agricultural day labourers constitute the bottom 15% of the wage distribution of the wage-salary workers.

There are no surprises here. Agriculture, construction workers, and artisans lag behind. All four occupations are the ones with high informal employment proportions. Note that this table does not even include self-employment. In the top occupations (professionals, managers, engineers, health professionals, and teachers) there is no or insignificant levels of informality. (These occupations map to college or technical vocational high school degrees in the data, tabulation not shown.)

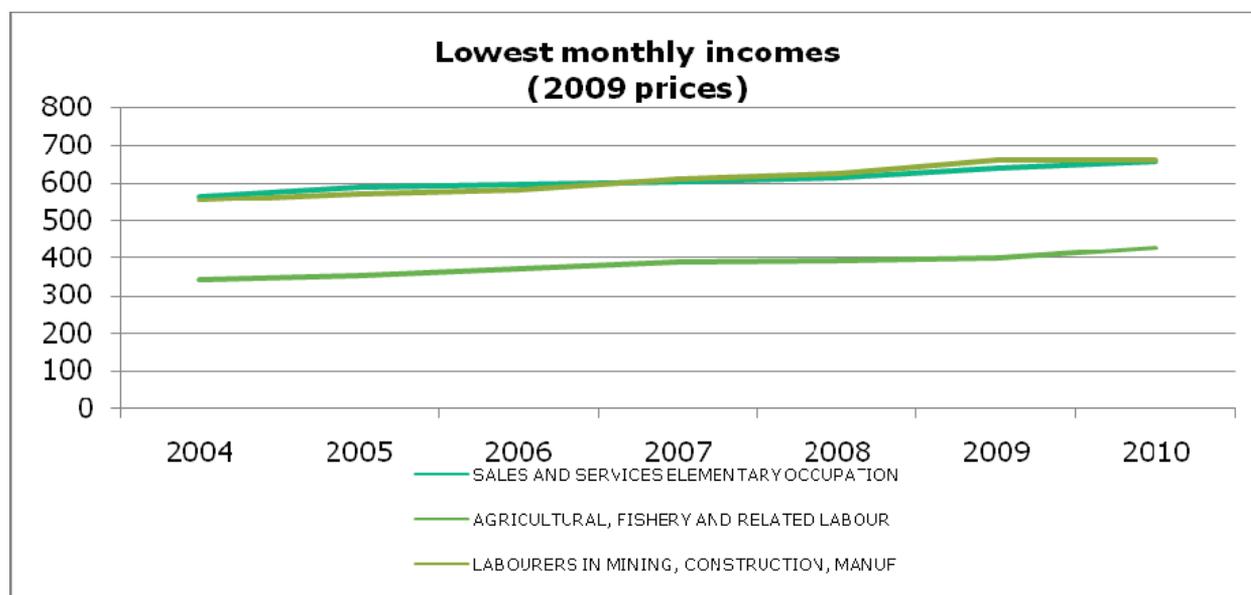
In Figure 2.13a, monthly income by top professions is shown. Corporate managers were paid five times more than the minimum wage in 2009. They were paid seven and a half times more than the lowest paid profession (Table A2). Health professionals are paid similarly. Engineers closely follow. In Figure 2.13b, those occupations whose wages are at the bottom are shown. Unskilled labourers in industry and services toil at the minimum wage. What is striking is that, day labourers in agriculture work at two-thirds the minimum wage. This would not have been observed with the aggregate statistics as reported by Turkstat.

**Figure 2.13a. Top occupations: wages increase during the crisis (2009 prices, monthly income in TL, minimum wage was 600 TL in 2009).**



Source: HLFS microdata of Turkstat.

Figure 2.13b. 'Bottom' occupations (2009 prices).



Source: HLFS microdata of Turkstat.

In Table A3 of the Appendix, occupational distribution proportions are shown for 2008 and 2009. Those occupations whose proportions fell in 2009 are the ones who kept their jobs in 2008, when they constituted a larger proportion of the wage-salary workers. These occupations are managers, professionals, and skilled machine operators. Those occupations whose proportions rose in 2009 are the ones who were hired again. These are agricultural and sales occupations. Thus, we identify the losers of the recent recession with this occupation and wage analysis.<sup>6</sup>

## 4. RECOVERY AND FUTURE TRENDS

### RECOVERY

In September 2010, non-institutional civilian population of Turkey increased by 800 thousand to 71.5 million people year-on-year (Turkstat HLFS results). Non-institutional working age population of Turkey went up by 860 thousand to 52.7 million. These increases have been stable on a slightly increasing trend since 2004. (Turkstat carried back its population weight correction from its de jure census of 2007, to 2004 and no further down.)

Turkish labour force numbered 25.9 million, of which 17.2 million were urban. Employment level is 23.0 million, up by 950 thousand from September 2009. There were 14.8 million urban workers and 8.2 million rural workers. There were 2.9 million unemployed persons, 2.4 million of which were urban. These numbers went down from 3.4 million and 2.7 million, respectively, in one year. Turkey has returned (close) to its pre-crisis levels in some headline labour market indicators.

Labour force participation rate remained level at 49% (71% for men and 28% for women). Eighteen per cent of the labour force is young (15-24 year-olds). Education increases LFPR. Male college

<sup>6</sup> It would have been simpler of course if one constructed a job status matrix for 2008 and 2009 and computed the transitions from labour market states from one year to the other. While possible between 2005 and 2008, in 2009 some questions disappeared from the LFS. It is still possible to construct the transition matrix but with more work. Also, Turkstat codes for the 2009 questionnaire and tabulated values from the microdata set do not match in the answers of some questions for last year's job status (nine classifications expected, eleven found, for example).

graduates' LFPR is 84%, and female college graduates' LFPR is 71%. Urban unemployment rate was 14%, down from 16% from September 2009. Non-agricultural unemployment rate was 14.4%; this is a 2.3 points improvement over September 2009. Youth unemployment rates are high: 21% overall and 25% in urban areas, three and two points smaller than the previous year's statistics, respectively. Table 2.1 and Figures 2.3-2.5 summarized the last decade's labour market patterns including the crisis year of 2009 and the recovery year of 2010 (September values for 2010, exactly two years after the latest pre-crisis month, September 2008).

Turkish employment rate has picked up in the first half of 2010 (it is still a very low 45% in its income group of countries). Women's employment rate was 24% in 2009 (OECD total was 57%, OECD, 2010). There was strong urban employment growth starting in November 2009 and picking up in January 2010 (Figure 2.4). This performance pulled the unemployment rate (total and non-agricultural, 10.5% and 13.4%, respectively) down to its early 2008 values. EU unemployment rate was 9.6% in May 2010 (Eurostat). US unemployment rate was 9.7% in May 2010. Turkish overall rate seemed close to these figures thanks to the high proportion of unpaid family worker women in employment with the boost from informal self-employed women (see below). Non-agricultural unemployment rate is a more realistic indicator for international comparisons regarding Turkey.

In Table 3.1, this recovery picture as evidenced by the headline statistics is presented. Employment level between 2010 September to 2008 September has gone up by 1.2 million. The number of unemployed went up from 2.6 million to 3.5 million in 2009 but went down to 2.9 million in 2010. The stock now has 333 thousand more unemployed. Thanks to the rise in employment, the unemployment rate barely climbed from 10.7% to 11.3% between September 2008 and 2010 after 14% in 2009. Non-agricultural unemployment rate fared slightly worse, it went up from 13.4% to 14.3% between September 2008 to 2010, after 17.4% in 2009. Employment rate has also improved. The crisis seems to have hit and gone with a residue of a few hundred thousand unemployed.

**Table 3.1. Pre-crisis, crisis, and recovery headline labour market statistics (in thousand persons).**

Year	Employment	Unemployed	LFPR %	Unemployment rate %	Non-agri. Unemployment rate %	Employment rate %
<b>2008</b>	21,194	2,611	46.9	11.0	13.6	41.7
<b>2009</b>	21,277	3,471	47.9	14.0	17.4	41.2
<b>2010 (September)</b>	22,973	2,934	49.1	11.3	14.3	43.6
<b>(2010 Sep.) - (2008 Sep.)</b>	<b>1,171</b>	333	1.2	0.6	0.9	0.8

Source: Aggregate data from Turkstat website (www.tuik.gov.tr).

In Table 3.2, we dissect the employment increase in Table 3.3 to its employment status and sex components. As such, these statistics cast some doubt on the quality of the economic recovery employment comeback. Men's wage-salary employment went up by 560 thousand between September 2008 and September 2010. (Turkstat does not report the casual wage component anymore; they are also in here.) Men suffered 138 thousand losses in the employer and self-employed category. Unpaid family workers increased by 100 thousand (in men?). This must be a return to agriculture indeed (by 126 thousand).

Women's wage-salary employment has gone up by 245 thousand. There were 190 thousand more self-employed women in September 2010 than there were in September 2008. Unpaid family workers went up by 220 thousand as well. These two categories summed up to 409 thousand. This here is the

employment recovery miracle of Turkey. Even with the loss suffered by self-employed men, these two undesirable (unregistered) categories of employment netted an increase of 444 thousand between September 2008 and September 2010. The number constitutes 38% of the increase in employment for the two-year period.

Note that, in the last quarter of 2008 and in the first quarter of 2009, Turkish employment loss amounted to 1.3 million. (This number is the cumulative monthly differences in the six months in the number of unemployed.) There has been a comeback as evidenced by Tables 2.3 and 2.4, but the numbers also strongly suggest that close to 40% of the jobs lost on the wage-salary and employer categories did not come back yet. Instead, there is a strong increase in agricultural unpaid family work and a strong increase in the number of self-employed women. Lacking survey data on return migration, these statistics nevertheless lend support to both added worker and return to (or retained in) agriculture hypotheses.

**Table 3.2. Components of the employment difference between September 2008 (at the beginning of the crisis) and September 2010 (exactly two years later) (in thousand persons).**

	<b>Wage-salary</b>	<b>Employer</b>	<b>Self-Employed</b>	<b>Unpaid family</b>
<b>Male agriculture</b>	37	-22	145	126
<b>Male non-agriculture</b>	524	-51	-210	-26
<b>Male total</b>	561	-73	-65	100
<b>Female agriculture</b>	32	-10	29	209
<b>Female non-agriculture</b>	213	3	161	10
<b>Female total</b>	245	-7	190	219
<b>Total</b>	<b>806</b>	<b>-80</b>	<b>125</b>	<b>319</b>
'Good' jobs total vs. 'bad' jobs total		<b>726</b>	<b>444</b>	

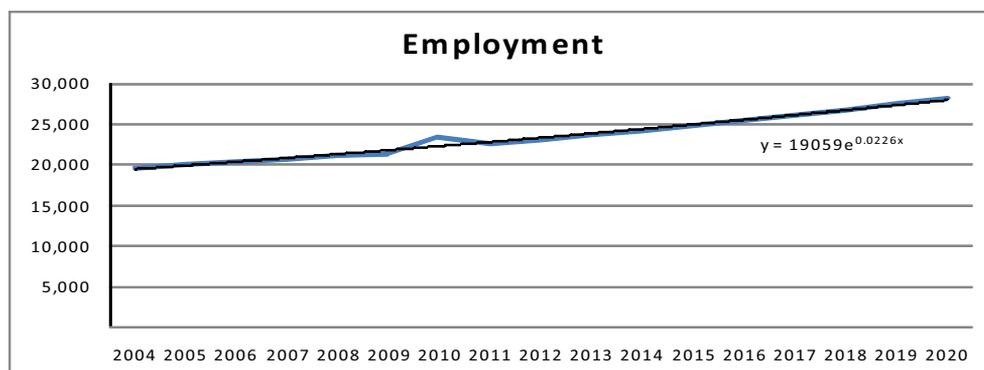
Source: Aggregate data from Turkstat website ([www.tuik.gov.tr](http://www.tuik.gov.tr)).

## FUTURE TRENDS

### EMPLOYMENT: EXPECTED CHANGES TO 2020

Total employment is expected to increase by five million from 2010 to 2020, assuming recent exponential trend growth rate of employment (Figure 3.1). Although this falls short of the expected increase of six million in the working age population, low LFPR will help reduce unemployment rate. Even with a substantial increase in the LFPR from 50 to 55%, this recent growth rate performance will absorb the supply. The problem is that, Turkish historical employment growth rate has been lower than the recent years' 2.2% growth in employment per annum. If one assumes that this new structure will prevail, then the outlook is upbeat. Note that, the author's total employment projection regression with time trend and GDP level variable (assuming a 4.14% exponential growth rate, the geometric average of 1998-2010) yielded a very close result.

**Figure 3.1. Employment and its simple projection (2004-2020).**



Source: Turkstat LFS data are used for computing a simple projection.

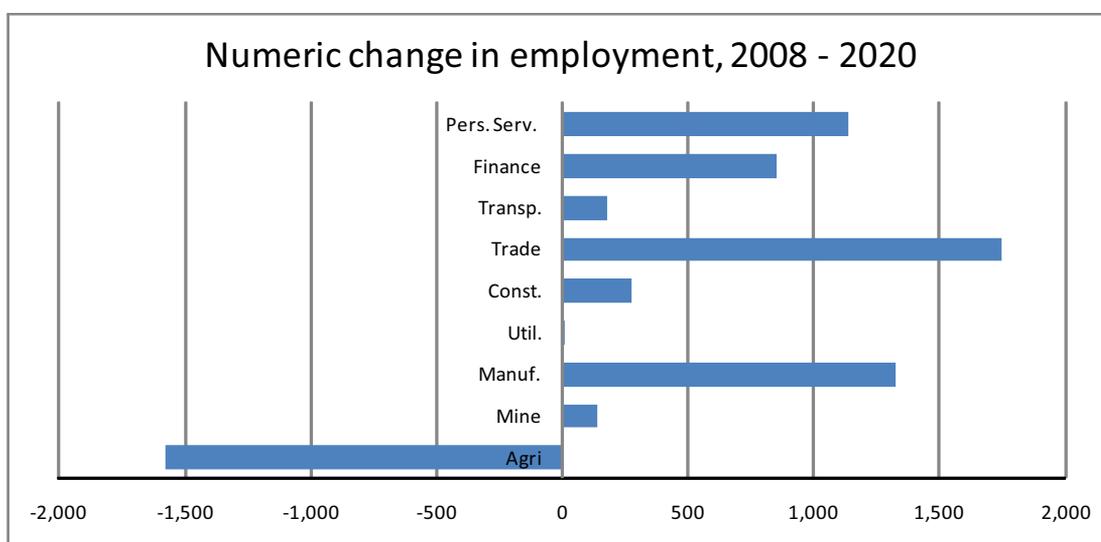
Given the simply projected five million increase in employment, and applying the proportions in Table 2.2 to the total expected employment in 2020, one obtains Table 3.3 and Figure 3.2. The rate of agricultural exodus slows down but it is still significant. Service and manufacturing industries create employment. Service sector’s share goes up from 50% to 57%. Agriculture loses ten points to 14%.

**Table 3.3. Employment share of industries, 2000 – 2020.**

Year	Agri.	Mine	Manuf.	Util.	Const.	Trade	Transp.	Finance	Pers. Serv.
2000	36%	0%	17%	0%	6%	18%	5%	3%	14%
2008	24%	1%	20%	0%	6%	22%	5%	6%	17%
2020	14%	1%	22%	0%	6%	25%	5%	8%	19%

Source: Aggregated Turkstat LFS data are used for proportions and logarithmic trend projections. Agriculture’s share in 2020 is the residual.

**Figure 3.2. Numeric change in employment (2008-2020).**



Source: Aggregated Turkstat LFS data and author’s projection.

Industrial employment composition will affect demand for occupations. In line with the computations done thus far (see that agricultural occupations’ share being 14% in Table 3.4, as in Table 3.3), Table 3.4 is a first attempt to get at the occupational distribution in 2020. In Table 3.4, there is a loss in agriculture as well as in crafts occupations as expected. Part of this decline is reflected in the increase in the unskilled category. All other occupations register some increases relative to the pre-crisis year of 2008.

**Table 3.4. Employment share of broad occupations, 2008 – 2020 (wage-salary workers).**

	Top manager.	Professional	Technician	Clerk	Service	Agri	Craftsmen	Mach. Op.	Unskilled
2008	8.8%	6.2%	7.1%	6.6%	12.0%	19.4%	14.3%	10.8%	14.7%
2020	9.2%	7.0%	7.0%	7.3%	13.3%	13.8%	13.8%	11.5%	17.1%

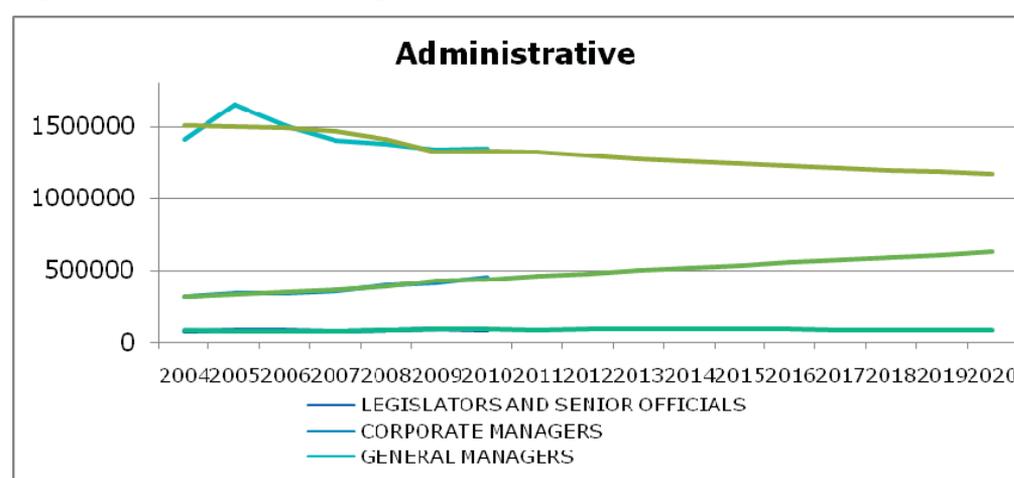
Source: Aggregated Turkstat LFS data are used for logarithmic trend projections from which proportions are computed (2008 data are actual proportions).

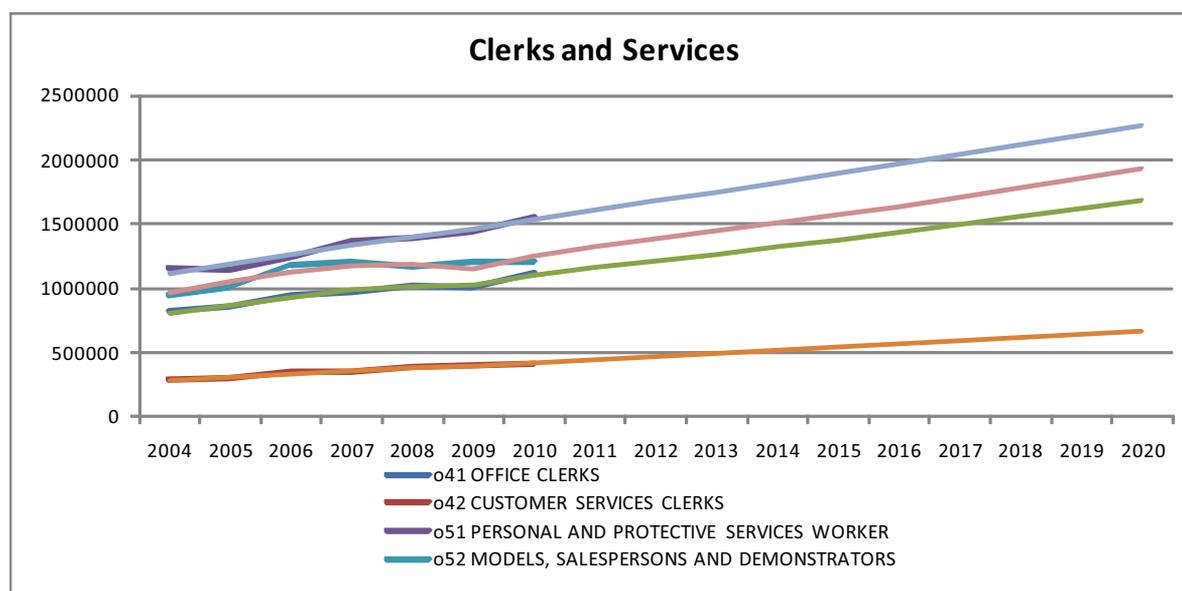
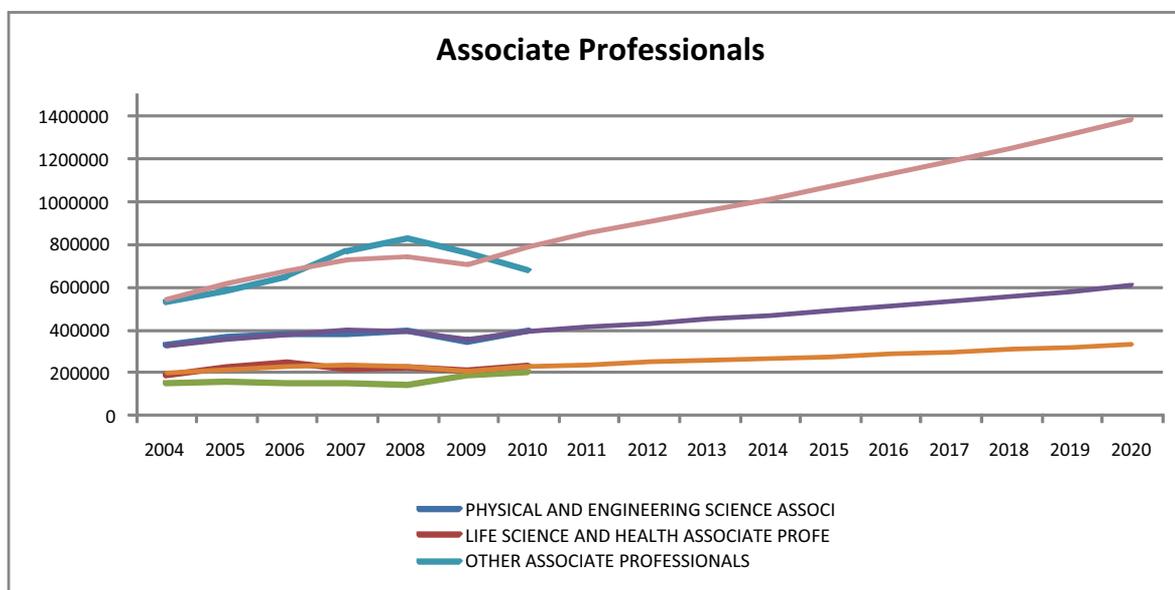
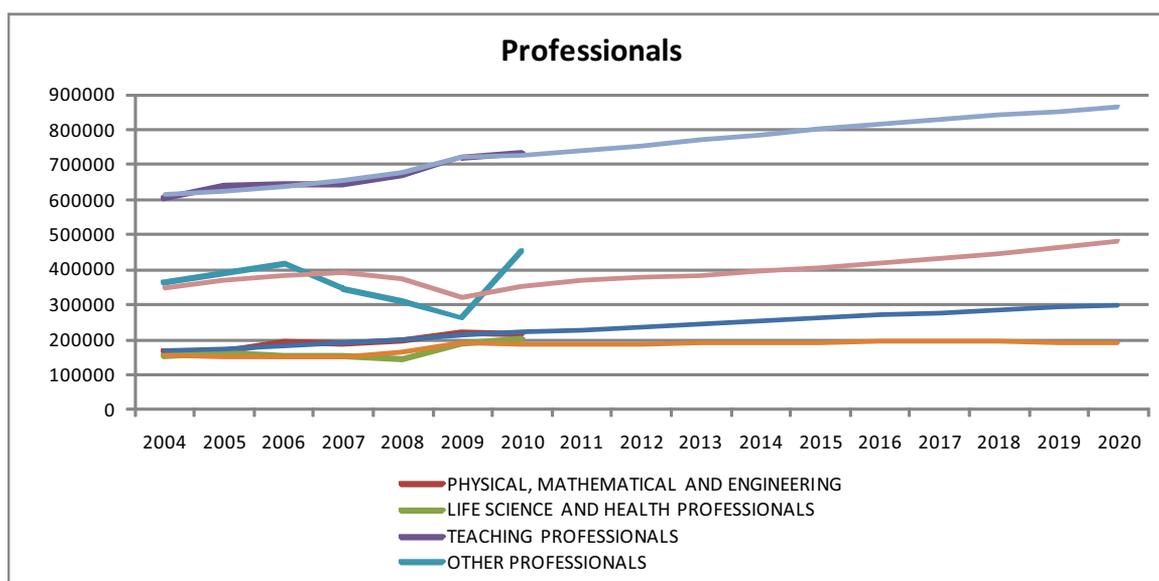
These broad-brush simple projections are remarkably in line with a more detailed occupation forecast that uses data from 2004-2010 LFS results. In these projections, the author regressed levels (numbers) of 2-digit occupations (27 of them) on a time trend and real GDP. Assuming a 4.14% annual exponential growth rate (the average in 1998-2010), forecasts until 2020 have been obtained (regression results will be reported in a technical companion publication). Total employment was also forecast the same way. The sum of 27 occupations and the individual total employment forecast were in remarkable agreement (1.5% difference in 2020).

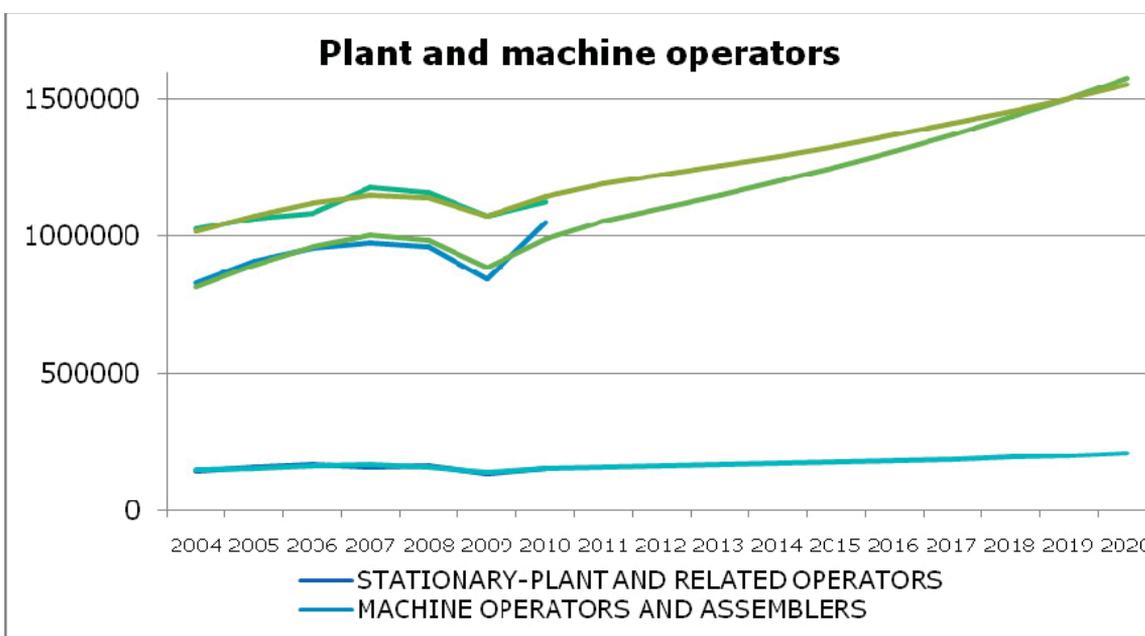
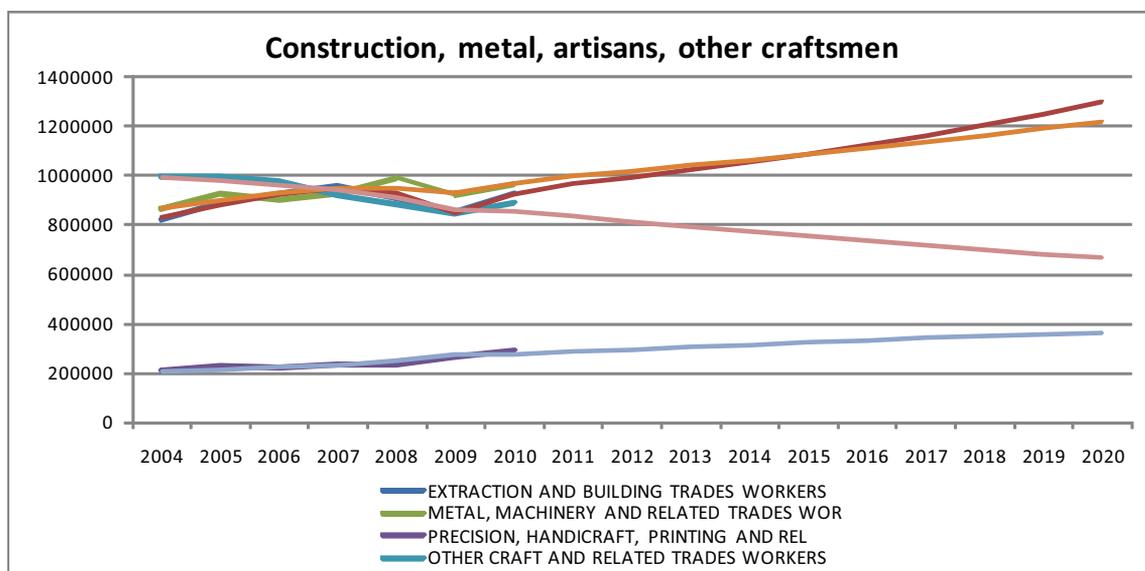
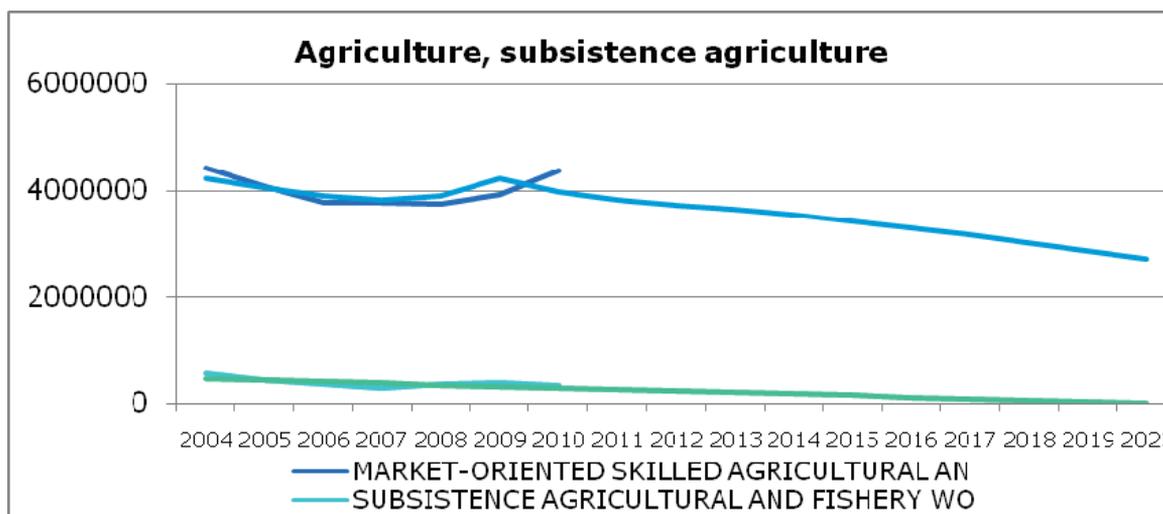
Science and engineering degrees (including associate degrees) will be on a rising trend. Office and customer service clerks will also have rising proportions. Artisans and unskilled agricultural labourers will slowly decline in proportions. Non-agricultural unskilled labourers will be increasing their proportions. It looks like artisans and unskilled agricultural labourers are turning into unskilled non-agricultural labourers.

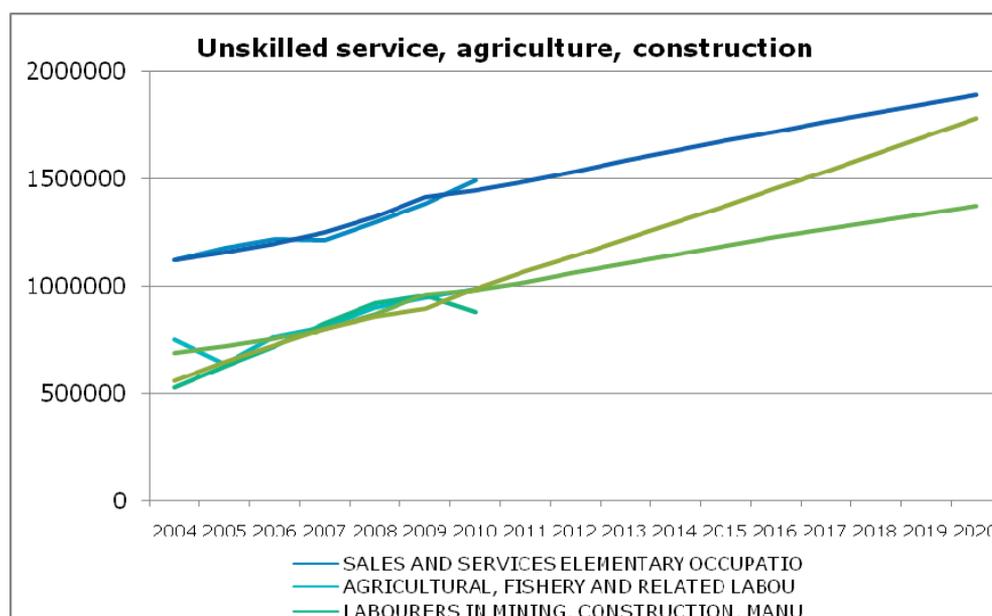
The estimation results for occupation levels are illustrated in Figure 3.3. Artisans' proportion is declining rather fast. Turkey will have a rising number of teachers and engineers, as expected. Clerical and personal service occupations will be where the bulk of employment creation will be, as stated in the very first paragraph of this report. Subsistence agriculture will be wiped out; agriculture's share will keep declining. The estimation favours this outcome regardless of the recent rise in agricultural employment. Things will be back in track. Construction and machine-plant operators will rise in numbers. There will still be some room for the bottom of the skill distribution as the agricultural exodus continues.

This picture reveals that most of the increases in the occupational distribution will fall on the general high school level occupations that may not require much boost from active labour market policies. Professional, technical, and vocational technical occupations will rise. However, the numbers suggest that, regional, rather than provincial level occupational outlook updates would suffice, as these professions will tend to concentrate in larger cities. As it is, CEDEFOP, which is charged with the task of producing the first EU-wide occupational distribution projections, do so on a regional basis. (The author is the Turkish correspondent for CEDEFOP.)

**Figure 3.3. Estimated occupation levels with fitted values and forecast.**







Source: 2004-2010 microdata files from Turkstat, author’s calculations. Real GDP values used in the regressions have been taken from www.tcmb.gov.tr (Central Bank statistical website).

Table 3.5 summarizes the same information in proportions. Vocational technical occupations will exhibit a moderate increase. Clerical and service sector occupations will rise. Agriculture will keep declining and some of it will feed into urban unskilled occupations. For a more detailed commentary, please see the next section. Figure 3.4 is a schematic representation of how each of the graphs has been drawn in Figure 3.3.

Figure 3.4. Schematic representation of the estimation of occupation regression coefficients and forecasting by occupation.

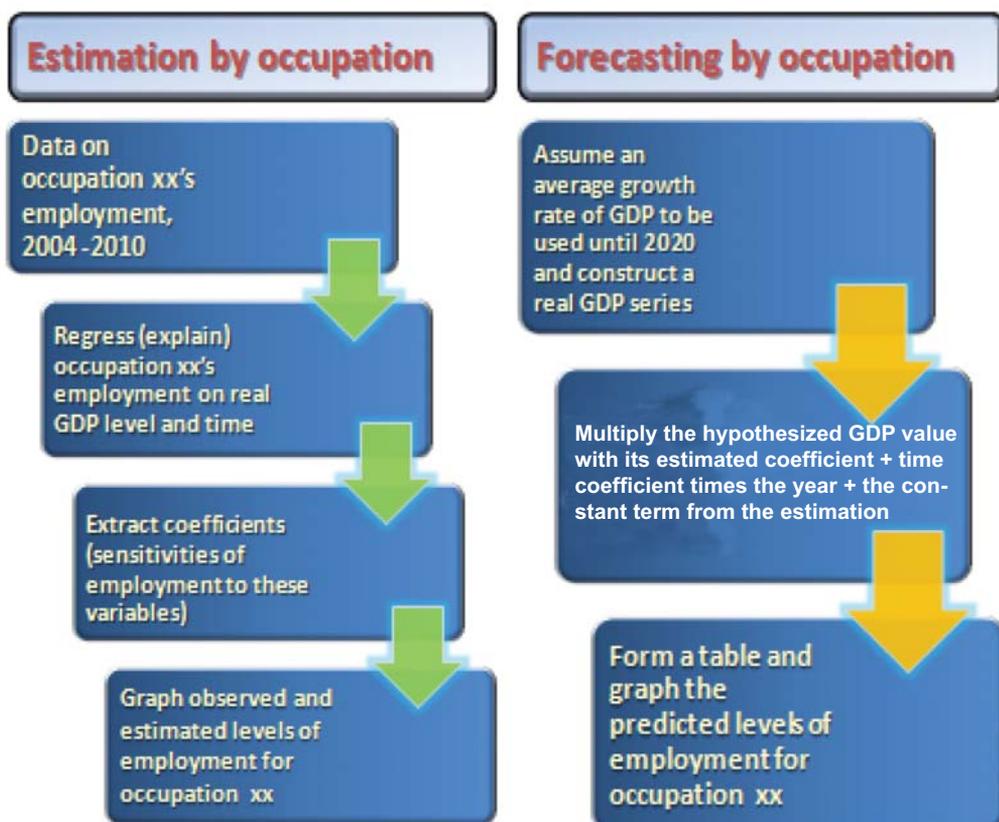


Table 3.5. Medium-term occupation projections.

OCCUPATIONS	2005	2010	2020	
LEGISLATORS AND SENIOR OFFICIALS	0.4%	0.4%	0.3%	
CORPORATE MANAGERS	1.7%	2.0%	2.3%	
GENERAL MANAGERS	8.2%	6.0%	4.3%	6.9%
PHYSICAL, MATHEMATICAL AND ENGINEERING	0.8%	1.0%	1.1%	
LIFE SCIENCE AND HEALTH PROFESSIONALS	0.8%	0.9%	0.7%	
TEACHING PROFESSIONALS	3.2%	3.2%	3.2%	
OTHER PROFESSIONALS	1.9%	2.0%	1.8%	6.7%
PHYSICAL AND ENGINEERING SCIENCE ASSOCI	1.8%	1.8%	2.2%	
LIFE SCIENCE AND HEALTH ASSOCIATE PROFE	1.1%	1.0%	1.2%	
TEACHING ASSOCIATE PROFESSIONALS	0.1%	0.1%	0.4%	
OTHER ASSOCIATE PROFESSIONALS	2.9%	3.0%	5.1%	8.9%
OFFICE CLERKS	4.3%	5.0%	6.1%	
CUSTOMER SERVICES CLERKS	1.5%	1.8%	2.4%	8.6%
PERSONAL AND PROTECTIVE SERVICES WORKER	5.7%	6.9%	8.3%	
MODELS, SALESPERSONS AND DEMONSTRATORS	5.0%	5.3%	7.1%	15.3%
MARKET-ORIENTED SKILLED AGRICULTURAL AN	20.3%	19.3%	9.9%	
SUBSISTENCE AGRICULTURAL AND FISHERY WO	2.1%	1.4%	0.0%	10.0%
EXTRACTION AND BUILDING TRADES WORKERS	4.4%	4.1%	4.7%	
METAL, MACHINERY AND RELATED TRADES WOR	4.6%	4.3%	4.5%	
PRECISION, HANDICRAFT, PRINTING AND REL	1.1%	1.3%	1.3%	
OTHER CRAFT AND RELATED TRADES WORKERS	5.0%	3.9%	2.4%	13.0%
STATIONARY-PLANT AND RELATED OPERATORS	0.8%	0.7%	0.8%	
MACHINE OPERATORS AND ASSEMBLERS	4.5%	4.7%	5.8%	
DRIVERS AND MOBILE-PLANT OPERATORS	5.3%	5.0%	5.7%	12.2%
SALES AND SERVICES ELEMENTARY OCCUPATIO	5.9%	6.6%	6.9%	
AGRICULTURAL, FISHERY AND RELATED LABOU	3.2%	4.4%	5.0%	
LABOURERS IN MINING, CONSTRUCTION, MANU	3.1%	3.9%	6.5%	18.5%
Employment level (millions)	20.1	22.6	27.4	

Source: Microdata (Turkstat LFS, 2004-2010) are used for estimating levels on GDP in constant prices and a time trend.

Note: Forecast values for 2020 are obtained by assuming 4.14% exponential growth rate of GDP, which is the exponential growth average for 1998-2010. Levels are then computed into proportions.

## NOTE ON THE FORECASTING METHODOLOGY

A major objective of this report was to anticipate the demand for skills (broad occupations) in Turkey. The topic is important in many aspects ranging from education system planning to shorter-term labour market training programs, especially for the current and future young job seekers.

Recognition of the need to anticipate future distribution of occupations formed the basis of a major effort in the US. Bureau of Labor Statistics (BLS) has been publishing at regular intervals the medium term occupational outlook for the US ([www.bls.gov](http://www.bls.gov)). The culmination of a fifty-year long effort and experience of a large team, the document serves as a benchmark for similar studies around the world. US Occupational Outlook provides occupational descriptions, job prospects, numbers, and salaries at the four-digit occupational code level.

There have been no other country reports on the subject that could match the US-OOL in scope or detail. This is not to say that one should match this benchmark document in various country studies in order to produce something useful. Case in point: Relatively broad-brush Canadian study is a good, useful document that points out the relevant occupational trends that surely must be helpful in personal and political decision-making.

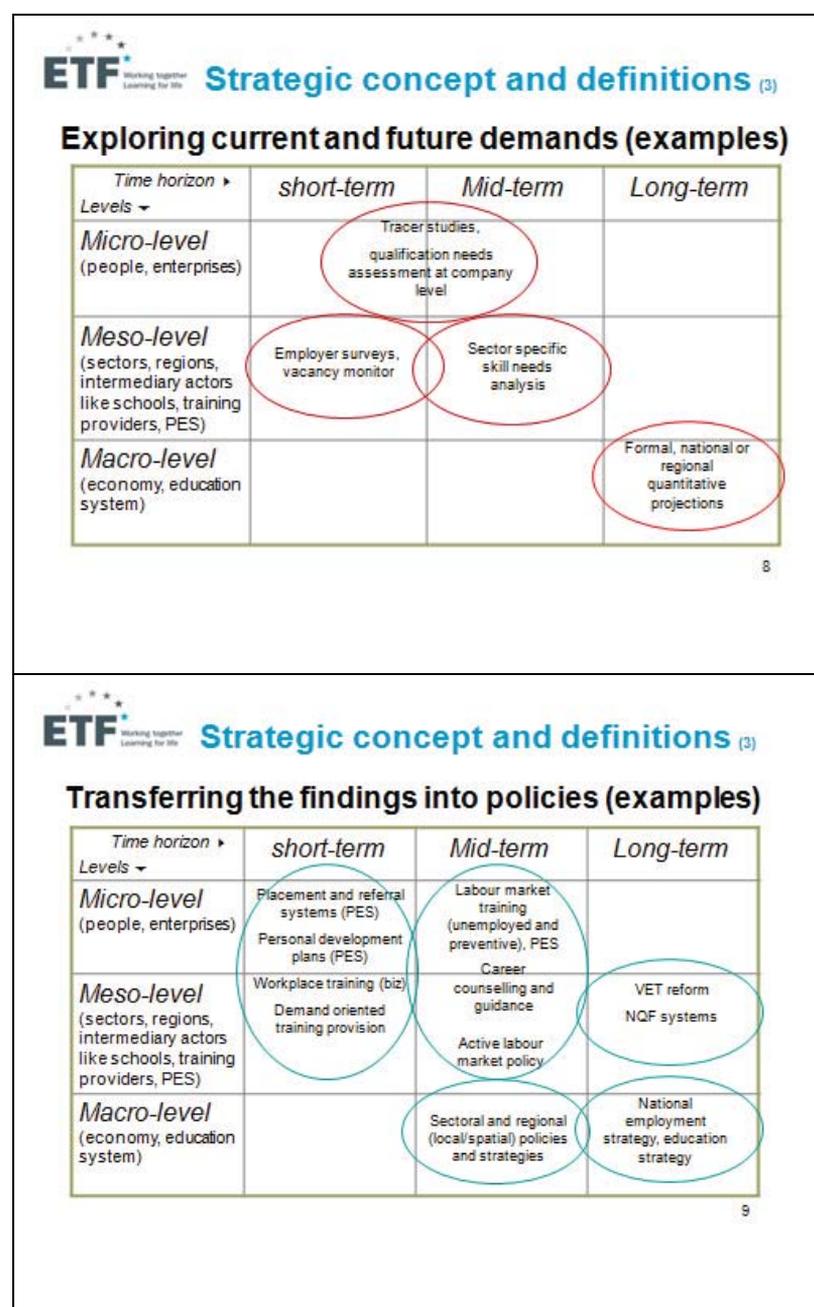
EU has somewhat lagged behind in producing such skill demand anticipation documents. However, a strong initiative by CEDEFOP, with correspondents from all EU and candidate countries is on the verge of producing the first such skill needs study. The context of the project is for countries to improve their ability in matching short and medium term supply and demand for skills. This critical issue is strongly related to the youth employment problem observed in many countries.

Recently, European Training Foundation has launched a skill needs anticipation project (June 2011). According to the ETF: “The specific project objectives are to provide methodological instruments for measuring mismatch, to develop methodological approaches and instruments for monitoring and anticipating skills requirements (qualitative and quantitative approaches, relevant to the specific conditions in developing and transition economies), and to elaborate policy briefs with recommendations for better matching processes.”

This first attempt at providing an occupational outlook for the coming ten-year horizon is a first in Turkey. ILO Ankara Office has spearheaded and supported this endeavour and Turkstat provided the necessary data support as well as making sure that the statistics used here were in order. The results were satisfactory upon a careful examination of the results. As such, this is a significant first study of the future skills need issue in the Turkish context. CEDEFOP will soon publish (at the end of 2011) its first pass at the EU-wide occupational outlook. They also provide estimated trends for the 27 two-digit occupations predicted here. Similar to our approach, they predict individual occupations and aggregate the results across the EU. In Turkey, further breakdown for some blue-collar occupations could be possible if one could augment this analysis with ISKUR time series registration and open positions data.

Feiler (2011) provides a grid to position (qualitative) anticipation and (quantitative) forecasting skill needs analyses (Figure 3.5). Note that, micro-level (enterprise or people) assessments are necessarily short-term (and commonplace, obviously) is not a concern of this study. However, when conducted by the public employment agency (PES) through their vacancy statistics, they provide the basis for planning short-term training programs. Meso-level (sectoral or regional) analyses may be conducted independently, or as part of a larger and longer-term skill needs analysis. Regional employer surveys in conjunction with time-series data on vacancy statistics will allow designing medium-term regional active labour market policies. These may feed into the longer-term occupational trend analyses.

Figure 3.5. Skill needs anticipation and forecasting grid: Findings and policy.



Source: Feiler, Lizzi (2011). “Anticipating and matching demand and supply of skills in ETF partner countries.” ETF innovative learning project, 2011-2013 presentation. Turin (27 June).

In the above schematic, this study is a macro-level attempt for a national quantitative projection of 2-digit level occupations in Turkey. Turkstat’s nationally representative household labour force survey data were used. In the future, augmented by time-series data on vacancy statistics, this long-term projection may be utilized for medium-term sectoral and regional skills need analyses. This would be similar to the (now defunct) State Planning Organization’s five-year development plans that later provide the framework for annual programs. This is necessarily a top-down approach. Aggregating the short-term skill needs in provinces, however identified, would fail to provide a long-term national picture. Note that it is not necessarily the optimal policy trying to meet local skill needs locally. Migration is a desirable component of human capital accumulation, which is easier to plan and implement in larger labour markets.

In the previous sub-section of this report, graphical results that used microdata files of 2004-2010 Turkstat HLFS, of a regression of employment level in twenty-seven occupations (2-digit definitions) on a time-trend and the level of real GDP were provided. These values were then predicted into 2020 assuming the recent trend growth rate of GDP in Turkey (see section 3). Scenario analysis with higher or lower growth rates is possible, of course. This could change the convergence path but not the trends for occupations. Having only seven years of data, GDP emerged as the reasonable candidate for an explanatory variable and the results were satisfactory (the fit and expected trends). Other functional forms in econometric estimation (logarithms, proportions, per capita values, etc.) were tried as well. Level GDP variable provided the best fit of the aggregated individual occupation regression predictions to the independently predicted total employment trend for 2020. What follows are the selected regression results (the first two of the 27 occupations and the total employment level designated here as o99). Occupation codes are listed in Table A2.

. regress o11 t realgdp

Source	SS	df	MS	Number of obs =		
					F( 2, 4) =	3.66
Model	170499402	2	85249701.2	Prob > F	=	0.1249
Residual	93164055.4	4	23291013.9	R-squared	=	0.6467
				Adj R-squared	=	0.4700
Total	263663458	6	43943909.6	Root MSE	=	4826.1
o11	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
t	4618.599	1827.474	2.530	.065	-455.2836	9692.481
realgdp	-.0008934	.0005231	-1.710	.163	-.0023456	.0005589
_cons	150553.4	44408.86	3.390	.028	27254.68	273852.2

. regress o12 t realgdp

Source	SS	df	MS	Number of obs =		
					F( 2, 4) =	58.15
Model	1.4046e+10	2	7.0231e+09	Prob > F	=	0.0011
Residual	483135870	4	120783968	R-squared	=	0.9667
				Adj R-squared	=	0.9501
Total	1.4529e+10	6	2.4215e+09	Root MSE	=	10990
o12	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
t	26405.05	4161.614	6.340	.003	14850.56	37959.54
realgdp	-.0013656	.0011911	-1.150	.316	-.0046727	.0019415
_cons	400531.4	101130	3.960	.017	119749.5	681313.4

...

```

. regress o99 t realgdp
      Source          SS           df           MS           Number of obs =           7
                        F( 2, 4) = 22.01
      Model    5.1008e+12      2  2.5504e+12      Prob > F      = 0.0069
      Residual 4.6353e+11      4  1.1588e+11      R-squared     = 0.9167
                        Adj R-squared = 0.8750
      Total    5.5643e+12      6  9.2739e+11      Root MSE     = 3.4e+05

o99      Coef.      Std. Err.      t           P>|t|           [95% Conf. Interval]
t        355394.9    128904.4      2.760      .051            -2501.009      713290.9
realgdp  .0229674      .0368946      0.620      .567            -.0794683      .1254032
_cons    1.72e+07      3132463      5.490      .005            8494693      2.59e+07

```

Predicted values from these regressions were used to draw the graphics in Figure 3.3.

Tables 3.6 and A4 are less technical presentations of the estimation results. In Table 3.6, occupations are grouped according to the significance of regression coefficients on the real GDP and time variables. Estimates are insignificant for catchall categories of general managers and associate professionals, or in professions where public employment is a large proportion. Top professions and non-elementary service occupations are on the rise. Low skill service and agricultural occupations will still have their place in the near future. Subsistence agriculture and crafts of a bygone era will be eradicated. Technical intermediate trades and office clerk occupations exhibit real GDP dependence; good times see more of these occupations and vice versa. Number of teachers will rise as well, but if times are good, the profession is not in demand. Such comments easily lend themselves to policy propositions. In case of teachers, for example (with the absence of good quality ones, no human capital improvements would be possible), one can confirm the common sense proposition that, in order to have better teachers we must pay them more. Such suggestions should be part of a broader employment strategy document, and quantitative analyses such as this one provide empirical support for medium-term education-employment policy suggestions. Note that, education and labour market strategy documents may not be independent. The Turkish documents (one published, one to-be-published) have been produced separately. They need to be united in practice.

**Table 3.6. Occupations and qualitative description of estimated coefficients with comments.**

Occupation	Estimation	Comments
<b>O13 – General managers</b>	Insignificant	Estimations are not sharp for catchall categories of middle management or other professionals for firms large and small, or for support occupations who are mostly employed in the public sector. Neither are they sharp for low vocational qualification occupations like sales persons. Having said these, some of these occupations' (e.g. health associate professionals, sales persons) estimation coefficients are quite near statistical significance, which would suggest that an additional two or three years of data could make some coefficients significant (that is, one would be able to identify statistically significant dependence on
<b>O24 – Other professionals</b>		
<b>O32 – Health associate professionals</b>		
<b>O33 – Teaching associate professionals</b>		
<b>O34 – Other associate professionals</b>		

<p><b>O52 – Models, sales persons</b></p>		<p>the level of real GDP).</p>
<p><b>O61 – Skilled agricultural workers</b></p>		<p>For metal and machinery workers, another explanatory variable might be tried (maybe exports). Union membership should be checked as well.</p>
<p><b>O72 – Metal and machinery workers</b></p>		
<p><b>O11 – Legislators and senior officials</b></p>	<p>Rising time trend</p>	<p>Real GDP variable is not significant as time trend effect dominates.</p>
<p><b>O12 – Corporate managers</b></p>		<p>Estimation results confirm that, college degree holders on business, engineering, and medicine will keep doing well.</p>
<p><b>O21 – Physical science and engineering professionals</b></p>		<p>For those who could not make it into the above top professions, even high school level specialized skills guarantee jobs: Human skills for customers, protective services, and precision or handicraft trades.</p>
<p><b>O22 – Health professionals</b></p>		
<p><b>O42 – Customer service clerks</b></p>		<p>At this point in Turkey while population and employment are growing, unskilled persons may still have jobs. High school graduates without vocational skills would be in elementary services; people with lower qualifications can pick agricultural or construction day labour jobs.</p>
<p><b>O51 – Personal and protective services</b></p>		
<p><b>O73 – Precision, handicraft trades</b></p>		
<p><b>O91 – Elementary sales and services</b></p>		
<p><b>O92 – Agricultural labourers</b></p>		
<p><b>O93 – Mining and construction labourers</b></p>		
<p><b>O99 – OVERALL EMPLOYMENT</b></p>		
<p><b>O62 – Subsistence agriculture</b></p>	<p>Declining time trend</p>	<p>Yes, it still exists. It will be gone in another ten to fifteen years.</p>
<p><b>O74 – Other craft trades workers</b></p>		<p>Not precision or a handicraft in demand? These trades of yesteryear will be disappearing.</p>
<p><b>O82 – Machine operators</b></p>	<p>Positive real GDP dependence</p>	<p>If the economy is growing so does these occupations' employment and vice versa. Given the real GDP variable, time trend is not significant. (Note that GDP itself would be on a rising trend in the end.)</p>
<p><b>O83 – Drivers and mobile plant operators</b></p>		
<p><b>O31 – Engineering associate professionals</b></p>	<p>Positive real GDP dependence,</p>	<p>They are hired more in good times. Had it not been for the larger GDP effect, their numbers would have been diminishing (net effect is positive in the end). It seems that associate degree schools are not really sought after; neither are the technical construction skills.</p>
<p><b>O71 – Building trades workers</b></p>	<p>negative time dependence</p>	
<p><b>O81 – Stationary plant operators</b></p>		



<b>O41 – Office clerks</b>	Positive real GDP dependence, positive time dependence	There will be more and more of them. The profession will absorb high school graduates and ‘the rest’ of the university graduates.
<b>O23 – Teaching professionals</b>	Negative real GDP dependence, positive time dependence	People do not want to be teachers if the economy is booming, it seems. Net effect is a rising time trend as Turkish population is still increasing and demand for teachers will remain strong.

Table A4 presents the original data and predicted results. The table shows the levels of employment for each occupation and their predicted levels. (Note that, Table 3.3 provided proportions based on these data.)

## 5. CONCLUSION

This report presented basic medium-term projections of population, labour force, and industrial employment projections to 2020 in Turkey. There was also a short but informative logistic regression exercise on the determinants of education to employment transition that used the 2009 modular survey data of Turkstat. The upshot is, a detailed occupational outlook at the three-digit occupation code level is rather a doubtful exercise in Turkey where 80% of the working age population have less than high school education. These people are likely to lack occupational qualifications that may be required for certification.

Expected job growth in Turkey will be in service occupations, as in the rest of the world. Increasingly, the ‘better’ jobs in terms of wages and working conditions will require university degrees. Next best alternative is a vocational high school degree in Turkey. Low education levels and the consequent labour market maladies of low labour force participation rates and low skills will remain to be the salient features of the Turkish labour market until the rural-urban transition is complete. This may take yet another 10-15 years. Concomitantly, agricultural employment proportion will fall to the 10-12% bracket. This prediction came out strongly in occupational forecasts. Only then, the informal, low-wage, seasonal, undesired job prospects of half of the Turkish labour force will slowly improve.

The report was replete with evidence suggesting that higher education levels ease the transition from school to employment, increase women’s labour force participation rates, and mean much better wages even during the recent crisis.

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**APPENDIX**
**Table A1. Industrial composition of employment, 2008 and 2009.**

Industry-NACE 1.1	2008 %	Broad classification	2009 %	Broad classification
Agriculture, hunting, related activities	24,1%		25,6%	
Forestry, logging, related activities	0,3%		0,2%	
Fishing, hatcheries, fish farms	0,1%	24,6%	0,1%	25,9%
Mining of coal, lignite, ext of peat	0,4%		0,3%	
Extraction of petroleum, gas, serv. activities	0,0%		0,0%	
Mining of metal ores	0,1%		0,0%	
Other mining & quarrying	0,2%	0,7%	0,1%	0,6%
Manuf. of food prod, beverages	2,5%		2,5%	
Manuf. of tobacco products	0,1%		0,1%	
Manuf. of textiles	2,3%		2,7%	
Manuf. of wearing apparel, fur	2,7%		2,4%	
Tanning leather, manuf. of luggage etc	0,5%		0,4%	
Manuf. of wood, exp furniture	0,6%		0,5%	
Manuf. of pulp, paper	0,2%		0,2%	
Publishing, printing media	0,4%		0,4%	
Manuf. of coke, refined petrol	0,1%		0,0%	
Manuf. of chemicals and chemical products	0,7%		0,5%	
Manuf. of rubber, plastic products	0,8%		0,7%	
Manuf. of other non-metallic mineral	1,4%		1,4%	
Manuf. of basic metals	0,9%		0,7%	
Manuf. of metal prod	1,2%		1,0%	
Manuf. of machinery & equipment	1,2%		1,0%	
Manuf. of office machinery, computers	0,0%		0,0%	
Manuf. of electrical machinery, apparatus	0,4%		0,3%	
Manuf. of radio, TV, comm. equipment	0,1%		0,1%	
Manuf. of medical, precision, clocks	0,1%		0,1%	
Manuf. of motor vehicles	1,0%		0,7%	
Manuf. of other transport equipment	0,3%		0,3%	
Manuf. of furniture	1,3%		1,2%	
Recycling	0,0%	18,9%	0,0%	17,3%

Electricity, gas, water	0,4%		0,3%	
Collection, distribution, purification of water	0,1%	0,5%	0,1%	0,4%
Construction	5,8%	5,8%	5,8%	5,8%
Sale, maintenance, repair of motor vehicles	2,4%		2,4%	
Wholesale trade, commission trade	2,7%		2,6%	
Retail trade, repair of personal and h.hold goods	11,4%		11,0%	
Hotels and restaurants	4,7%	21,2%	4,9%	21,0%
Land transportation, transportation via pipelines	3,4%		3,4%	
Water transport	0,1%		0,1%	
Air transport	0,1%		0,1%	
Auxiliary transportation activities	0,9%		0,8%	
Post and telecomm	0,6%	5,0%	0,6%	4,9%
Financial intermediation	0,8%		0,8%	
Insurance and pension funding	0,1%		0,1%	
Auxiliary financial interm	0,2%		0,2%	
Real estate activities	0,3%		0,5%	
Renting machinery & equipment	0,1%		0,1%	
Computer & related act	0,3%		0,2%	
R&D	0,0%		0,0%	
Other business act	3,3%	5,0%	3,8%	5,7%
Public admin and defense	6,6%		6,3%	
Education	4,7%		4,8%	
Health and social work	2,9%		2,9%	
Sewage & refuse disposal	0,1%	14,2%	0,2%	14,2%
Act of membership org	0,4%		0,5%	
Recreation,cultural,sporting act	0,7%		0,7%	
Other service activities	1,9%		1,8%	
Private hh with employed persons	1,0%		1,1%	
Extra-territorial	0,0%	4,1%	0,0%	4,1%
<b>Total</b>	<b>100,0%</b>		<b>100,0%</b>	

Source: LFS microdata of Turkstat.

**Table A2. Occupation and wages, 2004-10 (2009 prices, average monthly income for wage-salary workers).**

Code	Occupation(ISCO-88)	2004	2005	2006	2007	2008	2009	2010
11	LEGISLATORS AND SENIOR OFFICIALS	1004	1144	1289	1075	1162	1455	1364
12	CORPORATE MANAGERS	1704	1969	2140	2073	2198	3047	2351
13	GENERAL MANAGERS	964	1014	1125	1273	1262	1294	1306
21	PHYSICAL, MATHEMATICAL AND ENGINEERING S	1496	1592	1756	1929	2086	1964	2051
22	LIFE SCIENCE AND HEALTH PROFESSIONALS	1647	2002	2248	2300	2446	2486	2626
23	TEACHING PROFESSIONALS	1186	1228	1251	1358	1380	1464	1527
24	OTHER PROFESSIONALS	1182	1228	1301	1502	1732	1568	1792
31	PHYSICAL AND ENGINEERING SCIENCE ASSOCIA	983	1072	1064	1155	1197	1207	1205
32	LIFE SCIENCE AND HEALTH ASSOCIATE PROFES	986	1088	1105	1133	1232	1252	1331
33	TEACHING ASSOCIATE PROFESSIONALS	584	717	842	834	792	699	687
34	OTHER ASSOCIATE PROFESSIONALS	990	1136	1132	1151	1150	1216	1246
41	OFFICE CLERKS	829	868	872	892	911	951	999
42	CUSTOMER SERVICES CLERKS	927	924	942	948	984	967	1004
51	PERSONAL AND PROTECTIVE SERVICES WORKERS	716	763	764	797	810	842	880
52	MODELS, SALESPERSONS AND DEMONSTRATORS	565	611	615	645	653	664	678
61	MARKET-ORIENTED SKILLED AGRICULTURAL AND	551	498	538	597	611	601	615
62	SUBSISTENCE AGRICULTURAL AND FISHERY WOR	266	284	298	175	428	400	356
71	EXTRACTION AND BUILDING TRADES WORKERS	617	684	714	770	777	776	804
72	METAL, MACHINERY AND RELATED TRADES WORK	724	769	772	795	805	817	811
73	PRECISION, HANDICRAFT, PRINTING AND RELA	515	625	605	644	652	593	665
74	OTHER CRAFT AND RELATED TRADES WORKERS	543	576	586	627	636	646	675
81	STATIONARY-PLANT AND RELATED OPERATORS	751	795	784	802	831	821	842
82	MACHINE OPERATORS AND ASSEMBLERS	637	687	691	698	702	707	729
83	DRIVERS AND MOBILE-PLANT OPERATORS	763	801	807	832	851	856	901
91	SALES AND SERVICES ELEMENTARY OCCUPATION	565	589	594	602	615	638	657
92	AGRICULTURAL, FISHERY AND RELATED LABOUR	344	354	369	388	392	401	428
93	LABOURERS IN MINING, CONSTRUCTION, MANUF	554	572	580	612	626	658	658

Source: LFS microdata of Turkstat.



Table A3. Occupational distribution: Proportions in 2008 and 2009.

Occupation (ISCO-88)	2008 %	2009 %
LEGISLATORS AND SENIOR OFFICIALS	0,4%	0,5%
CORPORATE MANAGERS	1,8%	1,8%
GENERAL MANAGERS	6,6%	6,3%
PHYSICAL, MATHEMATICAL AND ENGINEERING	0,8%	0,9%
LIFE SCIENCE AND HEALTH PROFESSIONALS	0,7%	0,9%
TEACHING PROFESSIONALS	3,4%	3,6%
OTHER PROFESSIONALS	1,4%	1,1%
PHYSICAL AND ENGINEERING SCIENCE ASSOCIATES	1,8%	1,5%
LIFE SCIENCE AND HEALTH ASSOCIATE PROFESSIONALS	1,1%	1,1%
TEACHING ASSOCIATE PROFESSIONALS	0,3%	0,2%
OTHER ASSOCIATE PROFESSIONALS	3,8%	3,5%
OFFICE CLERKS	4,5%	4,5%
CUSTOMER SERVICES CLERKS	1,8%	1,9%
PERSONAL AND PROTECTIVE SERVICES WORKER	6,5%	6,8%
MODELS, SALESPERSONS AND DEMONSTRATORS	5,4%	5,6%
MARKET-ORIENTED SKILLED AGRICULTURAL WORKERS	18,2%	19,5%
SUBSISTENCE AGRICULTURAL AND FISHERY WO	2,0%	1,8%
EXTRACTION AND BUILDING TRADES WORKERS	4,4%	4,1%
METAL, MACHINERY AND RELATED TRADES WOR	4,6%	4,3%
PRECISION, HANDICRAFT, PRINTING AND RELATED	1,1%	1,4%
OTHER CRAFT AND RELATED TRADES WORKERS	4,0%	3,8%
STATIONARY-PLANT AND RELATED OPERATORS	0,8%	0,6%
MACHINE OPERATORS AND ASSEMBLERS	4,0%	3,4%
DRIVERS AND MOBILE-PLANT OPERATORS	5,5%	5,1%
SALES AND SERVICES ELEMENTARY OCCUPATIO	6,4%	6,7%
AGRICULTURAL, FISHERY AND RELATED LABOURERS	4,4%	4,7%
LABOURERS IN MINING, CONSTRUCTION, MANUF.	4,6%	4,7%
Total	100,0%	100,0%

Source: LFS microdata of Turkstat.

Note: Green codes are for those whose proportions fell in 2009 (that is, since they kept their jobs in 2008, they constituted a larger proportion of the wage-salary workers in that year). Red codes are the ones who were 'rehired' after the crisis. See text (section 2) for discussion.

**Table A4. Data used in the regressions and predicted values by occupation (see Table A2 for occupation codes).**

year	t	Real GDP	GDP growth	o11	o12	o13	o21	o22	o23	o24	o31	o32	o33	o34	o41	o42	o51	o52
2004	1	8,35E+07	9,36	75430	315227	1411024	166311	151882	606017	363759	327499	191521	10223	533187	821166	290234	1152232	949483
2005	2	9,05E+07	8,4	82591	337528	1650330	166715	161064	637719	388161	366446	225746	16465	585169	858316	305656	1148521	1010119
2006	3	9,67E+07	6,89	82459	342153	1507557	192117	151661	642428	418361	379586	248578	14569	646524	945759	346598	1244464	1176946
2007	4	1,01E+08	4,67	76165	357410	1401747	190275	154716	643533	344264	384773	218532	30435	767254	965940	357877	1364679	1201507
2008	5	1,02E+08	0,66	81700	399251	1378882	196609	144850	672673	307829	399719	225889	53759	826967	1017232	389197	1389010	1164193
2009	6	9,70E+07	-4,83	95420	415478	1338600	220513	187751	718505	262455	347205	209791	38585	760503	1003483	401905	1439908	1208019
2010	7	1,06E+08	8,95	84993	452087	1345720	217515	202328	733831	453451	398073	230791	30749	681822	1119434	415967	1553031	1204759
2015	12	1,32E+08	4,23	87899	536902	1239346	261622	193319	800479	405801	489090	275273	74608	1068048	1377877	541379	1896001	1571959
2020	17	1,63E+08	4,23	83836	627417	1173810	299399	190675	864245	483407	607295	334738	107731	1381631	1679578	661840	2263892	1929754

year	t	Real GDP	GDP growth	o61	o62	o71	o72	o73	o74	o81	o82	o83	o91	o92	o93	o99
2004	1	8,35E+07	9,36	4413103	553926	823572	867069	207618	993467	146075	830458	1030316	1123126	748092	529778	19631797
2005	2	9,05E+07	8,4	4072432	429672	892856	924832	227376	999010	157397	910983	1065197	1181128	636009	629002	20066440
2006	3	9,67E+07	6,89	3781864	355990	927403	900058	221693	975550	167481	959124	1084065	1222351	766055	721839	20423231
2007	4	1,01E+08	4,67	3791806	276087	957844	930783	233560	919426	157981	977943	1177781	1215196	811676	828040	20737229
2008	5	1,02E+08	0,66	3758281	362757	910032	992970	234334	885110	161754	961030	1159319	1298269	900195	921502	21193312
2009	6	9,70E+07	-4,83	3936406	367924	853797	919035	268339	843943	136911	843929	1077230	1387701	943912	959669	21186914
2010	7	1,06E+08	8,95	4370091	322307	929154	967020	293988	889843	154376	1051049	1128381	1495084	987719	880587	22594151
2015	12	1,32E+08	4,23	3427845	149356	1088343	1086764	324720	755366	175827	1253781	1329402	1678496	1190124	1376383	24500000
2020	17	1,63E+08	4,23	2719079	4430	1297915	1221071	364482	667710	209066	1576609	1553382	1891128	1375135	1783180	27000000



# TURKISH EMPLOYMENT AGENCY'S AND SOCIAL PARTNERS' PERSPECTIVES ON SKILL DEMAND:<sup>1</sup>

## WHAT ROLE FOR SOCIAL PARTNERS?

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DECEMBER 2010

### INTRODUCTION

The following quote from Lacey and Wright (2009, p.82, in an article based on their work for the US Bureau of Labour Statistics' Occupational Outlook) frames the content of this report as well: "Professional and related occupations and service occupations are expected to create more new jobs than all other occupational groups from 2008 to 2018. In addition, growth will be faster among occupations for which postsecondary education is the most significant form of education or training, and, across all occupations, replacement needs will create many more job openings than will job growth." Similarly, Human Resources and Skills Development Canada (2008, p. iv) expects two-thirds of all job openings over the next ten years to be in occupations that require postsecondary education (university, college or apprenticeship training) or in management occupations (which often require postsecondary education). HRSD Canada (2008) expects new job creation to be the weakest in occupations that require a high school diploma or only on-the-job training.

Although the above references concern the North American market, future job growth being in service industries, faster growing occupations being the ones that require post-secondary degrees, and the weakest job growth to be expected in low-education occupations are generalizations that can be easily adopted for the Turkish labour market as well. These expectations have strong implications for designing effective education and training policies for unemployment, especially for the women and the youth in Turkey. Today's statistics (2009 microdata Turkstat Youth Education-Employment Transition Survey results analysed by this author - to be published as a sister report for this ILO Ankara Office project report) already hint at the current existence of future expectations. Finding a job is the easiest for college graduates, vocational high school graduates, primary school graduates, and high school graduates respectively, for the young population (15-29 year-old cohort). Primary school graduates in today's Turkey can find jobs easier than the high school graduates because their reservation wages are lower (they accept to work for lower wages) and they are more likely to accept informal (undesirable) (implicit) employment contracts. Turkey is not likely to remain as an economy where such low skills will continue to be in demand.

### 1. TURKEY HAS LOW SKILL LEVELS

With a low labour force participation rate and a high unemployment rate, there seems to be much slack in the Turkish labour market. Although this would be true for much of the Turkish labour market, including mostly the informal agricultural employment component, employers frequently complain about certain skill shortages.

The main feature of the Turkish demographics is the still on-going rural-urban transition (see, for example, Ercan, 2007). Through decades-long agricultural price support mechanisms, Turkey did not

<sup>1</sup> Prepared as part of the "Occupational Outlook" component of the ILO Ankara Office within the scope of the United Nations Joint Programme, Growth with Decent Work for All: A National Youth Employment Programme and Pilot Implementation in Antalya.

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experience as fast a decline in agricultural employment after agricultural mechanisation in the world in the 1950's and later. These subsidies gradually were phased out during the 2000's but still a high employment proportion remains in agriculture, which is close to 27% (2010 September).

The lingering of high rates of agricultural employment in Turkey, compared to its income group of countries (that the World Bank classifies as upper middle in its World Development Indicators), has labour supply implications for the urban labour markets. Average and median education level in Turkey remains to be five years even though 12 years have passed since the compulsory education was extended from five to eight years (Turkstat microdata file, 2009). For the labour force (and in urban areas) this average is six years. At this rate of one-year increase in every twelve years, Turkey will catch up with Malta and Portugal, which have the lowest education levels in the EU, in another twenty-four years, if they remain where they are.

Urgent action needs to be taken in order to combat related problems. *Compulsory education should go up to twelve years.* Urbanisation will increase education levels and subsequently, labour force participation rates in any case. The rise in the years in compulsory education will shorten the process. It should be noted that, even with its current young age structure, Turkey has a snowballing social security deficit. Higher education levels mean higher productivity and higher labour force participation rates for work force groups (men, women, young, or old). This is an urgent necessity for growth and for social security balances, as the only rising proportion of the population after 2040 will be the 65+ year-olds (Behar, 1999; Hosgör and Tansel, 2010).

## NEED FOR SKILL UPGRADING IN TURKEY

It should be mentioned that new jobs will not be the only component of labour demand that will produce employment for new job seekers. As the population in Turkey becomes older, more job openings will be available from existing jobs to replace retiring workers. *That is, lifelong learning and skill upgrading will be crucial labour market institutions.* By necessity, technical skill upgrading will have to use the vocational school infrastructure in Turkey. This infrastructure has problems some of which will be mentioned in the next section as part of the trade union positions.

Turkish vocational certification system is two-track. One is the official schooling track. The other one is the apprenticeship and journeymen track conducted in small establishments. These two tracks are disjoint. The schooling track provides graduates with general and vocational courses but employers complain about their deficiency in practical skills. The workplace apprenticeship track, in practice, almost totally lacks the general or classroom teaching component (although there are stipulations for night or weekend courses in nearby vocational schools). It is almost all about practical application and cheap labour.

The final products of either track, the young occupationally certified workers, are not prime candidates for lifelong learning or skill upgrading. Nothing in their education or training past teaches them how to learn. Their education and training are conducted by examples, memorisation, and rote.

## TURKEY MUST HEAVILY INVEST IN THE RIGHT KIND OF EDUCATION

Turkish education system does not have a lifelong learning focus. Middle schools and high schools prepare their students for the two big multiple-choice exams at the end of each level, one for a good high school, and the other for a good university, for which a good high school is an advantage. Teachers' success is measured by the administration, by the parents, and by themselves, looking at the proportion of students in their classroom who do well in these national tests. Such teachers who are the best multiple-choice technique instructors are in high demand.



Although, historically the education budget has been around 2.5% in Turkey, education expenditures to GDP proportion is around 5-6% with some broad assumptions. This is because of private expenditures on private institutions that prepare students for the two entrance exams. World Bank (2005) can be a reliable source in defining the deficiencies in the Turkish education system, including the immense regional differences in school quality and low pays of teachers who then have to supplement their incomes through private tutoring.

With this kind of an entrenched sluggish system, it is a puzzle how to orient the school system into the direction of lifelong learning and adoptive vocational technical education. The nationwide examinations that have been in existence should be seriously questioned and transformed into a more flexible structure. To give the Ministry of National Education (MoNE) its due, it can be said that the Ministry did prepare an action plan for lifelong learning strategy, which can be regarded as a positive development.

## 2. AN OUTLOOK FOR THE TURKISH LABOUR MARKET IS NEEDED

Current focus of the Turkish Employment Agency's (ISKUR) is meeting the short-term demand (open positions). The large new unprecedented initiative of asking TOBB (Turkish Chambers and Bourses Union) members about open positions at the provincial level and then providing training for these positions is an indicator of this stance. (TOBB's research foundation TEPAV has announced in its website, [www.tepav.org.tr](http://www.tepav.org.tr), that this effort will comprise one million trainees in five years with women and the youth having priority.) This is understandable in a crisis recovery period.

The author, however, agrees with the principle, but feels strongly cautions against the implementation of such a large and expensive active labour market program. In order to identify the kind of future skill-need for medium to long term, and to ensue policy implications on education and training, as discussed above, there are a few questions to be answered (see, for example, HRDS Canada, 2008, p. 2).

Firstly, one must have an idea about the number of *new* jobs that will be created in the next decade (neither Canada nor the US attempts at forecasting a longer horizon). Employers would not know about long-term trends with some exceptions among the larger holding companies, which are likely to be members of TISK (Turkish Employers Union Confederation) or TÜSIAD (Turkish Industrialists and Businessmen Association). Such knowledge requires meticulous financial and investment planning over the coming years, which is established only at the very top Turkish companies. Case in point: ISKUR's survey of establishments (2010) covered over 250 thousand companies that employed over 4.3 million workers. Number of 'expected' open positions over the coming 'year' was less than 15 thousand. A typical Turkish business establishment employs less than ten workers. The average education level of employers in these establishments is the same as the average education level of their employees, at the level of primary school (Dayioglu and Ercan, forthcoming). Information on the number of new jobs that will be created in the next decade will not come from provincial small enterprises.

*Nation-wide trends on industries and occupations* could be determined with sufficiently detailed Turkstat data by using demand side establishment surveys, as well as supply side household labour force survey data. These trends could hint at the short-term outlook but could not predict shifts. ("One may not drive a car by looking at the rear-view mirror." is a well-known quote on econometrics.) In order to look at medium-term trends, one should analyse cross-country OECD data to identify expected industrial and occupational trends.

Anything further should be qualitative, as this method could not illuminate Turkey's future path any further than the current experiences of industrialised countries. This is the reason, for example, that

such occupational outlook studies in Canada, Ireland, or the US do not go beyond ten years. (Similarly, with the exception of heroic Computable General Equilibrium studies in economics at modelling energy demand or social security expenditures for a country for the coming century, econometricians stay away from energy demand forecasts that are longer than thirty years; existing technologies will change with significant implications on production costs; hence will the expected energy production mix, and demand structure.) Relative earnings will change in response to labour market imbalances in the long term. Forecasts necessarily assume present trends to continue in relative earnings; they have to have a medium-term focus.

Moreover, *HRSD Canada (2008) does not produce regional employment forecasts, citing data unreliability*. Local governments produce short-term employment forecasts in Canada, which may be done at the NUTS2 regional level in Turkey – big cities and two or three-province statistical clusters. This might lead us the way to a possible solution. TEPAV has announced recently that ISKUR has determined the labour demand at the provincial level in Turkey and that ISKUR can implement active labour market programs as a large governmental initiative.

As the population in Turkey ages, *there will be job openings because of retirements*. One must have an idea about the industrial and occupational composition of this demand in order to design suitable education, lifelong learning, and training policies.

Turkey will not have a labour supply problem in terms of numbers to meet the expected labour demand. Whether it will have the quality component of this labour supply in place to meet the increasing skill demand is another question. Given the current education trends, it will be a slow process for education levels to go up once the urbanisation process is completed. Turkey needs a move to twelve years of compulsory education. On this base, it could build up a framework of active labour market policies, as well as associated vocational education and training policies. Administrative and management positions will increasingly require university degrees.

Finally, it will be crucial for Turkey, as an emerging market that is dependent on its exports for sustainable growth, *to identify critical and significant labour shortages* or surpluses to design education and training programs in the coming decade.

These issues need input from employers' organisations, ISKUR, MoNE, the Provincial Employment and Occupation Boards, as well as the trade unions. (The provincial boards are led by the Governor and have a tripartite structure – employers, MoNE and public employment agency, workers; NGO's are frequently invited.) None, however, including ISKUR, could be or should be mandated exclusively with the preparation of an employment occupational outlook. Presently, this could be done with the outside help of academic labour economists who are coordinated by ISKUR with the help of the Ministry of Development-MoD (formerly State Planning Organisation-SPO). ISKUR and MoD should later assume the responsibility to prepare a bi-annual occupational outlook for Turkey, possibly with continuing academic help from universities. This UN Joint Programme aims at exactly this outcome coordinated by the ILO.

### 3. SOCIAL PARTNERS ON TRAINING

One would expect that trade unions would be in favour of training, or youth training, programs. As it is hard for a union member to be laid off in unionised establishments, the employer tries to hire higher productivity workers in the first place. Skilled workers are more likely to work under formal employment contracts. This is by definition potential union territory. In the same vein, larger industrial employers tend to be unionised and tend to have higher productivity levels. There are two reasons for higher productivity in these firms. They have higher physical capital investment per worker



and in places where there is such a production process, one needs to hire higher skilled workers. The productivity – training nexus is a matter that employers and trade unions see eye-to-eye, for the most part. There may be disagreement on the issue of cost bearing, whether it should be employers or the government. Mainstream trade unions would see lifelong learning and skill upgrading as a government responsibility.

The author should remind the reader that, what follows might not have a direct bearing on the issue at the focus of this report. Social partners have not formed opinions about demand for new skills in Turkey for the coming decades. Their contributions are on vocational education and training, which forms the current basis for lifelong learning activities and infrastructure for meeting the future skill-demand.

Therefore, in order not to miss for not missing the perspective it should be remembered that, future demand and training for new skills are essentially youth related issues. There is limited scope for older generations (although some retraining programs should be designed). As such, the future perspective could only be a part of a grand scheme that must involve social protection. **There will be people who would be missed by the net that we will cast.**

The debate on employment creation will ultimately lead come to flexibility and security. This report seek to avoid the argument.

## SPECIFIC POSITIONS OF TURKISH SOCIAL PARTNERS

After the public enterprise privatisations in the 1980's and in the 1990's, trade union density fell to 7-8% of the workforce from around 12% in the late 1980's. This was a proportionately large number as 44% of Turkish employment was in agriculture (1988 HLFS). Approximately one quarter of the non-agricultural workforce thus were union members at the time, most of which were divided between the mainstream Turk-Is and the revolutionary DISK. Trade unions were banned in the early 1980's after the military coup. As their power in the public sector diminished, their private sector membership also suffered. Ministry of Labour and Social Security (MoLSS) ([www.csgb.gov.tr](http://www.csgb.gov.tr)) keeps track of union membership for workplace union authorisations (statistics are not very sharp or timely, **hence the 7 or 8% quote**).

Union members are fragmented into three major confederations, Turk-Is, Hak-Is, and DISK. Turk-Is, being the largest, can be categorized as mainstream, Hak-Is is regarded as conservative, and DISK is the 'Revolutionary Workers Unions Confederation'. On the employers' side, there is TISK (Turkish Employers Unions Confederation). These four entities comes to mind when one mentions 'social partners' in the Turkish context.

All social partners in Turkey are for strengthening the education – employment relationship. They all agree upon the need to provide vocational education and training according to the needs of the labour market. They all support lifelong learning initiatives and actively contribute to occupational definitions and qualifications to the Occupational Qualifications Institution, which is the relatively new government authority responsible for EU-wide occupational certification.<sup>3</sup>

Turkish unions operate under a union law, which is a relic of the military government of the early 1980's. Many of their activities, which falls outside the scope of the work and workplace related issues directly, are either banned or very limited. The junta at the time regarded union involvement in political

<sup>3</sup> Social partner positions on occupation related labour market issues have been obtained through personal e-mail correspondence from Enis Bagdadioglu (Turk-Is), Tevfik Günes (DISK), and Jülide Sarieroglu (HAK-IS), in December 2010. These were the internal training memos, speeches given by the presidents or representatives of the respective organisations, or various submitted union positions on the issue for meetings.



matters as ‘destructive’ and stipulated a very narrowly defined union action space. This legal framework binds the unions in the context of contemporary labour market institutions debate, like emerging skills and the need to adopt the country’s vocational education and training system, on which they are required to contribute. Moreover, the law stipulated a ‘manageable’ (militarily neat) social partner definition. Within this space, there is room for only one of the ‘largest’ union confederation from the employer’s side and from the workers’ side, in an official representation. These regulations, directed at the time to the DISK, now hurts Hak-Is, as they had become the second largest after Turk-Is.

The straight jacket of the union law is no longer enforced strictly in matters of consultation or representation. Regardless, there is definitely a need for a new union law in Turkey. ILO’s ‘decent work’ agenda could be a unifying theme over which one could design the new law.

### **DISK**

DISK is also a solid supporter of occupational standard certification, as would be expected from a trade union. Like Türk-Is, they also express concern about the low quality general education level in Turkey. DISK regards occupational qualifications that come after investing in one’s knowledge and skills as a fundamental right. It defines this right in both the general and vocational education domain as well as in the on-the-job-training domain.

DISK requires that, in order for a worker to improve his/her skills, he or she should be allocated time and training infrastructure. DISK sees this as an employer responsibility, citing long hours and short vacation times as the undesirable default behaviour in Turkish establishments that leave no time for a worker to invest in his or her skills. The confederation requires that Turkish labour code should have stipulations for this right.

DISK rejects the understanding that unemployment could be a result of low skill levels of workers. It warns against an outcome where occupational qualifications become tools to acquire so that skilled workers could go out on their own. It advocates job security, increased public employment levels, and a ban on sub-contracting, as well as less stringent qualification criteria for unemployment insurance.

### **HAK-IS**

Hak-Is president Mr. Salim Uslu has condoned the government’s action plan on “Strengthening the Employment Vocational Education Relationship” (dated July 2010) in a speech at the MoLSS on December 29, 2010. Mr. Uslu described the program to be well thought and the result of long and hard labour with a sound systematic structure with positive implications for today and tomorrow. He pointed out the necessity to augment required infrastructure for a successful implementation of the plan. Hak-Is also urges the legal regulations to be completed. The union regards the contributions of NGO’s, professional associations, and social partners to the action plan as secondary and supportive, which could come after the legal framework.

Hak-Is complained about the restrictive union regulations that ban the unions from venturing into work life related issues and establishing their presence outside the directly workplace related context. Hak-Is also complained that about the Employment Strategy Document was still not published, and some of its contents was injected into a few government initiatives in a piecemeal fashion. The confederation advocates an integrated approach to labour market related problems.

### **TURK-IS**

On the same issue of strengthening employment and vocational education relationship initiative, opinions of Turk-Is were critical of the current situation and long-standing practices. Turk-Is starts with the employer criticism long periods of adaptation of the vocational school graduates’ to the actual work environment as they lack machine practice.



Turk-Is has a biting criticism of the vocational education and training system in Turkey. According to Turk-Is, it lacks new program development incentives; it is not student oriented; MoNE does not understand the term ‘participatory’; there are financial and infrastructural problems as well as other serious problems with teacher quality and their skill upgrading; and there is no career guidance within the system. The author has repeatedly witnessed in various meetings the MoNE representatives refuse to acknowledge the problems; thus, assert that MoNE is doing everything properly, under the circumstances.

The classrooms are crowded and the instructors teach long hours. The conditions are not quite conducive for the instructors to improve their own human capital levels. Overwhelming majority of them does not know even rudimentary English to keep up with the advances. Turk-Is points out that labour market indicators for vocational school graduates’ are below satisfactory levels. The positive differences, if any, by workgroup (age, region, or sex) are not overwhelmingly above the general high school graduates and in some cases are even below. Vocational schools are regarded as schools for the children of the poorer segments of the society. This also implies that the students did not also have the opportunity to attend ‘better’ primary schools (in the sense of scoring higher in the nationwide exams).

Turk-Is advocates a close study of the EU education and training policies with an eye for adoption the best practices suitable. It points out that, young people today believe in a college education to be the only way for a ‘decent’ working life and shun vocational education in favour of a general education. In Turkey, one must be on the general track for getting into college; vocational school graduates are restricted to their high-school vocations for postsecondary through coefficient incentives and penalties in the nationwide university entrance exams. Turk-Is advocates an effective career guidance system after compulsory schooling.

## TISK

The employer organisation TISK (Turkish Employers Unions Confederation) has forwarded its suggestions for inclusion in the draft National Youth Employment Action Plan within the scope of the United Nations Joint Program: Growth with Decent Work for All – A National Youth Employment Program and Pilot Implementation in Antalya, The following list is based on the newest document prepared by TISK. The gist of the suggestions is similar to those voiced by the trade unions. Hak-Is and Türk-Is confederations’ understanding of this issue is likewise. DISK and TISK would disagree that the cost of skill upgrading should be borne by the employers, as a mandatory clause in the Turkish labour law. The author has inserted some comments, which is marked by his initials.

TISK also condones and supports a ‘Labour Market Information System’ (HE: one component of which could be the Occupational Outlook). ISKUR should be the organization to run the system. Moreover, Provincial Employment and Vocational Education Boards should have access to this information as soon as possible. TISK also suggests that provincial ISKUR offices should have labour market analysts, and that provincial boards should prepare annual employment reports.

The confederation asks for a closer audit of unemployment insurance beneficiaries. TISK further asks for ISKUR’s consultancy and guidance activities to expand into employers in terms of open position identification, search, and employment regulations. Disadvantaged groups should receive tailored ALMP’s (long-term young unemployed, persons with disabilities, and young women).

ISKUR must conduct follow-up and impact analyses (HE: which it so diligently avoided until now). For all of the above-mentioned suggestions, the ‘Labour Market Information Advisory Board’ must meet regularly.

## TRAINING RELATED ACTIVITIES OF SOCIAL PARTNERS

In the industrial eastern Marmara region, employers' associations (like TÜRKONFED, Turkish Confederation of Industrialists and Businessmen Associations), frequently voice vocational skill shortages in their workplaces ([www.turkonfed.org](http://www.turkonfed.org)). High urban youth unemployment rates and these skill shortages imply that there is a skill mismatch in the labour market. Exactly at this point, the need for good quality and timely labour market information comes to the fore. *There should be up to date analyses of future skill needs and anticipated skill shortages (and surpluses) in Turkey.* This is to facilitate that those in charge of the education and training systems take action accordingly. Turkish Employment Agency, ISKUR, could thus design 'retraining' programs for those in declining occupations, for example. There is already an EU initiative on 'New Skills, New Jobs' for this common need of countries. The US Bureau of Labor Statistics produces a bi-annual *Occupational Outlook* to inform about the expected trends for the next decade.

The employer associations are voicing a critical labour shortage. One must note, however, that the proportion of formal manufacturing employment, where these technical vocational shortages occur, is small in total employment. Thus, this becomes a problem of coordinating and planning the actions of a few labour market actors in a few industrial cities. This is doable, and there is already a TOBB (Turkish Chambers and Bourses Union) initiative to realize the specific goal in 2011. The employer association could identify the short to medium term skill demand. Afterwards, either ISKUR (for a short-term need) or the regional vocational education system (for a longer-term need) could respond to supply the skill that is in demand. This setup is the extent of a reasonable level of involvement of employers associations, which they would be willing to accomplish.

DISK has established a Textiles Vocational High School in 1998. The school has an enrolment of 700 students and had training activities as well. (For example, it conducted ecological farming and textiles training programs for farmers whose fields became minefields in the Kütahya region.) The confederation supports lifelong learning and regards the concept as a fundamental right.

Hak-Is president stated in a speech in December that the union had formed training modules in cooperation with employers; they are running an occupational guidance and counselling centre; and they had conducted training programs and job placement services.

Turk-Is and TISK have been active in conducting training programs. They have even acted on the issue together in the recent years. Their specific contributions are available on their websites ([www.turkis.org.tr](http://www.turkis.org.tr) and [www.tisk.org.tr](http://www.tisk.org.tr)). TISK's well-known member, MESS (Turkish Employers' Association of Metal Industries) in Istanbul, runs a training foundation, which is headed by the former general director of the Turkish Employment Agency, Mr. Necdet Kenar ([www.mess.org.tr](http://www.mess.org.tr)). Another TISK member, INTES (Construction Employers Association) runs certification training programs for critical skills in construction ([www.intes.org.tr](http://www.intes.org.tr)).

ISKUR, whose name appears in the title of this report, was not evaluated separately. It was referred to in the measures suggested by the social partners as the responsible authority in a wide range of activities. ISKUR's current capacity and its recent conduct of crisis measures and unemployment insurance have been discussed elsewhere (Taymaz, 2010; Yeldan, 2010). Whether it would be reasonable to expect ISKUR to implement the suggested actions is commented below.



## 4. CONCLUDING EVALUATIONS

Large employer organisations can implement vocational training programs depending on the vision of their administrations, but it is not possible for smaller or traditional establishments to do likewise. Lifelong learning and training must essentially be government-induced activities, if for nothing else, because of the positive externalities inherent in the provision of the education and training public good.

It is neither a duty nor a priority for social partners to forecast future skill demand of Turkey. It is sufficient that they support such activities in the context of a labour market information system. Anything further that essentially requires the capacity of the Ministry of National Education, for example, including lifelong learning, should be the responsibility of ISKUR or MoNE, if they could coordinate their activities. An easier and important starting point would be career guidance activities at the secondary level.

The occupational outlook, in terms of identifying new skills, is not an endeavour that can be undertaken by either the ISKUR or the Provincial Employment and Vocational Education Boards. By their nature, these institutions are useful for identifying short-term demand. Ultimately, with input from ISKUR and MoNE, Ministry of Development could assume responsibility. Even then, the scope and vision requires outside academic consultancy, at least for the initial years.

The outlook is not an academic exercise. It will provide input to three important questions: “Which occupations will be in demand ten years from now?”, “Which skills should the young acquire for this future now?”, “In which skills should ISKUR ‘retrain’ those in declining occupations? – Which ones will be the declining occupations, by the way?”

Concerted action is desirable in these issues. In recent years, however, social dialogue mechanisms seem to have been bypassed as is evidenced by the non-participatory approach on the part of the government.<sup>4</sup> Neither the 2008 labour cost incentives law, the May 2009 crisis employment measures nor the recently completed (but not published) employment strategy document preparation processes involved social partners. They contributed their thoughts in the initial brainstorming sessions in the winter of 2008-09; they were not invited to the Ministry of Labour and Social Security, MoLSS, since the strategy document was being written by the bureaucrats. Based on a skeleton outline, social partners were invited to comment on the employment strategy at the end of 2010.

Two of the three large workers union confederations had scathing comments for the strategy (which are available on their websites, [www.turkis.org.tr](http://www.turkis.org.tr) and [www.disk.org.tr](http://www.disk.org.tr)), whereas Hak-Is confederation remained silent on the issue. Employers union confederation, TISK, approve of the ‘flexibility’ approach adopted by the Ministry (The undersecretary of the MoLSS and the Minister both openly stated the underlying approach of the strategy document as ‘flexibility’ in a panel meeting where one of the authors was also a speaker, on December 18, 2010 in Istanbul).

With the above caveat on the larger picture, the author’s opinion is that the following points on the employment - vocational education and training agenda are agreeable to all four of the social partners. (Hak-Is and Turk-Is confederations are condoning almost all points explicitly.) Skill certification is the common point; therefore, will not be mentioned below.

<sup>4</sup> One might also say that, instead of working with the usual social partners, the government is more comfortable working with TOBB, The Union of Chambers and Bourses of Turkey. Case in point: TOBB has recently identified labour demand in all 81 provinces of Turkey – their claim, so that Turkish Employment Agency, ISKUR, could start training 200 thousand people for five years, every year. This is the largest government initiative concerning (in effect) youth qualifications in Turkey, ever designed. (As there are labour cost advantages to hire new labour market entrant women and youth because of existing government incentives, one could expect to see more women or youth among the beneficiaries of these programs.) TOBB’s official report will be forthcoming on TEPAV’s (TOBB’s research foundation) website, [www.tepav.org.tr](http://www.tepav.org.tr).

- o There is a need for a periodic demand analysis. Provincial Employment and Vocational Education Boards could be instrumental in this analysis. The author cautions against the necessarily short-term and restrictively local emphasis of this approach. What is needed is an occupational outlook exercise at the national level. Regional (NUTS2) action will then be possible after this general outlook.
- o There is a need to upgrade the infrastructure of vocational technical schools as well as the skills of their instructors. This must be a part of an overhaul of the whole system. The author is of the opinion that the slow moving bureaucracy of the MoNE and its reluctance to relinquish any part of its authority in matters concerning vocational schools is a major hindrance concerning this necessity.
- o MoNE should be more willing for the accreditation of vocational training programs designed and conducted by other labour market actors. There are examples where it has done so. The author is of the opinion that municipalities and unions must have freer hands in vocational training. In most cases, MoNE infrastructure and instructors will have to be used during off-hours.  
**What more control can one have?**

- o Turk-Is suggests that the resources of vocational schools be scheduled and available if possible on a full time basis to all age groups, including weekends. This is in line with the lifelong learning perspective.
- o Hak-Is and Turk-Is suggest that vocational school graduates should have access to low-cost bank loans from the public banks (there are still three large public banks in Turkey that no government seems to be willing to give up on; two caters to small enterprises, one has traditionally catered to agriculture).
- o Vocational schools' budgetary allocation should be increased. Turk-Is also suggests that employers' organisations should financially support vocational schools. (The author does not believe in making this a mandatory clause.)
- o At the same time, Turk-Is suggests that private sector establishments should get breaks on their labour taxes that are proportionate to the number of vocational school graduates they employ.
- o Disadvantaged groups (disabled persons, women, and the youth) should get priority in suitable vocational training programs (a Turk-Is and TISK suggestion).

Other issues are having computer literacy and teaching a foreign language. These two are often requested by labour market actors to be included in vocational training programs. Clearly, some of the training would require vocation-specific computer literacy or should involve some technical English to be learned. However, such general training as computer literacy or English language teaching should not be a part of the vocational skill upgrading programs so as not to dilute them. This should remain in the domain of general education. Lacking that, it must be a personal responsibility of the individual during off-hours, as the fruits of such labour would accrue to the individual beyond his or her current job or vocation. This is much like the Open University degrees. Motivated individuals pursue them in their own time.

It is the duty of the government to provide equal education and training opportunities to all. It is not the duty of the government to hold an individual's hand through education, training, and job placement. The responsibility falls upon the government to provide a fair chance for the individual to succeed if he or she so desires to or have the capacity to do so. The government should not spoon-feed every imaginable general or specific skill-training program to anybody who asks for it, since it does not have the resources for it. For people who would fall through all the cracks, the answer is not in skill upgrading programs but it is in the means-tested social transfer programs that Turkey sorely lacks.



The tone in this report was objective. The author described the minimal background information in order to set the stage and summarized the positions of the social partners. Nevertheless, the issue is part of a larger debate on how to approach the Turkish labour market institution design: Work for life, or workplace for life (do we protect the worker, or do we protect the job?). There is no end to this debate, neither here, nor in the north and south of the EU. The choice will ultimately have a bearing on the design of policies. **The sterile, Turkish Employment Agency, ISKUR, oriented approach for actions and responsibilities adopted in this report provides an agreeable and neutral footing for starters.** It will not be enough for the future.

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