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TURKEY: EVALUATING THE IMPACT OF İŞKUR'S VOCATIONAL TRAINING PROGRAMS

August 2013

Human Development Sector Unit
Europe and Central Asia Region

WORLD BANK

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ACRONYMS AND ABBREVIATIONS

ALMP	Active labor market program
GDP	Gross domestic product
IRR	Internal rate of return
ITT	Intent-to-treat effect
İŞKUR	Turkish Employment Agency
LATE	Local average treatment effect
MHI	Mental Health Index
MIS	Management information system
OECD	Organization for Economic Co-operation and Development
OTJ	On-the-job training
PISA	Program for International Student Assessment
SIEF	Spanish Impact Evaluation Fund
TL	Turkish Lira
TUIK	Turkish Statistical Institute
UN	United National
VQI	Vocational Qualification Institution
WAP	Working age population
WB	World Bank

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ACKNOWLEDGEMENTS

This study is the result of a request by the Turkish Employment Agency (İŞKUR) to the World Bank (WB) to evaluate the impact of vocational training programs for the unemployed and to identify ways to strengthen these programs. The study could not have been possible without the technical support of İŞKUR throughout its design and implementation. The WB team included Cristobal Ridao-Cano, Rita Almeida, Sarojini Hirshleifer, David McKenzie, and A. Levent Yener, with the invaluable assistance of Ayça Dönmez, Elçin Koç, and Elif Yükseker. The İŞKUR team comprised Mehmet Aslan, Feridun Giresun, Abdülkadir Yanıcı, Serkan Yücel, Feridun Kaya, Emre Özen, and Derya Duyar Coşkun. Overall guidance was provided by Martin Raiser (Country Director for Turkey, WB), Ulrich Zachau (former Country Director for Turkey, WB), Roberta Gatti (Sector Manager, Human Development Economics, Europe and Central Asia, WB), Jesko Hentschel (former Sector Manager, Human Development Economics, Europe and Central Asia, WB), Ana Revenga (Director, Human Development, Europe and Central Asia, WB), Nusret Yazıcı (Director General of İŞKUR), Asım Göker Keskin (Deputy Director General of İŞKUR), Mustafa Kemal Biçerli (Former DG of İŞKUR), Namık Ata (Former Deputy Undersecretary of MoLSS, and former DG of İŞKUR), and Birol Aydemir (Former Undersecretary of MoLSS).

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OVERVIEW

Turkey's economic performance during the 2000s is a global success story; high-income status is now within reach but this will require creating more and better jobs. The Turkish economy grew by an average of 5.5 percent between 2002 and 2011. Turkey today is the 16th largest economy in the world, with per capita income exceeding US$ 10,000. Economic growth has been rapid and inclusive, as the welfare of the poorest 40 percent of the population grew faster than the average during the 2000s. Inclusive growth is partly the result of rapid urbanization generating more and better job opportunities. However, until recently these opportunities have not kept pace with the increasing supply of (mostly) young and low-skilled workers looking for jobs in cities, resulting in stagnant and even declining employment rates during the last two decades.In Turkey today, less than half of the working age population (15- to 64-year-olds) is employed and 42 percent of workers are informal. The outstanding employment growth after the 2008-09 crisis may herald a change in trend (the World Bank is currently carrying out more detailed analysis into the reasons for recent rapid employment growth) but with reported skill shortages, unemployment rates around 10 percent and low employment rates coexisting, policies to improve the functioning of labor markets remain a priority.

Upgrading the skills of the current labor force is crucial for creating more and better jobs. Although the young are becoming more educated and skilled, half of the working age population (WAP) still has less than basic education, accounting for most of the jobless and informal workers, while the demand for skills in formal non-agricultural sectors continues to increase. Even recent high school and college graduates have difficulty finding jobs for which they are in principle "qualified," despite the fact that businesses report to have a hard time finding workers with the right skills, indicating a skills mismatch (McKinsey 2012). While the evidence shows that skills are best acquired the first time around, Turkey also needs to enhance the skills of its existing labor force.

The Turkish Employment Agency (İŞKUR) plays a leading role in upgrading the skills of jobseekers and facilitating their access to productive employment by providing vocational training and other employment support services. İŞKUR has come a long way since 2008, significantly expanding its coverage (from 30,000 trainees in 2008 to 464,000 in 2012, representing 19.6 percent of the

registered unemployed). The expansion of İŞKUR's training coverage has been complemented with further reforms to improve the quality and effectiveness of vocational training programs, including the introduction of quality criteria in the selection of training providers as well as vocational and job counseling services.

The increasing importance of İŞKUR vocational training prompted the government to commission the present study to evaluate its impact and to identify ways to enhance it. It is the most recent product of a long standing collaboration between the Ministry of Labor and Social Security (MoLSS) and İŞKUR with the World Bank to examine policy options to help improve employment prospects for job seekers, particularly among women and youth. The study could have been possible without the technical support provided by İŞKUR.

The study evaluates the main type of İŞKUR's vocational training courses at a particular point in time, and thus it does not take into account recent reforms. The study evaluates a representative sample of general vocational training courses, which account for about two-thirds of İŞKUR vocational trainees (the other one-third mostly take courses on-demand by employers) that took place between December 2010 and June 2011. However, approximately 80% of the 2012 courses were job guaranteed courses. The active labor market services regulation was amended in 2013 to increase the rate of job guaranteed courses. In this respect, it is expected that the 2013 courses will have a similar rate.

The evaluation has an experimental design, exploiting the excess demand for İŞKUR vocational training courses to randomly assign eligible training applicants into those who receive training (treatment group) and those who do not (control group). Original data was collected from 5,902 applicants (henceforth called İŞKUR trainees) (evenly split between treatment and control groups) between September 2010 and January 2011 (before training started) and approximately one year later. The experimental design allows the difference in employment outcomes after the training between treatment and control groups to be attributed to training, and training only. This is the first randomized evaluation of a large-scale vocational training program for the unemployed in a developing country.

The study investigates: (i) the profile and job search behavior of İŞKUR trainees in the sample before courses started, as well as their assessment of İŞKUR services before the start of the courses; (ii) the average impact of training on

employment; (iii) differential impacts for different groups of trainees, particularly in terms of gender, age, and education level; (iv) the process by which training leads to employment outcomes, including identification of the types of training that have a higher impact on employment; and (v) the costs and benefits of İŞKUR training (overall and for different types of training). Finally, the study makes use of the findings from this evaluation, complemented by evidence from other countries, to suggest a number of policy options to further strengthen the impact of İŞKUR training and services.

The profile of İŞKUR trainees in the sample before courses started

İŞKUR trainees are significantly younger, have less work experience, and are more educated than the average jobseeker in urban areas. Women are overrepresented among İŞKUR trainees (63 percent) compared to urban jobseekers (30 percent).[1] İŞKUR trainees are significantly younger (45 percent are between the ages of 15 and 25 compared to 31 percent among urban jobseekers) and have less work experience. The most striking difference is that İŞKUR trainees are remarkably more educated than urban jobseekers: 74 percent of İŞKUR trainees have completed at least high school, versus 42 percent of urban jobseekers. This difference persists even after limiting the urban sample to 20- to 29-year-olds.

The significantly higher education level of İŞKUR trainees is mostly due to the design and implementation of İŞKUR training. The difference in educational attainment between İŞKUR trainees and the average jobseeker in urban areas could be explained by a number of factors: (i) İŞKUR trainees must have at least primary education and must meet other skill prerequisites depending on the course; (ii) many courses are designed for people with medium levels of education; (iii) in the event of excess demand for courses, training providers tend to prefer individuals with higher levels of education;[2] and (iv) more educated jobseekers are more likely to apply for İŞKUR training.[3]

İŞKUR trainees engage in little job search, although most of those who

1- Data on urban jobseekers are from the Labor Force Survey.

2- Among other things, more educated individuals are perceived to be more likely to complete training, which is what determines payment to providers. Until 2008, payment to providers was tied to job placement targets and more educated people are perceived to do better in the labor market regardless of the effectiveness of training.

3- This could be because the courses are more attractive for better educated jobseekers, they are more informed about them, or they expect to get a higher return from them (although as shown later, we find little evidence of the latter).

do tend to use and value İŞKUR employment services to help them find a job. Over the last four weeks prior to the face-to-face baseline survey (before courses started), only about half of İŞKUR trainees not currently working or going to school actively searched for a job.Interestingly, İŞKUR trainees are less likely to be looking for a job than urban jobseekers, even though any jobseeker registered in İŞKUR is supposed to look for a job in order to benefit from İŞKUR services. Trainees that do search devote significant time to it mostly look for high-paying, full-time wage employment. About 74 percent of trainees searching for a job use İŞKUR services.. In particular, İŞKUR services are regarded as the second best channel to find wage employment after applying directly to employers, and come before the networks of family and friends.

İŞKUR trainees attach a great exante labor market value to İŞKUR training, even relative to other trainings, because they perceive it as being of quality and valued by employers. Before courses start, 80 percent of trainees believe İŞKUR training will help them do better in the labor market. The expected impacts after oneyear are large: trainees expect İŞKUR training to increase their probability of finding a job by 32 percentage points relative to no training and by 14 percentage points relative to other trainings. Almost all trainees think İŞKUR training improves job-readiness skills and the knowledge of the profession and are confident about the quality of İŞKUR training, particularly if provided by public institutions. Almost all trainees also find training useful because they think employers value the İŞKUR certificate. Despite the genuine value attached to İŞKUR training, for one-third of trainees the stipend received is an important reason for taking the training, and two-thirds would not take it if they had to pay for it.

Impacts of İŞKUR vocational training under review

The overall impact of İŞKUR training courses considered under this study on employment is negligible, but courseshavea small but significant impact on the quality of employment, with little variation of impact across age, gender, or level of education. İŞKUR training courses considered under this study are found to have no significant impact on the likelihood of working, the number of hours worked per week, or the monthly income received. However, coursesare found to have a small but statistically significant impact on the quality of employment. In particular, İŞKUR training increases the probability of working in the formal sector by up to 3 percentage points, which is equivalent to a 10 percent increase in formal sector

employment. And training increases income from formal employment (by up to 13 percent) and occupational quality.[4] The impact of training on employment appears larger for men over 25 years of age, but the differences by age and gender are not significant, nor are the differences by level of education.The small impacts of İŞKUR training on employment are in line with findings for similar programs around the world.

The actual impacts of İŞKUR training under review differ significantly from the expectations formed before the trainings, which may in part indicate limited information about İŞKUR trainings. On average, individuals are reasonably close in terms of their expectations of what employment levels will be like in the absence of training. However, individuals substantially overestimate the benefits from training. This could be explained by the natural tendency to overestimate future benefits and underestimate future costs of action taken today, or changes in context from the time when expectations were formed. It may also suggest, however, that the average trainee does not have much information about trainings offered by İŞKUR and hence the training may not be sufficiently targeted. Interestingly, the high evaluation of İŞKUR's services persists even after the training is completed, and even though for the average trainee the training makes little difference in terms of employment or earnings. Possibly, İŞKUR's services have an intrinsic value not captured by actual employment states.

Why does training have a limited impact on employment and what types of training work better?

The small impact of the training under review does not seem to be explained by the labor market context. Although at the time of training there was a wide variation in unemployment rates across the 23 evaluation provinces, trainees from high unemployment provinces did not do better or worse at finding employment than those from low unemployment provinces. This result suggests that the small impact of training on employment does not appear to be driven by the buoyant labor market at the time the follow-up data were collected (early 2012).

Low levels of active job search among İŞKUR trainees may be one reason the training has little impact on employment outcomes. Wage and employment expectations among trainees appear to exceed the mean of those in actual employment by a considerable margin.

4- This is a continuous measure ranging from 16 (e.g., domestic helpers) to 90 (e.g., judges), and is coded as zero for individuals not working (see Annex 2 for details).

Trainees may decide not to actively seek a job or not to take the jobs on offer post-training, even if their employment prospects improved. Improved targeting of training and improved incentives to encourage active job search are part of İŞKUR's recent reforms and the evidence lends support to their importance.

İŞKUR courses contracted to private providers, particularly those facing more competition[5] have a large positive impact on employment. The results show that there is a higher return from taking a course offered by private provider or a provider that faces more competition. But it is really the combination of private provision and intense competition (having two or more competitors) that makes the biggest difference: 17 percent of the courses included in the study fit these criteria, and the training in those courses increases the likelihood of working for 20 or more hours per week by 9 percentage points. While some of this differential impact relative to other types of training is due to differences in the distinctive courses offered by private providers and the trainees they attract, the differential impact remains even after controlling for course and trainee characteristics. This suggests that private provision may be one route to ensure training courses meet the needs of the labor market and hence improve their effectiveness in overcoming mismatches.

Overall, İŞKUR training courses under review have a negligible net return, but İŞKUR courses offered by private providers that face more competition have a big net return. The total cost to İŞKUR of providing a training course averages 2,429 TL per person. The average cost per person is 2,671 TL if the İŞKUR course is offered by private providers subject to significant competition.[6] The average gain in monthly income from İŞKUR training is close to zero, so the annual internal rate of return (IRR) over 30 years is also close to zero. In contrast, the gain in monthly income for İŞKUR trainees taking courses offered by private providers facing significant competition is 128 TL per month. Based on this estimated gain, it would take 21 months for the gain in income to offset the costs of provision, and the IRR over 30 years would be 58 percent (or 48 percent with 10 percent per year depreciation of the gains).

5- The competition variable is based on the question to providers about the number of competitors they face: (i) zero; (ii) one; (iii) two to five; (iv) six to nine; or (v) 10 or more competitors.

6- The training cost reflects the cost of training during the study was implemented.

Strengthening the impact of İŞKUR training and services

After the data for this evaluation were collected, İŞKUR continued expanding and introduced reforms to address some of the challenges identified in this study. Indeed, two recent reforms including the selection of training providers on the basis of specific quality and performance criteria (not just cost) and the introduction of job and vocational counselors will help address at least two issues identified by this evaluation: (i) the quality and employment impact of training; and (ii) the information trainees have about the courses they take. In 2012, İŞKUR started hiring job and vocational counselors to advise jobseekers on occupational choice and training courses. A new regulation approved in March 2013 assigns more weight to quality in the selection of providers and introduces modules to the training programs to increase employability. The regulation also extends jobs placement requirements to providers of general vocational training, and incentivizes employers to hire and keep young and female trainees employed in occupations for which they are trained.

This section builds on these good initiatives and achievements to suggest some options to further streng then İŞKUR training and services based on the results of the evaluation and lessons from international experience. Reform can only happen gradually, introducing a few new initiatives and evaluating them before moving to the next set of reforms. This is the approach İŞKUR is taking and this joint evaluation is a good illustration of this.

Improving the relevance of skills training. The study finds that the low overall impact of İŞKUR training under review on employment may in part be due to the low value-added of these courses in terms of the skills they help to build. As İŞKUR develops new modules to be added to the training program, it may consider putting more emphasis on behavioral skills, which are highly valued by employers in Turkey (McKinsey 2012). And there is increasing evidence of the employment impact of behavioral skills training (Almeida et al. 2012). Going forward, it is also important to continue strengthening the link between İŞKUR, training providers, and local employers, building on the experience of the Provincial Employment and Training Councils.

Incentivizing and supporting more job search. The low incidence of job search among İŞKUR trainees in the study suggests the need to encourage more job search and expand employment services (job placement, counseling,

job-search assistance). The new regulation linking training to jobs search is a step in the right direction. International evidence shows that it is more cost-effective to first encourage jobseekers to look for a job and to assist them in this task through employment services before they get any training than to offer training first (as in Turkey). To encourage job search, it is important to tie the receipt of unemployment or social assistance benefits to it—Turkey does this already, but perhaps compliance could be improved. Employment services, which are limited in Turkey, should be central to employment activation efforts. For example, in the U.K.'s jobcenter plus,all registered unemployed people are offered some employment services (ranging from minimum job placement services to job-search assistance for the hard-to-employ) and are required to take individual actions to find a job (i.e., the market test– receipt of benefits is conditional on that) before it is determined whether they need additional services (including training).

Defining the priority groups for training. The low overall impact of İŞKUR training under review on employment could also be related to who İŞKUR is actually training and whether these jobseekers are the ones who can benefit the most from training relative to other groups of jobseekers. İŞKUR is training the most educated jobseekers. Aside from the minimum requirement to have basic education, this is mostly the result of the courses İŞKUR offers and the selection of applicants by providers. The evaluation does not show differential impacts by gender and age, but these results refer to the current profile of İŞKUR trainees (e.g., highly educated) as well as the training and services İŞKUR currently offers. Low-skilled workers account for most of the labor force and face the greatest jobs challenge. And they face barriers to productive jobs other than skills, including information. Countries with well-developed public employment services (e.g., the U.K., Germany, and Australia) serve all jobseekers that register, but the bulk of their resources (including skills training) support hard-to-employ jobseekers. İŞKUR has recently started to serveone segment of the hard-to-employ, namely those receiving social assistance benefits and able to work.

The focus of İŞKUR trainings on women and youth seems a priori appropriate from a policy perspective. Activity rates are especially low for women and youth. International evidence shows that well-designed skills training programs have a higher return for youth than others (Betcherman et al. 2007), mainly because it is easier to learn when young. Successful programs for youth in the U.K., the U.S., and several

Latin American countries (e.g., the Jovenesprogram) target disadvantaged out-of-school youth (typically 15- to 29-year-olds with less than a secondary education). And in countries with low female employment, like Colombia (Attanasio et al. 2011) and the Dominican Republic (Ibarraran 2012), well-designed programs for youth can have a large payoff for young women.

Better information on jobseekers to adjust services to needs. The new job and vocational counselors hired by İŞKUR will most certainly result in a better match of trainees to courses (a possible problem identified in this evaluation), but they do not assess the employability of jobseekers and thus their need for training (or other services) to begin with. Countries with well-developed public employment services like the U.K. and Australia do make an initial employability assessment of jobseekers, which is then used to "profile" jobseekers into different groups receiving different employment support packages, with the bulk of resources going to the hard-to-employ.

More contracting of services to the private sector while ensuring quality. The high return of İŞKUR courses offered by private providers facing more competition suggests that increasing the share of courses subcontracted to private providers and increasing competition among them would significantly increase the employment impact of İŞKUR training. However, it is also important to ensure the quality of providers and make them accountable for results. İŞKUR has already taken a number of measures to increase the quality of providers through the selection process. İŞKUR has also recently extended jobs placement requirements to providers of general training. There is still room to strengthen the contracts with private providers to improve the impact of training. And to avoid "creaming" off the easy-to-employ by private providers, and to take into account the higher cost of helping the hard-to-employ become employed, the contracting of services for them could be done separately, as is done in the U.K.

SECTION 1: THE CONTEXT: JOBS, SKILLS UPGRADING, AND İŞKUR

1. Turkey's labor market continues to be characterized by low employment rates—particularly among women and youth—and low labor productivity. Despite the remarkable upturn in employment after the crisis, still less than half of the working age population (15- to 64-year-olds) were employed as of mid-2012 and the employment rate among working age women was under 30 percent. About 35 percent of youth (15- to 24-year-olds), mostly women, are neither working nor attending school—the highest share of inactive youth among OECD countries. Job informality (defined as jobs without social security benefits) has come down significantly since it was first measured in 2005, but it still affected 42 percent of workers in 2011 (28 percent excluding the agricultural sector), contributing to Turkey's lower labor productivity compared with the OECD and other peer countries (World Bank 2013a).

2. The large "stock" of low-skilled workers is a key structural factor behind the jobs challenge in Turkey. New entrants into the labor force are quickly becoming more educated: the proportion of 25- to 34-year-olds with at least a high school education increased from 26 percent in 2000 to about 41 in 2010 (Figure 1). These remarkable changes, however, are slow to affect the stock of education in the labor force: half of the working age population (WAP) still has less than a basic education. As firms strive to stay competitive in a global market, the "skills bar" in formal non-agricultural sectors is increasing—skills are already the third most important constraint to business operations cited by Turkish firms.[7] The large supply of low-skilled workers and the decreasing demand for them are the main forces behind the poor job performance of this group, which accounts for 64 percent of the jobless and 65 percent of informal workers.

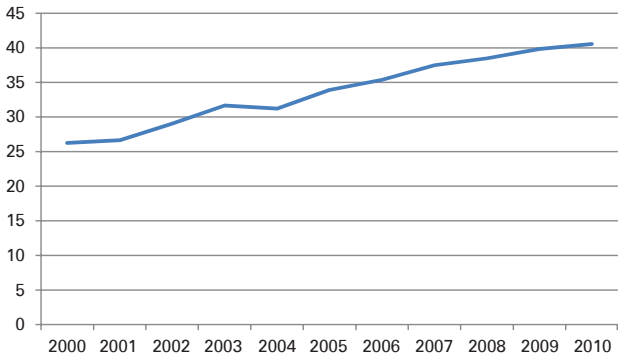
7- Business Environment and Enterprise Performance Survey (BEEPS) for 2008.

FIGURE 1

More educated entrants but large "stock" of low-skilled workers

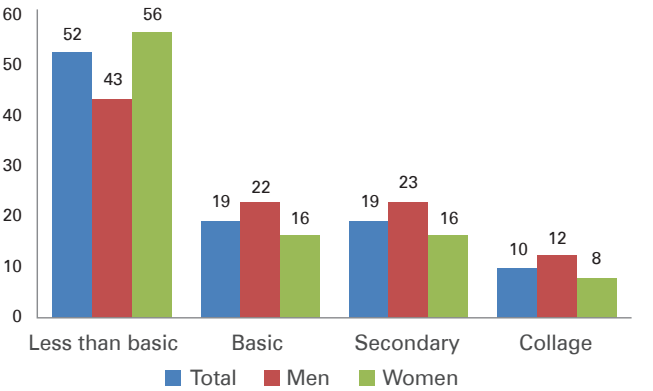
New entrants are more educated

(% of 25-34-year-olds with at least a high school education)



But there is a large "stock" of low-skilled workers

(Education levels of the WAP in 2010, by gender)



Source: TUIK (Labor Force Survey), UN (urbanization, population projections), and authors' calculations.

3. In addition, there are indications of a mismatch between the skills obtained in education by young workers and the needs of the labor market. According to a recent comparative study by McKinsey (McKinsey, 2012)[8], 56 percent of employers in Turkey say they cannot find workers with the right skills and this despite the fact that more than one third of youth are neither working nor attending school. The main reason behind this apparent paradox is the mismatch between the skills supplied by youth and those demanded by employers. According to the same study, youth in Turkey often do not go to college because they believe it has little value added. This is validated by the experience of those who actually went to college (54 percent think college education did not improve their job opportunities) and by actual data (the return to college education in Turkey is among the lowest in the OECD). Finally, the skills that employers across Turkey value the most are behavioral (e.g., work ethics, teamwork, and communication skills), not technical. This is consistent with findings for the other countries included in the study, which highlight that as countries move up the value chain higher-level cognitive skills (e.g., problem solving, communication), and behavioral skills (e.g., perseverance, self-discipline, teamwork) become increasingly more important that basic

8- The other 7 countries covered include Brazil, Germany, India, Mexico, Morocco, Saudi Arabia, the U.K, and the U.S.

cognitive (numeracy and literacy) and technical skills.

4. The government has launched significant education reforms, with significant achievements already in terms of increased coverage and student learning.[9] But the impact of these education reforms will only materialize in the long run, while the growth potential of the Turkish economy is hampered by the large segment of the current labor force that is in need of skills upgrading.

5. The Turkish Employment Agency (İŞKUR) plays a key role in upgrading the skills of jobseekers. Skills upgrading is relevant for existing workers, through on-the-job training (OJT), and for jobseekers. Despite being one of the countries where employers are more concerned about the skills of the workforce, Turkey is among the countries with the lowest incidence of OJT:only about 29 percent of firms in Turkey provide OJT to their employees (World Bank 2010). İŞKUR is the main provider of skills training for jobseekers. Vocational training is one of İŞKUR's main active labor market programs (ALMP) to help jobseekers find employment. İŞKUR is also responsible for other ALMPs (employment services, on-the-job training, entrepreneurship services, public works) as well as for passive labor market programs (unemployment insurance, short-time work schemes, employment incentives, and wage guarantees).

6. The increasing importance of İŞKUR vocational training prompted the government to commission the present evaluation. As part of the 2008 labor reform, participation in ALMPs by all registered jobseekers was fully funded by the Unemployment Insurance Fund regardless of they are eligible for unemployment insurance. The number of vocational trainees increased from 30,000 in 2008 to 464,000 in 2012, representing 19.6 percent of registered jobseekers. Aware of the importance of İŞKUR training to improve the employability of jobseekers, the leadership of the Ministry of Labor and Social Security (MoLSS) and İŞKUR partnered with the World Bank to evaluate İŞKUR training programs in order to inform the expansion and improvement of these programs. The present study evaluates general vocational training courses (see Box 1 for a description of these programs), which is the main type of training offered by İŞKUR. The evaluation does not cover recent reforms but some of its main findings are reflected in these reforms. Moreover, as a result of the joint evaluation İŞKUR's capacity to continuously monitor and improve its portfolio of ALMP has been enhanced.

9- Turkey has virtually achieved universal primary education and increased net secondary school enrollment to 67 percent, while at the same time recording an impressive half a year of school gain in PISA scores between 2003 and 2009 (World Bank 2013b).

BOX 1: İŞKUR Vocational Training Programs

İŞKUR provides two basic types of training for the unemployed: general training, which accounts for about two-thirds of courses and beneficiaries and is the subject of evaluation under this study; and job-guaranteed training. The latter involves employers approaching İŞKUR and requesting the training of a certain number of new employees in a particular field. In this case, employers are expected to offer job placements to at least half of the trainees. The evaluation focuses on general training courses, where there is no job placement requirement.

However, approximately 80% of the 2012 courses were job guaranteed courses. The active labor market services regulation was amended in 2013 to increase the rate of job guaranteed courses. In this respect, it is expected that the 2013 courses will have a similar rate.

General training courses have an average length of three months, cover a wide range of fields, and are planned through the İŞKUR provincial offices through the year. Training courses are either contracted directly to public institutions (Ministry of National Education) (about 50 percent of trainees) or are open to competition among private providers. Training participants receive a stipend of 15TL per day (20TL from 2012) to cover the indirect costs of attending training.

To be eligible to participate in the course, individuals must be at least 15 years old, have at least primary education, and meet other skill prerequisites which depend on the course they wish to participate in (for example, software courses may require some pre-existing IT knowledge or skills). Given excess demand for courses and a desire to get the unemployed into jobs, individuals are only allowed to take one İŞKUR-supported course in a 24-month period. Courses are advertised and potential trainees apply to them. Applications are then screened to ensure applicants meet the eligibility criteria. If there are more eligible applicants than training seats (i.e., if there is excess demand, as is the case with most İŞKUR courses), the training provider interviews candidates and choosesthose best suited for the course.

SECTION 2: THE EVALUATION OF İŞKUR TRAINING PROGRAMS: DESIGN, DATA, AND METHODS

Design

1. The study makes use of an experimental design to evaluate the main type of İŞKUR's vocational training courses at a particular point in time. The study evaluates the impact of general vocational training courses using an experimental design that exploits the excess demand for most İŞKUR vocational training courses. The evaluation focuses on courses that were oversubscribed, started between Octoberand December of 2010, and were completed by June 2011. The evaluation was designed to answer the following main questions:

- What is the average impact of training on employment?
- Which trainees benefit the most from training?
- What are the channels through which training affects employment?
- What types of training have a higher impact on employment?

2. Evaluation provinces. The goal was to ensure a broad geographic distribution and range of labor market conditions. The selection of provinces began with a list of the 39 provinces that had at least two significantly oversubscribed training courses in 2009. These provinces were first stratified by whether their unemployment rate was above or below the median of 10 percent in 2009. Ten provinces were then randomly selected from each strata with a probability proportional to the percentage of individuals trained in 2009. Three additional provinces (Antalya, Gaziantep, and Diyarbakir) were included in the sample at the request of İŞKUR because of their importance in representing varying labor market conditions across Turkey. As a result, 23 provinces were selected for inclusion in the evaluation (Figure 2).

FIGURE 2

Geographic distribution of provinces

Note: The names of evaluation provinces are indicated in the orange rectangles.

3. Evaluation courses. The target sample size of individuals needed to estimate the impact of training was calculated as 5,700. This target was divided amongst the 23 provinces in proportion to the number of trainees in these provinces in the previous year. Thus Istanbul accounts for 21.8 percent of the sample; Kocaeli, Ankara, and Hatay provinces collectively account for another 28 percent; and the remaining half of the sample is split among the other 19 provinces. The key criteria used to decide which courses to include in the evaluation were: (i) the likelihood of the course being oversubscribed (which ensures that the most popular types of training, for which there would be demand for further scale-up, are included); (ii) inclusion of a diversity of types of training providers to enable comparison of private and public course provision; and (iii) course starting and ending dates, i.e., courses that started between October and December 2010 and finished by June 2011, as this tends to be a time of year when jobseekers are more likely to seek training through İŞKUR.

4. This resulted in a set of 130 evaluation courses spread throughout Turkey, of which 39 were offered by private providers and the rest were government-operated. The single most common course was computerized accounting, for which 24 percent of trainees applied. Twenty-one percent of trainees were in service courses (babysitter, cashier, waiter, caring for the elderly); 15.4 percent were craftsman or machine operators (welder, natural gas fitter, plumber, mechanic); 14.7 percent were in technical courses (computer technician, computer-aided design, electrical engineering); and 12.2 percent were in professional courses (web designer, computer programmer, IT support specialist). The average course size was 28 trainees, and the average course length was three months (typically around six hours per day), both with significant variation.

5. Evaluation participants. Courses were advertised and potential trainees applied to them following standard procedures. Applications were screened to ensure applicantsmet the eligibility criteria of İŞKUR and the course provider. Training providers were then asked to select a list of potential trainees that was at least 2.2 times the course capacity. Typically this involved short interviews with eligible applicants. These individuals' application details were then submitted into İŞKUR's Management Information System (MIS). The MIS stratified applicants for each course by gender and age (i.e., whether or not they were less than 25 years old). Within these strata, trainees were randomly allocated by the MIS into three groups: a treatment group that was selected for training, a control group that was not, and a waitlisted group that the training provider could select into the training if there were dropouts. The final evaluation sample consisted of 5,902 applicants, of which 3,001 were randomly assigned to training (treatment group) and 2,901 were not (control group).

6. Compliance with treatment. Not all those accepted into the course (treatment group) took up the training (23 percent). Of those who did, most completed the course (72 percent) and received a certification (69 percent). About 3 percent of the control group actually received a certification in an İŞKUR course that was not included in the sample of evaluation courses during the period that evaluation courses took place. Since partial training is unlikely to be of interest to employers, we consider those who received a certification to have received treatment.

Data

7. The MIS contained basic information about the course and the gender, age, and education level of applicants. The

main data for the evaluation came from surveys administered to the evaluation participants between September 2010 and January 2011 (baseline survey) and approximately one year later (follow-up survey). Data were also collected from a survey of training providers participating in the evaluation.

8. The baseline and follow-up surveys were conducted through in-person interviews by a third-party professional survey firm. The baseline survey took place on a rolling basis between September 13, 2010, and January 31, 2011.[10] The goal was to conduct the surveys before courses began, but given the short window of time between selection of applicants and the start of the course, in practice only one-third of those surveyed were interviewed before the start of the course, while 46 percent of those surveyed were interviewed within 11 days of the start of the course. The overall baseline response rate was 90 percent.

9. The follow-up survey took place between December 27, 2011, and March 5, 2012, which corresponds to a period approximately one year after the end of training. It collected data on employment outcomes, as well as individual and household well-being. The response rate was 94 percent, including 472 individuals who were not interviewed at baseline. In total, 5,057 individuals were interviewed at both baseline and follow-up. We found very small differences between the non-response rates (to the baseline and follow-up surveys) of the treatment and control groups.

10. The randomization of evaluation participants into treatment and control groups was successful, which validates the impact evaluation strategy. The evaluation strategy (see below for more details) involves the comparison of employment outcomes between the treatment and control groups and the attributing of any difference to İŞKUR training, and İŞKUR training only. This strategy relies on the assumption that the treatment and control groups were statistically equivalent (i.e., they had similar average demographic characteristics). The summary statistics for the baseline and follow-up surveys show that the differences in terms of demographic characteristics between the treatment and control groups interviewed at both baseline and follow-up were small and not statistically significant (see Table A1 in Annex 3).

10- Applicants were told that the purpose of the survey was to help improve the services offered by İŞKUR, and that their participation in the survey had no impact on being accepted into any training course, nor would their individual data be shared with anybody.

Methods

11. Estimating the average impacts of vocational training. The average impact of vocational training on employment is estimated using two alternative methods. The first measure, the intent-to-treat effect (ITT), compares the average outcomes of individuals assigned to training (treatment) and those not assigned to training (control) regardless of whether people in the treatment group actually completed the training. This comparison also controls for the fact that the randomized assignment of individuals to treatment and control groups was done within groups of individuals applying to the same course and belonging to the same gender and age group (called randomization strata). It is important to note that in both cases, the estimated impact refers to the people that apply to and are eligible for İŞKUR training, not to the larger population of jobseekers. As such, the study evaluates the impact of İŞKUR training as it is actually designed and implemented.

12. The other relevant measure, called the local average treatment effect (LATE), compares the average outcomes of people who completed training to those who did not. However, to avoid the bias arising from the fact that people who are more likely to complete the training are also more likely to do well in the labor market, training completion is instrumented in the estimation by training assignment (see Annex 1 for details). As such, this measure tries to capture the impact of completing training for an individual who takes up training when he is assigned to training. It assumes, however, that training has no impact on employment for those who do not complete the course, which may not always hold. This estimation methodology is subject to the same controls as the other one. Both ITT and LATE average impact results are reported below, although other results are based on ITT given the assumptions underlying LATE.

13. Outcomes of interest. The study focuses on the impact of vocational training on employment through a range of measures, including whether individuals are employed at all, as well as how much they are working, how much they earn from this work, the quality and formality of this employment, and the composite index of all these measures (the aggregate employment index). The study also looks at the impact of vocational training on measures of individual and household well-being. Annex 2 explains how the key variables were constructed.

14. Investigating differences in impacts among different groups of individuals. The study also looks at how impacts

vary across individuals with different characteristics to answer the question: Who benefits the most from training? The variation in impacts is estimated by interacting the relevant treatment variables (assigned training and completed training) with different individual and course characteristics (see Annex 1 for details).

15. Understanding how training affects employment outcomes. To understand how training could be more effective, the study looks at four intermediate steps in a causal chain through which we might expect to see selection into a course influencing employment outcomes:

(1) *Individuals selected for courses must show up and complete training.* This hypothesis is tested by interacting treatment with the percent of individuals assigned to a course who attended the course or who completed it.

(2) *Higher quality courses should have more impact.* The basic question is: What types of training work best? This is investigated by interacting treatment with course characteristics potentially related to quality, including course length, trainer's education and experience, whether the course provider is public or private, and the degree of competition faced by course providers.

(3) *Skill acquisition, signaling, or job matching.* A third step in the causal chain is for individuals who take courses of sufficient quality to use what they have learned in the course to find jobs. There are three main channels through which vocational education may help in this respect. First, it might increase human capital by teaching new technical skills. Second, it may act to certify skills that individuals already have and act as a signaling mechanism to employers. Third, it may teach individuals new strategies for finding jobs in a certain profession, or better alert them to job opportunities, thereby improving job matching. To examine the extent to which courses are playing each of these roles, and which treatment effects vary with them, the follow-up survey asked course participants whether they thought the course had done each of these three things. The percentage of course participants who thought that the course taught new technical skills, certified existing skills, taught new strategies for finding jobs, or made them more aware of job opportunities was then interacted with treatment.

(4) *Training impacts and unemployment rates.* The final step in the causal chain is for individuals who receive training to obtain jobs that they would not otherwise get. This depends on the labor market they face. When unemployment rates are low, there should be more job opportunities available, making it easier for people to use their training to find jobs. But it is also possible that firms facing labor shortages might hire workers regardless of whether or not they have been trained. When unemployment rates are high, if employers are not hiring, then having new skills may not help the unemployed find jobs. But it is also possible that employers become choosier and so training may offer workers a way to distinguish themselves from other workers competing for the same jobs. As a result, it is theoretically ambiguous whether we should expect training to have more or less impact in situations of higher or lower unemployment. This hypothesis is investigated by interacting treatment with an indicator for whether the province where the course was conducted had an unemployment rate above the median unemployment rate for the 23 provinces under the study.

SECTION 3: THE EVALUATION OF İŞKUR TRAINING PROGRAMS: RESULTS

Profile of İŞKUR trainees under the study in the sample before courses started

1. This section makes use of the data from the baseline survey to look at: (i) the characteristics of evaluation participants (İŞKUR trainees) and how they compare with those of jobseekers in urban areas;[11] (ii) the job search behavior of İŞKUR trainees; and (iii) trainees' assessment of and expectations about İŞKUR services (including training) before the start of the courses. The main goals of this analysis are to: (i) determine who receives İŞKUR training among the larger population of comparable jobseekers, which can also help to better understand the impact of training on employment; and (ii) analyze the extent and nature of the demand for İŞKUR vocational training.

2. Most İŞKUR trainees are women and youth. About 63 percent of İŞKUR trainees are women. Twelve out of the 130 courses in the evaluation only have female trainees (babysitting, weaving, hair care, and sewing machine operator) and 17 courses have no female trainees (applied basic electronics, welder, plumber, furniture manufacture, natural gas fitter, and forklift operator). Women also comprise the majority of trainees in a wide range of other courses, including computerized accounting, computer operator, foreign trade and customs professional, computer-aided design, computer network design, salesperson, and web designer. The average age among İŞKUR trainees is 27 years, and 60 percent are between 20 and 29 years of age. Male trainees tend to be somewhat younger than female trainees (26 years old versus 28). Partly as a result of their youth, only 12 percent of trainees are household heads and 34 percent are married.

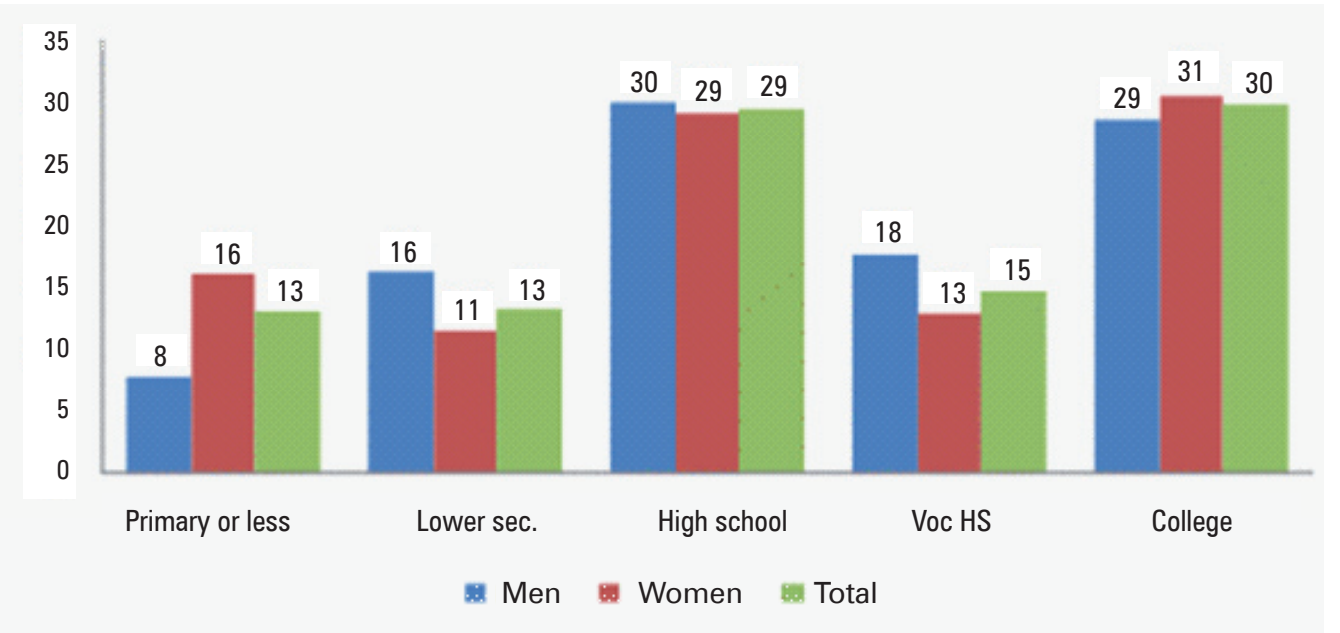
3. Most trainees have completed high school. About 76 percent of men and 73 percent of women trainees have completed at least secondary education, and 30 percent of men and women trainees have completed at least two years of tertiary education (Figure 3). This

11- The comparison is with jobseekers in urban areas because İŞKUR training courses are restricted to urban residents. Data on urban jobseekers are from the Labor Force Survey.

high educational attainment is partly due to the age profile of İŞKUR trainees, but older cohorts are also well educated (65 percent of men and 59 percent of women 34 years or older have at least a high school education). Most trainees have some degree of specialization or technical background. The most common technical backgrounds are computer technologies/programming and accounting. About one-third of trainees have a background in the field of training they apply to, while others have general degrees (e.g., business) and are interested in İŞKUR training to acquire some specialization. Interestingly, 20 percent of men and 29 percent of women trainees have already taken vocational training in the past five years, mostly from İŞKUR (47 percent), and in areas closely related to the training to which they applied at baseline.[12]

FIGURE 3

High educational attainment among İŞKUR trainees
(Distribution of trainees by highest level of education completed, in percentages)



Source: Baseline survey of evaluation participants.

12- Because İŞKUR trainees cannot enroll in trainings if they have taken a course in the last two years, most of the trainings tend to have been completed more than two years ago, between 2008 and 2010.

4. İŞKUR trainees have limited prior experience. About 37 percent of trainees have never worked before. Among those with prior work experience, 20 percent worked for less than one year (average experience is five years). Men are significantly more likely to have worked before than women (71 percent versus 53 percent). The limited work experience of trainees is partly explained by the age and gender composition of trainees. More than 90 percent of people with prior experience worked as private sector employees and about 58 percent had social security coverage. Trainees worked on average 54 hours per week and received an average of TL 677 per month.

5. İŞKUR trainees are significantly younger, have less work experience, and are more educated than jobseekers in urban areas.[13] Women are overrepresented among İŞKUR trainees compared to the unemployed but not relative to the jobless (defined as neither working nor going to school) (Table 1). İŞKUR trainees are significantly younger and have less work experience than the average unemployed or jobless individual. Interestingly, İŞKUR trainees are less likely to be looking for a job than the average unemployed in urban areas, and the incidence of job informality among İŞKUR trainees (for their most recent job) is higher than that for the average wage employee (42 percent versus 24 percent). The most striking difference is that İŞKUR trainees are significantly more educated than the average unemployed, jobless, or even employed individual in urban areas. And this is not only due to the younger profile of İŞKUR trainees, as the difference remains even after limiting the urban sample to 20- to 29-year-olds.

13- The comparison with jobseekers is restricted to urban areas to make it comparable to İŞKUR trainees.

TABLE 1

Profile of İŞKUR trainees relative to the unemployed and the jobless in urban areas *(Percentages)*

	İŞKUR trainees			Unemployed (urban)			Jobless (urban)		
	All	Men	Women	All	Men	Women	All	Men	Women
Female	63			30			72		
Married	34	23	41	49	54	38	75	72	76
Aged 15-24	45	50	42	31	28	38	15	16	15
High school or more	74	76	73	42	34	59	24	31	21
High school or more (20-29)	86	86	86	60	51	75	37	53	33
Worked before	61	71	56	90	93	81	55	94	40
Looking for a job in last 4 weeks	49	58	43	89	90	88	14	35	6

Note: Jobless is defined as not working and not going to school.

Source: Data for the unemployed and jobless are from the 2010 Labor Force Survey (urban sample). Data for İŞKUR trainees are from the baseline survey.

6. The significant difference in educational attainment between İŞKUR trainees and the average jobseeker in urban areas could be explained by a numberof factors: (i) İŞKUR trainees must have at least primary education and meet other skill prerequisites depending on the course; (ii) many courses are designed for people with medium levels of education; (iii) in the case of excess demand for courses, training providers tend to prefer individuals with higher levels of education;[14] and (iv) more educated jobseekers are more likely to apply for İŞKUR training.[15]

7. Only half of İŞKUR trainees were actively searching for a job at baseline. Over the last four weeks prior to the face-to-face survey, only about half of İŞKUR trainees not currently working or going to school were actively searching for a job. The share of applicants actively searching increases significantly with

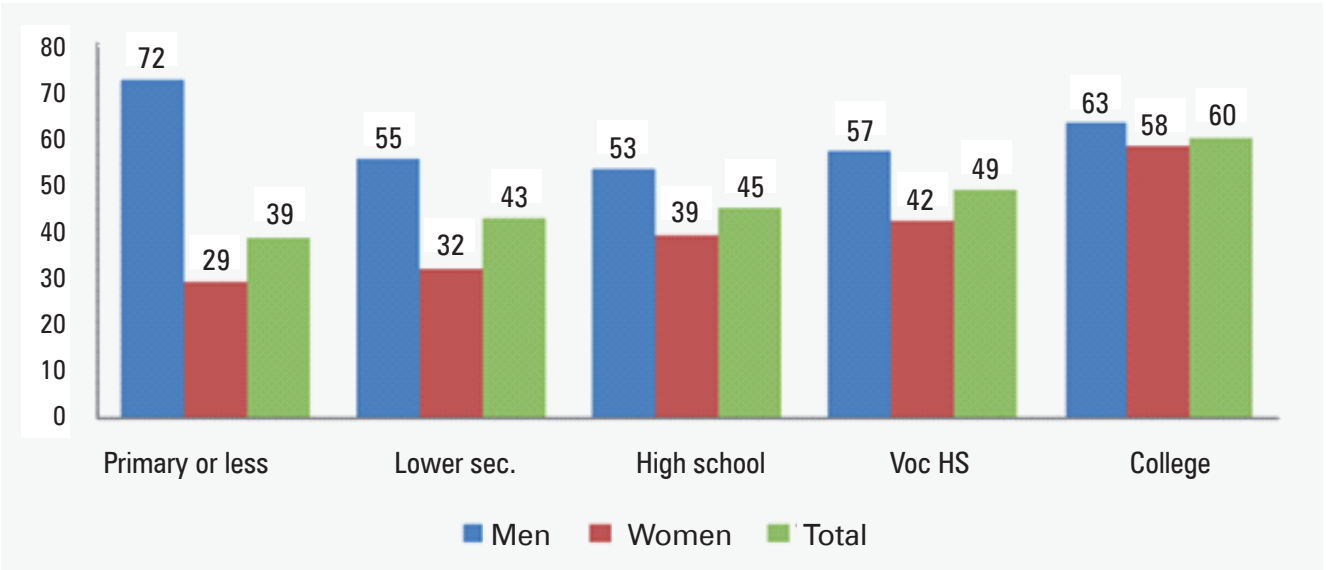
14- Among other things, more educated individuals are perceived to be more likely to complete training, which is what determines payment to providers. Until 2008, payment to providers was tied to job placement targets and more educated people are perceived to do better in the labor market regardless of the effectiveness of training.

15- This could be because the courses are more attractive, they are more informed about them, or they expect to get a higher return from them (although as shown later, we find little evidence of the latter).

the level of education (Figure 4). This share also varies significantly across provinces: Bayburt and Muş have the lowest rates of job search (2 percent and 11 percent, respectively), while Düzce, Tekirdağ, and İzmir have ratesabove 70 percent. Men are significantly more likely to be looking for a job than women (61 percent versus 42 percent), a difference that remains after controlling for differences in education level, which may reflect in part the greater time constraint that women face as a result of their household responsibilities.

FIGURE 4

Limited job search among İŞKUR trainees
(% actively looking for a job in the last fourweeks, by gender and level of education)



Source: Baseline survey of evaluation participants.

8. Trainees that do search devote significant time to it and look for high-paying, full-time wage employment. Although women are less likely to search for jobs than men, those who do tend to devote more time to it than men (15 hours per week versus 10 hours per week). Most jobseekers are looking for full-time wage jobs (80 percent). The reservation wage of İŞKUR trainees is high: only 38 percent would accept a monthly wage of TL 1000 (the average

monthly wage in Turkey in 2010), with no significant difference by level of education. About 40 percent would not accept a job without social security (20 percent among those with less than high school education) and, among those who would, their reservation wage would be TL 1800 per month (with no significant differences across levels of education). A number of factors may explain the high aspirations of İŞKUR trainees, including their high educational attainment, family background (they come from families with significantly higher per capita household income than the average unemployed in urban areas), and work experience (only half of jobseekers come from a previous work relationship).

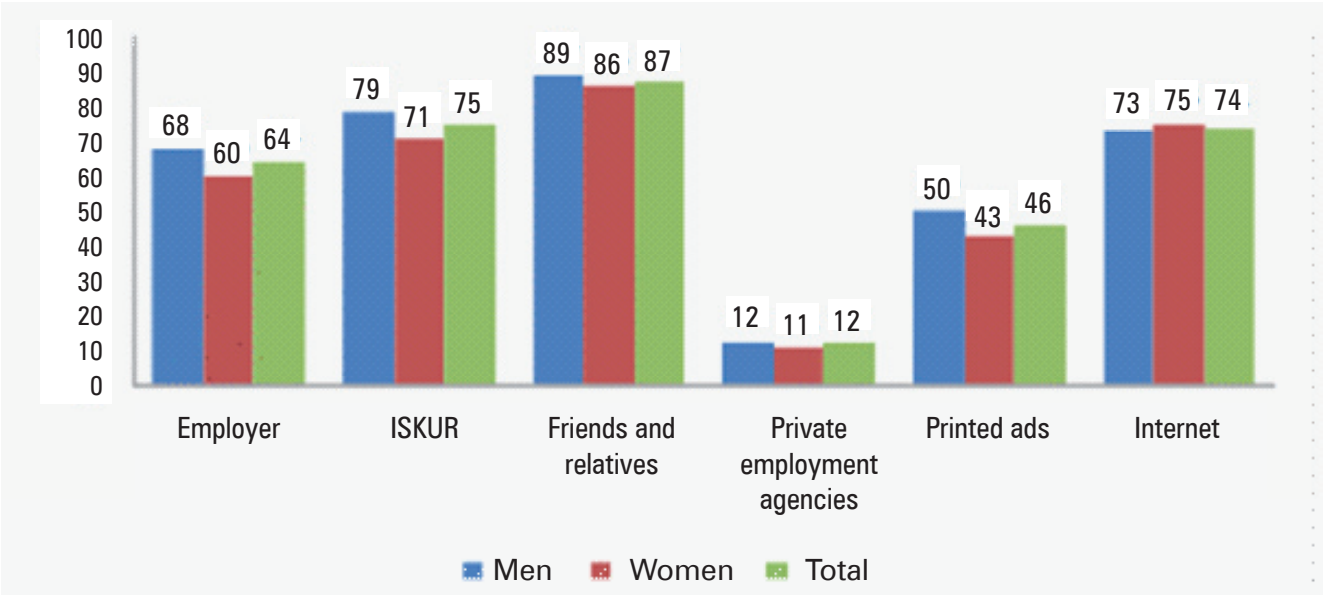
9. Most jobseekers use and value İŞKUR services to help them find a job. Although the most common channel for job search is family and friends, the second most popular channel is İŞKUR, which is used by most jobseekers (74 percent), followed by direct contact with employers (Figure 5).[16] Only 12 percent have used private employment agencies, reflecting in part their limited availability. The internet is also frequently used and, to a smaller extent, newspaper advertisements. İŞKUR tends to be less frequently used by women than men. Jobseekers with a primary education or less tend to rely most heavily on İŞKUR services, while college graduates use it the least. There are differences in the use of İŞKUR services across provinces, which may reflect in part the availability of İŞKUR services.[17] Most jobseekers believe that applying directly to employers is the best channel to find a wage job, with İŞKUR ranking immediately after: 28 percent of jobseekers view İŞKUR as the best channel to search for a wage job.

16- Note that multiple channels can be used.

17- In Düzce, Gaziantep, Hatay, and Tekirdağ, more than 92 percent of jobseekers use İŞKUR, while in Muş, Eskişehir, and Elazığ, the percentage is between 30 percent and 40 percent.

FIGURE 5

İŞKUR services are used by most jobseekers
(% use of different job search tools, by gender)



Source: Baseline survey of evaluation participants.

10. İŞKUR trainees attach a great exante labor market value to İŞKUR training, even relative to other trainings. About 80 percent of trainees believe İŞKUR training will help them do better in the labor market. The expected impacts after one year are large: relative to no training, trainees expect İŞKUR training to increase their probability of finding a job by 32 percentage points on average (Table 2) and to increase wages by 39 percent. The expected impacts are larger for women than for men, but there are no systematic differences by age. Interestingly, trainees with less than secondary education completed, whomake up the minority of İŞKUR trainees, have higher expectations than trainees with higher education levels. And the expected impact of İŞKUR training is significantly higher than that for other types of vocational training.[18]

18- There is variation across provinces (trainees in Ankara, Antalya, and Isparta have the highest expected impacts) and courses (trainees in waiter, cook, nurse, and hairdressing courses have the highest expected impacts).

TABLE 2

Large expected impact of İŞKUR training on the labor market
(Probability of finding a job after one year under different scenarios, in percentage points)

	All			Women			Men		
	No training	Training	İŞKUR training	No training	Training	İŞKUR training	No training	Training	İŞKUR training
Less than HS	27	41	62	24	38	59	35	48	68
High school	31	45	64	29	44	63	33	46	64
Voc. HS	33	46	65	30	44	65	37	48	65
College	35	48	64	35	48	65	36	48	62

Source: Baseline survey of evaluation participants.

11. The high expected value of İŞKUR training is explained by the high perceived quality of training and the value perceived to be attached by employers to İŞKUR certificates. About 94 percent of trainees think İŞKUR training improves job-readiness skills and the knowledge of the profession (Figure 6). Almost all trainees are confident about the quality of İŞKUR training, particularly if provided by public institutions (50 percent are very confident about their quality). The quality of İŞKUR training is also perceived to be higher than that of other training, particularly other privately provided training. In addition to quality, 92 percent of trainees also find training useful because they think employers do value the İŞKUR certificate. Despite the genuine value attached to İŞKUR training, one-third of trainees admit that a main reason for taking the training is the stipend provided to trainees (this proportion decreases with the level of education of the trainee). And the free nature of İŞKUR training also matters: two-thirds of trainees would not pay for other training if they did not get an İŞKUR training spot, the main reason being the lack of savings/cash and limited access to credit.

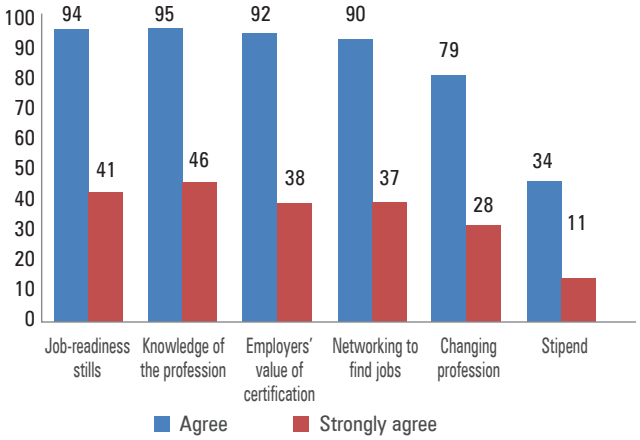
Impacts of İŞKUR vocational training under review

12. The overall impact of İŞKUR training (considered under this study) on employment is negligible, training does have a small but significant impact on the quality of employment. Using the methods described in Section 2

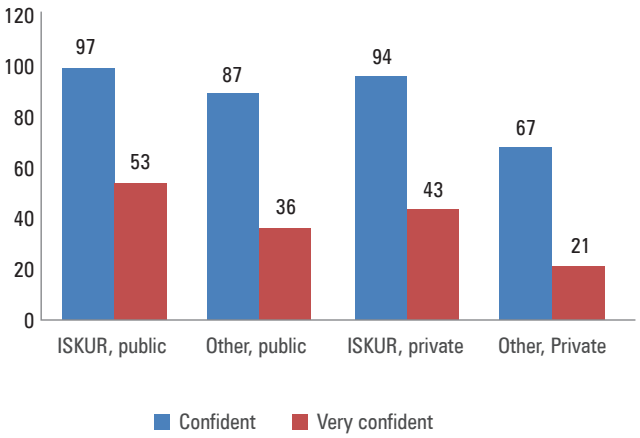
FIGURE 6

Trainees attach genuine value to İŞKUR training

Trainees attach genuine value to İŞKUR training
(% agreeing İŞKUR training is useful for different things)



And perceive its quality to be higher than that of other options
(% confident the quality of training will be good)



Source: Baseline survey of evaluation participants.

and measurements of employment outcomes taken approximately one year after the trainings (follow-up survey data), İŞKUR training courses considered under this study arefound to have no significant impact on the likelihood of working, the number of hours worked per week, or the monthly income received (Table 3). However, courses are found to have a small but significant impact on the quality of employment. In particularly, being assigned to İŞKUR training increases the probability of working in the formal sector by 2 percentage points, with the LATE impact being 3 percentage points. Given that 29 percent of the control group is formally employed at follow-up, this LATE estimate is equivalent to a 10 percent increase in formal sector employment. And training increases income from formal employment (by up to 13 percent)and as occupational quality.[19] The overall impact on employment, as measured by the aggregate employment index (see Annex 2), is small but statistically significant.

19- This is a continuous measure ranging from 16 (e.g., domestic helpers) to 90 (e.g., judges), and is coded as zero for individuals not working (see Annex 2 for details).

TABLE 3

İŞKUR's trainings have negligible overall impacts on employment and small impacts on job quality

	Working at all	Employed 20 hours+	Weekly Hours	Monthly Income	Transformed Monthly Income	Occupational Status	Formal Work	Formal Income	Aggregate Employment Index
ITT Estimate	0.020	0.012	0.860	17.316	0.121	0.962*	0.020*	22.166*	0.039*
	(0.013)	(0.013)	(0.680)	(12.271)	(0.093)	(0.573)	(0.012)	(11.965)	(0.023)
LATE Estimate	0.029	0.019	1.294	25.989	0.182	1.452*	0.030*	33.243*	0.059*
	(0.018)	(0.018)	(0.980)	(17.624)	(0.134)	(0.828)	(0.017)	(17.184)	(0.033)
Control Group Mean	0.420	0.361	17.922	299.109	2.541	17.128	0.293	257.887	0.001
Control Group Standard Deviation	0.494	0.480	25.545	464.600	3.516	21.763	0.455	448.160	0.871
Sample Size	5497	5529	5439	5396	5396	5418	5508	5464	5497

Notes: Robust standard errors in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.See Annex 1 for details on the estimation methodology and Annex 2 for variable definitions.

13. The impacts of training under review on employment appear larger for men over 25 years of age, but the differences by age and gender are not significant, nor are the differences by level of education (Table 4). The study randomly assigned individuals to treatment and control groups within each course and within groups of people defined by age (under and above 25 years of age) and gender, which allows a comparison of the impacts across these groups. The consequence of using smaller groups (as opposed to the full sample), however, is that the estimates of the impacts become less precise. There are no significant differences in the impact of training between those with at least a high school education completed and those with less than a high school education, although those with previous work experience or previous training seems to benefit more from İŞKUR training (see Table A2 in Annex 3).

14. The actual impacts of İŞKUR training under review differ significantly from the expectations formed before the

trainings. On average, individuals were reasonably close in terms of their expectations of what employment levels would be like in the absence of training: the mean response was for a 31 percent chance of being employed; in practice, 36 percent of the control group is employed (Table 5). However, as shown earlier (Table 2), individuals substantially overestimate the benefits from training: the LATE estimate is for a 2 percentage point increase in employment as a result of training, whereas the mean expected increase among those assigned to the treatment group is for a 32 percentage point increase.[20] This overestimation occurs for all gender and age groups. Three factors may help to explain this mismatch between expectations and reality: (i) the natural tendency to overestimate future benefits and underestimate future costs of action taken today, particularly among youth; (ii) the different context in which expectations were formed relative to one year after the trainings; and (iii) the average trainee does not know much about trainings offered by İŞKUR.

15. The small impacts of İŞKUR training under review on employment are in line with the impacts of similar programs around the world. A review of the evidence from the U.S. (Heckman et al. 1999) and Europe (Kluve 2010) shows that vocational training programs have at most modest positive impacts on adult earnings, with little impacts for youth. In developing countries, a review of non-experimental studies by Betcherman et al. (2004) also found mixed results of training the unemployed. The few randomized evaluations of vocational training programs in developing countries have focused on programs for youth. Results in the Dominican Republic (Card et al. 2011) showing no impact on employment and modest increases in incomeare consistent with the earlier literature. Somewhat more encouraging results are found in Colombia, particularly among young women (Attanasio et al. 2011).[21] These results are, of course, context- and program-specific. And in some cases, they do provide clues as to what makes these programs more cost-effective (more on this later). But they do suggest that while these programs can be beneficial for (at least some) jobseekers, they are not apanacea to reduce large-scale unemployment.

20- In contrast with Table 2, Table 4 reports expectations for the treatment group only to offset any concerns that individuals in the control group who had found out they were not selected for training by the time of the interview might understate their expectations of the value of training. In practice, however, the control and treatment group have very similar expectations.

21- Among young women, training increased the likelihood of employment by 7 percent and earnings by 20 percent. Training had no impact on those outcomes among young men.

TABLE 4

No significant variation in the impact of İŞKUR trainings on employment by gender and age

	Working at all	Employed 20 hours+	Weekly Hours	Monthly Income	Transformed Monthly Income	Occupational Status	Formal Work	Formal Income	Aggregate Employment Index
ITT for males under 25	-0.021	-0.034	-0.952	-12.112	-0.241	-0.495	0.003	20.734	-0.029
	(0.030)	(0.030)	(1.626)	(31.384)	(0.223)	(1.299)	(0.028)	(30.160)	(0.052)
ITT for males over 25	0.069**	0.047	2.917*	35.304	0.383	2.997**	0.047	32.019	0.112*
	(0.029)	(0.031)	(1.772)	(37.501)	(0.244)	(1.332)	(0.032)	(36.733)	(0.058)
ITT for females under 25	0.011	0.016	0.952	14.938	0.140	0.567	0.017	15.571	0.046
	(0.025)	(0.025)	(1.355)	(20.999)	(0.181)	(1.161)	(0.024)	(20.519)	(0.045)
ITT for females over 25	0.023	0.018	0.761	26.052	0.174	1.034	0.019	23.058	0.034
	(0.020)	(0.019)	(1.001)	(17.321)	(0.141)	(0.917)	(0.018)	(16.788)	(0.035)
p-value for testing equality:	0.188	0.276	0.457	0.712	0.268	0.294	0.768	0.982	0.340
Control Mean: young men	0.489	0.407	20.1	347	2.90	19.2	0.307	275	0.070
Control Mean: older men	0.621	0.548	27.3	518	3.94	24.3	0.466	458	0.381
Control Mean: young women	0.403	0.356	18.1	269	2.50	17.3	0.295	238	-0.015
Control Mean: older women	0.295	0.247	12.0	187	1.69	12.4	0.196	161	-0.215
Sample size	5497	5529	5439	5396	5396	5418	5508	5464	5497

Notes: Robust standard errors in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. Test of equality tests the null hypothesis of equality of treatment impact across the four age and gender groups. See Annex 1 for details on the estimation methodology and Annex 2 for variable definitions.

TABLE 5

Big mismatch between expectations and realities

	Employment Levels(%)		Treatment Impact (Prop.)	
	Expected percent chance of being employed if not trained (Std. dev)	Actual Control Employment Levels	Individual Expected Impact Mean (Std. dev)	Actual Impact LATE Estimate (std. error)
Full Sample	31.3	36.1	0.324	0.019
	(24.1)		(0.275)	(0.018)
Males under 25	35.4	40.7	0.297	-0.044
	(24.6)		(0.278)	(0.047)
Males 25 and over	33.5	54.8	0.302	0.081
	(26.1)		(0.280)	(0.054)
Females under 25	31.5	35.6	0.329	0.021
	(22.5)		(0.266)	(0.033)
Females 25 and over	27.7	24.7	0.346	0.022
	(23.5)		(0.277)	(0.027)

Notes: Individual expectations are those of the treatment group at baseline. Actual control employment level and the LATE estimate for employment impact are for the outcome of working 20 hours or more per week.

16. The impacts of İŞKUR training under review on other measures of individual and household well-being are equally modest. One year after the training is completed may not be enough for the full impact of the training on employment to manifest itself. And the benefits of training can extend beyond employment, particularly among youth (e.g., through reduced crime or conflict) (Heckman et al. 1999). To this end, the study collected information from evaluation participants on future jobs prospects as well as other measures of individual and household well-being. Indeed, more people expect to be employed in two years (54 percent) than now (42 percent), but there is no difference between those who were assigned to training and those who were not (Table 6). Training does not have an impact on trainees' mental health, but it makes trainees assess their well-being somewhat higher. In terms of household well-being, training does not have an impact on current household income, but it seems to increase long-term household welfare, as measured by a durable asset index. Finally, there is no evidence that training empowers individuals in the household or influences their gender attitudes (see Table A3 in Annex 3).

TABLE 6

Modest impacts of training on other measures of individual and household well-being

	Individual outcomes				Household Outcomes	
	Expected Prob. Of Working in 2 years	MHI-5 Mental Health (higher better)	Current Subjective Well- Being	Subjective Well- Being in 5 years	Household Income in last year	Durable Asset Index
ITT Estimate	0.923	-0.060	0.066*	0.061	485.524	0.106**
	(0.915)	(0.092)	(0.040)	(0.053)	(392.553)	(0.044)
Control Group Mean	54.1	18.508	4.436	5.822	21711	-0.082
Control Group Std. Dev.	33.4	3.410	1.514	1.980	14674	1.736
Sample Size	4878	5437	5508	5289	5396	5495

Notes: Robust standard errors in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. See Annex 1 for details on the estimation methodology and Annex 2 for variable definitions.

Why does the training under review have a limited impact on employment and what types of training work better?

17. This section examines the reasons behind the limited impact of training under review on employment and identifies the types of training that work better. The study investigates four channels through which training is expected to affect employment (see Section 2): (i) course attendance and completion; (ii) the quality of training; (iii) the value-added of training; and (iv) the labor market context.

18. Course attendance and completion rates are not good indicators of how trainees value courses. As noted earlier, 77 percent of those selected for treatment attended the course beyond the second day, and 72 percent completed it. The impact estimates in Table 1 already adjust for attendance. The impact of training does not vary significantly with the percentage of trainees that attend the course and complete it (Table 6). This result suggests that course attendance and completion rates are not good indicators of the extent to which individuals taking the course value it in practice.

19. The quality of training: privately provided and competitive courses have a large impact on employment. The median course length is 320 hours, which does suggest enough hours to enable learning to take place. Surprisingly, longer courses have less impact on employment than shorter courses (the difference is small, however; see Table 7). One possible explanation is that individuals reduce job search whilst taking part in training, so individuals in longer training courses have had less time to look for jobs. Having more experienced or educated trainers does not seem to matter, which may just indicate that teacher education and experience explain little of the actual variation in teacher effectiveness (Hanushek and Rivkin 2006).

20. Both private provision and competition yield higher impacts. Previous non-experimental literature in developed countries has found some evidence to suggest that the impacts of training are higher for training offered by private providers (Jespersen et al. 2008). Possible reasons are that private training providers are more responsive to private sector employer demand and/or they potentially face more competition and thus must increase quality in response. Table 8 shows that İŞKUR courses offered by private providers as well as courses offered by providers that face competition (having two or more competitors) do yield higher impacts on employment.

TABLE 7

Course characteristics associated with better impacts

	Sample Size	Control Mean (Std. Dev.) of Interact. Var.	Differential Impact on: Employed 20+ hours	Differential Impact on: Aggregate Employment Index
Treatment Interaction with:				
Proportion assigned to course who attended it	5497	0.765	0.114	0.173
		(0.140)	(0.092)	(0.172)
Proportion assigned to course who completed it	5497	0.723	0.055	0.118
		(0.164)	(0.083)	(0.155)
Proxies for course quality				
Course length above 320 hours	5494	0.423	-0.042*	-0.082*
		(0.494)	(0.024)	(0.044)
Average teacher experience greater than 12 months	4833	0.418	0.009	0.019
		(0.493)	(0.026)	(0.048)
Percent of course teachers with tertiary education	4833	65.0	-0.000	-0.000
		(43.2)	(0.000)	(0.001)
Course has two or more competitors	4833	0.674	0.040	0.083*
		(0.468)	(0.025)	(0.048)
Course offered by private provider	5494	0.348	0.044*	0.117*** (a)
		(0.477)	(0.023)	(0.043)
Measures of what trainees thought course did				
Proportion who thought course taught new technical skills	5497	0.796	-0.087	-0.209
		(0.127)	(0.093)	(0.185)
Proportion who thought course certified skills they had already	5497	0.842	-0.012	-0.096
		(0.103)	(0.108)	(0.213)
Proportion who thought course taught new job finding strategies	5497	0.604	-0.025	-0.067
		(0.147)	(0.090)	(0.166)
Proportion who thought course made them aware of new jobs	5497	0.449	-0.052	-0.153
		(0.183)	(0.072)	(0.140)
Measure of labor market demand				
Provincial unemployment rate is above median	5497	0.463	0.013	0.033
		(0.499)	(0.023)	(0.044)

Notes: Robust standard errors in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. See Annex 1 for details on the estimation methodology and Annex 2 for variable definitions. The competition variable is based on the question to providers about the number of competitors they face: (i) zero;(ii) one;(iii) two to five;(iv) six to nine;or (v) 10 or more competitors.

21. But it is really the combination of private provision and competition that brings the highest payoff? Table 8 explores further the interaction between competition and private provision. There is a large and highly significant positive treatment effect for courses offered by private providers facing lots of competition: 17 percent of the courses evaluated fit these criteria, and the treatment impact is 9 percentage points for employment, and 0.2 standard deviations for the overall employment index. Thus private courses that do not face much competition also do not offer significant impacts, but neither do public courses facing lots of competition. This suggests that it is important to have both the performance spur provided by competition and the incentives and ability to respond to this competition to generate large impacts on employment. It is worth noting that this result is in sharp contrast with the perceptions of trainees (before courses start), who see private courses as having lower quality than public courses.

TABLE 8

It is really the combination of private provision and competition that works best?

ITT Impact for:	Proportion of sample in this group	Employed 20+ hours	Aggregate Employment Index
Public Course, 0 or 1 competitor	0.24	-0.027	-0.051
		(0.025)	(0.045)
Public Course, 2 to 5 competitors	0.21	0.014	0.025
		(0.027)	(0.051)
Public Course, 6+ competitors	0.23	0.012	0.040
		(0.024)	(0.048)
Private Course, 0 or 1 competitor	0.09	0.002	0.045
		(0.030)	(0.069)
Private Course, 2 to 5 competitors	0.07	-0.049	-0.045
		(0.043)	(0.054)
Private Course, 6+ competitors	0.17	0.090***	0.203***
		(0.031)	(0.055)
p-value for testing equality of impact		0.064	0.013
Sample Size		4850	4820

Notes: Robust standard errors in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. See Annex 1 for details on the estimation methodology and Annex 2 for variable definitions.

22. Private provision and competition do have a genuine market value. Table A4 in Annex 3 shows that these courses do differ from other types in terms of characteristics and applicants. One of the key differences is that these courses are more focused on accounting than other types of courses, and accounting courses have a larger impact on employment than courses in other fields. However, privately provided courses, particularly those offered by providers that face intense competition, still yield a significantly higher impact on employment than other courses after controlling for differences in course and trainee characteristics (Table A5 in Annex 3). This evidence suggests that private providers, especially those facing more competition, have better incentives to offer high quality courses and services more attuned to labor market needs.

23. One year after the trainings, most trainees in the study still attach value-added to İŞKUR training but that does not seem to be enough to make a difference in the labor market. One year after completing the training,most course participants believe training provided some value-added, particularly as a signaling device to employers: 84 percent of participants think the courses certified skills they already had, and 80 percent think they taught new skills, while 60 percent say the course helped with job-finding strategies and 45 percent with making them more aware of job opportunities (Table 6). Those "assessments" are lower compared to the situation before the course started (Figure 8), but still yield high marks for İŞKUR training as perceived by course participants. However, the reality is that those who value İŞKUR training more do not do better than those who value it less. These results suggest that the value attached to İŞKUR training may reflect other attributes than just an increase in job placement probability and may be due to the strong effect of labor supply on employment outcomes.

24. The labor market context does not seem to matter much. Although at the time of training there was a wide variation in unemployment rates across the 23 evaluation provinces (between 5 percent and 17 percent), trainees from high unemployment provinces did not do better or worse than those from low unemployment provinces. The evaluation of İŞKUR training took place in the context of a remarkable surge in employment after the crisis. Although the unemployment rate is not the only indicator of labor market performance, this result suggests that the small impact of training on employment was not driven by the buoyant labor market at the time the follow-up data were collected (early 2012).

Cost-benefit analysis of İŞKUR training under review

25. İŞKUR courses offered by private providers facing competition have a large net return. This section looks at how the benefits of İŞKUR training compare to its costs and identifies the types of İŞKUR training that are most cost-effective.

26. From the provider survey, the mean estimated cost for an İŞKUR course is 1,574 TL per person (privately provided courses have a mean cost of 1,792 TL per person compared to 1,455 TL for publicly provided courses). İŞKUR courses provided by private providers facing six or more competitors have a mean cost of 1,771 TL per person. Participants receive a stipend of 15 TL per day while they are in training; for an average course length of 57 days, this equates to a further cost of 855 TL. Thus the average cost to the government of providing a course is 2,429 TL per person, 2,671 TL for private and competitive courses.

27. The LATE estimate of the overall gain in monthly income (Table 2) is 26 TL (although this is not statistically significant). Assuming the course leads to a permanent increase in income of this amount, it would take 93 months for the gain in income to offset the cost of the course, and the annual internal rate of return (IRR) over 30 years of these gains would be 12 percent. If the gains depreciate at 10 percent a year, the IRR would be 3 percent. However, given that the point estimate of the gain is insignificant, we cannot rule out zero returns. Training was more effective for privately provided courses offered by providers facing significant competition. The LATE estimate of the overall gain in monthly income for this group is a statistically significant 128 TL per month. Based on this estimated gain persisting, it would take 21 months for the gain in income to offset the costs of provision, and the IRR over 30 years would be 58 percent (or 48 percent with 10 percent per year depreciation of the gains). By way of comparison, in the evaluation conducted in Colombia (Attanasio et al. 2011), courses cost an average of US$750 and hadan IRR of 22-35 percent for young women, and no measureable benefits for young men.

SECTION 4: STRENGTHENING THE IMPACT OF İŞKUR TRAINING AND SERVICES

1. İŞKUR has come a long way since 2008, increasing the coverage and quality of vocational training. As part of the 2008 labor reform, participation in ALMPs was opened to all registered unemployed regardless of whether they are eligible for unemployment insurance. The number of vocational trainees increased from 30,000 in 2008 to 464,000 in 2012, representing 19.6 percent of the registered unemployed. İŞKUR has been working to improve the quality of training through a number of measures. One such measure has been the introduction of the National Qualifications System, including the development of 294 national occupational standards in 16 sectors (127 are under implementation). Also in 2011 the selection of training providers introduced specific quality and performance criteria (not just cost). In 2012, İŞKUR started hiring job and vocational counselors to advise jobseekers on occupational choice and training courses.

2. A new regulation published in March 2013 introduces a number of important initiatives to improve the effectiveness of vocational training and other services. In terms of training, new modules (not exceeding 15 percent of the curricula content) will be added to training programs to improve employability of participants (e.g., job search skills, interview techniques, and basic skills). Also past job placement performance and accreditation by the Vocational Qualification Institution (VQI) will be more rewarded when selecting private providers. Service providers are also required to use licensing institutions (accredited by VQI) during testing and certification of participants of training programs. All training programs for which VQI has approved occupational standards will be developed in line with the national occupational standards.

3. Service providers with a low job placement performance will be required to provide additional services. Providers of general training are now also subject to job placement requirements, which increase to: at least 50 percent of trainees finding employment for a period that cannot be lower than the duration of the course or at least 120 days. As an incentive to hire and keep

young and female trainees employed in occupations for which they are trained, the initial 6-month period in which employers' social contributions for young and female hires are paid by the government is now extended to an additional 36 months if they are ISKUR trainees and they are employed in the occupations for which they are trained. The new regulation also links training to job search: trainees who refuse job offers suitable to their characteristics are not allowed to benefit from any ALMP for 24 months. Finally, job and vocational counselors will be more active in the selection of participants of training programs.

4. These important recent reforms, which are not captured by this study, already build on the results of this evaluation. This final section builds on these good initiatives and achievements to suggest some options to further strengthen the employment impact of İŞKUR training and services based on: (i) the results of the evaluation; and (ii) lessons from international experience. More work is needed to further define these (and other policy) options. Reform can only happen gradually, introducing a few new initiatives and evaluating them before moving to the next set of reforms. This is the approach İŞKUR is taking and this evaluation illustrates it.

5. *Improving the relevance of skills training.* The study find that the low overall impact of İŞKUR training under review on employment is likely to be partly due to the low value-added of these courses in terms of the skills they help to build. As İŞKUR develops new modules to be added to the training program, it may consider putting more emphasis on behavioral skills, which are highly valued by employers Turkey (McKinsey 2012). There is increasing international evidence of the employment impact of behavioral skills training (Almeida et al. 2012). Going forward, it is also important to continue strengthening the link between İŞKUR, training providers, and local employers, building on the experience of the Provincial Employment and Training Councils.[22]

6. *Incentivizing and supporting more job search.* Only half of İŞKUR trainees in the study were looking for a job before courses started and not all of them used İŞKUR services. This suggests the need to encourage more job search and expand employment services (job placement, counseling, job-search assistance). The new regulation linking training to jobs search is a step in the

22- These councils were created in 2008 to bring together the training and labor market sides at the local level. They are chaired by the provincial governors and have representation from employers, educators, and other local actors, with İŞKUR and MONE serving as the secretariat.

right direction. International evidence shows that it is more cost-effective to first encourage jobseekers to look for a job and to assist them in this task through employment services before they get any training than to offer training first (as in Turkey). To encourage job search, it is important to tie the receipt of unemployment or social assistance benefits to it—Turkey does this, but perhaps compliance could be improved. Employment services, which are limited in Turkey, should be central to employment activation efforts. For example, in the U.K.'s jobcenter plus, all registered unemployed people are offered some employment services (ranging from minimum job placement services to job-search assistance for the hard-to-employ) and are required to take individual actions to find a job (i.e., the market test– receipt of benefits is conditional on that) before it is determined whether they need additional services (including training).

7. *Defining the priority groups for training.* The low overall impact of İŞKUR training under review on employment could also be related to who İŞKUR is actually training and whether these jobseekers are the ones who can benefit the most from training relative to other groups of jobseekers (and are most likely to be actively seeking employment). İŞKUR is training the most educated jobseekers. Aside from the minimum requirement to have basic education, this is mostly the result of the courses İŞKUR offers and the selection of applicants by providers. The evaluation does not show differential impacts by gender and age, but these results refer to the current profile of İŞKUR trainees (e.g., highly educated) as well as the training and services İŞKUR currently offers. Low-skilled workers account for most of the labor force and face the greatest jobs challenge. And they face barriers to productive jobs other than skills, including information. Countries with well-developed public employment services (e.g., the U.K., Germany, and Australia) serve all jobseekers that register, but the bulk of their resources (including skills training) support hard-to-employ jobseekers. İŞKUR has started serving one segment of the hard-to-employ, namely those receiving social assistance benefits and able to work.

8. The focus of İŞKUR trainings on women and youth seems a priori appropriate from a policy perspective. The lack of differential impacts of training on employment by gender and age is tied to the current profile of İŞKUR trainees as well as to the training and services İŞKUR currently offers. Activity rates are especially low for women and youth. International evidence shows that well-designed skills training programs have a higher return for

youth than others, mainly because it is easier to learn when young. Successful programs for youth in the U.K., the U.S., and several Latin American countries (e.g., the Jovenes program) target disadvantaged out-of-school youth (typically 15- to 29-year-olds with less than a secondary education). And in countries with low female employment, like Colombia (Attanasio et al. 2011) and the Dominican Republic (Ibarraran 2012), well-designed programs for youth can have a large payoff for young women.

9. *Better information on jobseekers to adjust services to needs.* The new job and vocational counselors hired by İŞKUR will most certainly result in a better match of trainees to courses (a possible problem identified in this evaluation), but they do not assess the employability of jobseekers and thus their need for training (or other services) to begin with. Countries with well-developed public employment services like the U.K. and Australia do make an initial employability assessment of jobseekers, which is then used to "profile" jobseekers into different groups receiving different employment support packages, with the bulk of resources going to the hard-to-employ.

10. *More contracting of services to the private sector while ensuring quality*. The high return of İŞKUR courses offered by private providers facing more competition suggests that increasing the share of courses subcontracted to private providers and increasing competition among them would significantly increase the employment impact of İŞKUR training. However, it is also important to ensure the quality of providers and make them accountable for results. İŞKUR has already taken a number of measures to increase the quality of providers through the selection process. İŞKUR has also recently extended jobs placement requirements to providers of general training. There is still room to strengthen the contracts with private providers to improve the impact of training. And to avoid "creaming" off the easy-to-employ by providers, and to take into account the higher cost of helping the hard-to-employ become employed, the contracting of services for them could be done separately, as is done in the U.K.

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ANNEX 1: ESTIMATION METHODOLOGY

We can measure the intent-to-treat (ITT) effect of vocational training on a particular outcome of interest by estimating the following equation, analogous to equation (1):

$$Outcome_i = \alpha + \beta AssignedtoTraining + \sum_{s=1}^{457} \theta_s \delta_{i,s} + \varepsilon_i \quad (1)$$

where i denotes individuals, s denotes a course*gender*age group (randomization strata), and, $\delta_{i,s}$ is a binaryvariable indicating whether individual i belongs to group s. This controls for randomization strata (Bruhn and McKenzie 2009) as well as controlling for individuals who applied for more than one course (Abdulkadiroglu et al. 2011).

Since we do not have baseline data for all applicants who answered the follow-up survey, and because some of the baseline data were collected after the course had begun, we do not control for baseline values of the outcome variable of interest. β is then the average effect of being selected for a vocational training course on this outcome.

We can also estimate the impact of actually completing training by replacing *Assigned to Training* with *Completed Training* in (1), and instrumenting this with treatment assignment. Under the assumption that assignment to training has no impact on outcomes for those who do not complete the course, and that there are no individuals who would take courses only if assigned to the control group, this yields the local average treatment effect (LATE). This is the impact of completing training for an individual who takes up training when heis selected in the course lottery, and does not take it up otherwise. A concern with this estimation is the possibility that simply being selected for a course may affect employment outcomes, even if individuals do not take the course or if they drop out after only a few days.

In addition to estimating the overall impact of training, we are interested in exploring the heterogeneity of impacts to help understand whether certain types of courses offer larger impacts or whether certain types of people benefit more from training. To estimate heterogeneity with respect to characteristic X, we estimate:

$$Outcome_i = \alpha + \beta AssignedtoTraining + \gamma AssignedtoTraining * X + \rho X + \sum_{s=1}^{457} \theta_s \delta_{i,s} + \varepsilon_i \quad (2)$$

Course characteristics only vary at the course level, so we cluster standard errors by course. Recently, Fink et al. (2012) have criticized randomized experiments looking for heterogeneity in treatment effects for not controlling adequately for multiple hypothesis testing. They recommend the use of the Benjamini and Hochberg (1995) approach which holds constant the false discovery rate (the expected proportion of falsely rejected null hypotheses). We use this approach to examine which dimensions of heterogeneity are robust to this concern.

ANNEX 2: DEFINITIONS OF KEY OUTCOME VARIABLES

Employment outcomes

The following employment outcomes are defined based on data collected in the follow-up survey.

Working at all: An indicator variable thattakes the value one if the individual has worked for cash or in-kind income at all in the past four weeks (and zero otherwise).

Employed 20 hours +: An indicator variable that takes the value one if the individual is currently working for 20 hours a week or more (and zero otherwise).

Weekly hours: Hours worked per week in the last month employed. This is coded aszero for individuals currently not working, and top-coded as 100 hours per week (the 99th percentile of the baseline response) to reduce the influence of outliers.

Monthly income: Total monthly income from work in the last month. This is coded as zero for individuals not working, and top-coded as the 99th percentile of the control group earnings distribution (2500 TL) to reduce the influence of outliers.

Transformed monthly income: The inverse hyperbolic sine transformation of monthly income from work in the last month, $log(y+(y^2+1)^{1/2})$. This is intended to be more robust to outliers than levels of income and is similar to the logarithm transformation, but is also defined when income is zero (Burbidge et al. 1988).

Occupational status: This is coded based on work occupation using the international measures of socioeconomic occupational status of Ganzeboom and Treiman (1996). This is a continuous measure ranging from 16 (e.g., domestic helpers) to 90 (e.g., judges), and is coded as zero for individuals not working.

Formal work: This is an indicator variable coded as one if the individual is currently working in a job covered by social security (and zero otherwise).

Formal income: This is monthly income earned in jobs covered by social security.

Aggregate employment index: A standardized index obtained as the average of each of the above variables, after each has been standardized by subtracting the mean and dividing by its standard deviation. This measure is set to missing for individuals who are missing data for the "working at all" variable; otherwise, it is the average of the overall employment variables with non-missing data.

Well-being measures

Expected probability of working in two years: The expected chance of having a job in two years' time, coded as missing if an answer outside of the 0 to 100 range is given.

Mental health index (MHI-5): This is a five-item index;it has a maximum score of 25 and minimum score of 5. Higher scores are desirable in that they indicate the experience of psychological well-being and the absence of psychological distress. Individuals are asked how often in the past four weeks they have done each of the following (each answered on a 5 point scale, where 1 denotes none of the time and 5 all of the time):

- Been a nervous person (reverse-coded)
- Felt so down in the dumps that nothing could cheer them up (reverse-coded)
- Felt calm and peaceful
- Felt downhearted and blue (reverse-coded)
- Been a happy person

The MHI-5 is the sum of these responses.

Current subjective well-being: Individuals are asked on which step of a 10-step Cantril ladder (where the poorest people stand on the first step and the richest on the tenth step) they think their household stands today.

Subjective well-being in five years: The step of the Cantril ladder on which individuals think their household will be in five years.

Total household income in past year: Income from all sources, top coded as the 99th percentile of the control group distribution (74,000 TL).

Transformed household income: The inverse hyperbolic sine of total household income.

Durable asset index: The first principal component of 15 indicators of household durable asset and infrastructure ownership (own a gas or electric oven; own a microwave oven; own a dishwasher; own a DVD/VCD player; own a camera; have Digiturk/Satelite; own an air conditioner; own a CD player or iPod; own a telephone; own a computer; have an internet connection; own a private car; own a taxi, minibus, or commercial vehicle; own a bicycle; have four or more rooms in their house).

ANNEX 3: ESTIMATION RESULTS

TABLE A1

Summary statistics and testing of differences between treatment and control groups

	Baseline Sample			Follow-up Sample		
	N	Control Mean (S.D.)	Treatment Difference (Std. Error)	N	Control Mean (S.D.)	Treatment Difference (Std. Error)
Individual Characteristics (administrative data)						
Female	5308	0.629	0.005	5529	0.623	0.010
		(0.483)	(0.013)		(0.485)	(0.013)
Age	5308	27.1	-0.389**	5529	27.0	-0.306
		(7.2)	(0.198)		(7.2)	(0.194)
At least high school	5308	0.724	0.009	5529	0.724	0.005
		(0.447)	(0.012)		(0.447)	(0.012)
Individual characteristics (baseline data)						
Years of education	5255	11.3	-0.005	5008	11.3	0.014
		(3.3)	(0.069)		(3.3)	(0.071)
Has done previous training course	5308	0.264	-0.007	5057	0.265	-0.008
		(0.441)	(0.012)		(0.441)	(0.012)
Household head	5276	0.134	-0.000	5027	0.133	-0.003
		(0.340)	(0.008)		(0.340)	(0.008)
Household size	5308	4.09	0.024	5057	4.10	0.011
		(1.57)	(0.040)		(1.57)	(0.040)
Married	5033	0.346	0.004	4797	0.351	0.002
		(0.476)	(0.011)		(0.478)	(0.012)
Ever employed	5308	0.631	-0.021*	5057	0.626	-0.020
		(0.483)	(0.012)		(0.484)	(0.013)
Total years working for pay	5277	3.38	0.006	5027	3.33	0.006
		(4.91)	(0.111)		(4.88)	(0.113)

Notes: Standard errors are robust standard errors. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. Sample sizes for the follow-up data for the individual characteristics measured at baseline are for the sample interviewed at both baseline and follow-up; there are also individuals interviewed at follow-up but not at baseline.

TABLE A2

Differences in the impact of İŞKUR training by level of education, previous work experience, and training

		Interaction		Treatment		Sample size
		b	se	b	se	
At least high school	Working at all	-0.032	(0.042)	0.054	(0.036)	5497
	Employed 20 hours +	-0.006	(0.042)	0.025	(0.035)	5529
	Formal Emp.	0.013	(0.039)	0.022	(0.032)	5508
Years education	Working at all	-0.002	(0.006)	0.050	(0.070)	5497
	Employed 20 hours +	0.001	(0.006)	0.009	(0.069)	5529
	Formal Emp.	0.000	(0.006)	0.025	(0.065)	5508
Previous training	Working at all	0.046	(0.043)	0.019	(0.022)	5497
	Employed 20 hours +	0.093**	(0.042)	-0.004	(0.022)	5529
	Formal Emp.	0.065	(0.040)	0.014	(0.021)	5508
Ever worked	Working at all	0.027	(0.038)	0.018	(0.028)	5497
	Employed 20 hours +	0.058	(0.037)	-0.012	(0.028)	5529
	Formal Emp.	0.062*	(0.036)	-0.003	(0.025)	5508

Notes: Robust standard errors (se) in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. "Treatment b" is the LATE estimate of the impact of İŞKUR training, while "Interaction b" is the LATE estimate of the interaction of education/previous work experience/previous training with training;e.g., the impact of training for trainees with at least a high school education completed. See Annex 1 for details on estimation methodology and Annex 2 for variable definitions.

TABLE A3

Impacts of İŞKUR training on empowerment and gender attitudes

	Is household head or spouse	Number of decisions made	Number of pro-gender equal beliefs
Panel A: Pooled Sample			
ITT Estimate	0.004	0.058	0.057
	(0.010)	(0.044)	(0.036)
Control Mean DepVar	0.188	5.601	2.540
Sample Size	5472	5515	5469
*Panel B: Age*Gender Heterogeneity*			
ITT for males under 25	-0.002	0.024	0.179**
	(0.021)	(0.071)	(0.079)
ITT for males over 25	0.002	0.056	0.072
	(0.031)	(0.088)	(0.086)
ITT for females under 25	-0.004	0.105	0.053
	(0.013)	(0.088)	(0.069)
ITT for females over 25	0.016	0.042	-0.010
	(0.015)	(0.086)	(0.060)
p-value for testing equality:	0.785	0.910	0.300
Control Mean: young men	0.14	6.3	2.0
Control Mean: older men	0.54	6.1	2.1
Control Mean: young women	0.06	5.5	2.8
Control Mean: older women	0.13	5.1	2.8

Notes: Robust standard errors in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. Test of equality tests the null of equality of treatment impact across the four age*gender strata. Number of decisions made is out of 7. The maximum number of pro-gender equality beliefs is 5. See Annex 1 for details on estimation methodology and Annex 2 for variable definitions.

TABLE A4

What is different about competitive and private courses?

	0 or 1 competitor	2 to 5 competitors	6 + competitors	Public Provider	Private Provider	6+ competitors and private
Course Characteristics						
Course length (days)	60	59	50+++	55	60***	60
Course length (hours)	375	344+++	287+++	328	353***	352
Accounting course	0.19	0.12+++	0.36+++	0.13	0.45***	0.48
Professional course	0.05	0.17+++	0.14+++	0.11	0.14***	0.23
Craftsman course	0.24	0.22	0.06+++	0.23	0.02***	0.00
Technical course	0.11	0.15+++	0.20+++	0.19	0.07***	0.10
Service course	0.33	0.16+++	0.09+++	0.24	0.14***	0.05
Course in Istanbul	0.09	0.24+++	0.26+++	0.27	0.12***	0.29
Average teacher experience greater than 12 months	0.24	0.39+++	0.58+++	0.45	0.34***	0.51
Percent of course teachers with tertiary education	59.8	80.1+++	58.9	71.9	51.2***	60.0
Individual Characteristics (administrative data)						
Female	0.63	0.55+++	0.64	0.61	0.66***	0.68
Age	27.1	26.7	26.2+++	27.0	26.5***	25.8
At least high school	0.69	0.75+++	0.81+++	0.66	0.85***	0.89
Individual characteristics (baseline data)						
Years of education	9.6	10.2+++	10.8+++	9.7	10.9***	11.2
Has done previous training course	0.21	0.23	0.26+++	0.25	0.20***	0.20
Household head	0.10	0.14+++	0.11	0.12	0.10**	0.10
Household size	3.88	3.72++	3.73+++	3.86	3.64***	3.58
Married	0.31	0.28+	0.26+++	0.30	0.27*	0.24
Ever employed	0.49	0.62+++	0.57+++	0.57	0.55	0.58
Total years working for pay	2.57	3.60+++	2.84+	3.17	2.64***	2.64
Raven test score (out of 12)	5.44	6.41+++	6.26+++	6.10	5.93*	6.29
Numeracy score (out of 4)	3.21	3.45+++	3.48+++	3.31	3.51***	3.50
Tenacity	8.31	8.42++	8.32	8.36	8.35	8.39

Notes: Sample means shown. *, **, and *** indicate statistically different from public providers at the 10, 5, and 1 percent levels, respectively. '+, ++, and +++ indicate statistically different from 0 or 1 competitor courses at the 10, 5, and 1 percent levels, respectively. Publicly provided courses tested against private courses; more competitive courses against the least competitive courses; the last column simply shows means for the private courses with 6+ competitors, but does not test these against any other group.

TABLE A5

The "value-added" of private provision and competition remains after controlling for differences in course and applicant characteristics

	Differential Impact on:	
Treatment Interaction with:	**Employed 20+ hours**	**Aggregate Employment Index**
Course offered by private provider		
Unweighted (as reported in Table 6)	0.044*	0.117***
	(0.023)	(0.043)
Weighted by propensity-score	0.058*	0.112*
	(0.030)	(0.059)
Controlling for interaction of treatment with propensity score	0.061**	0.107*
	(0.029)	(0.054)
Course offered by private provider with 6+ competitors		
Unweighted	0.095***	0.190***
	(0.034)	(0.058)
Weighted by propensity-score	0.127***	0.232***
	(0.037)	(0.070)
Controlling for interaction of treatment with propensity score	0.110***	0.214***
	(0.036)	(0.065)

Notes: Robust standard errors in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. See Annex 1 for details on the estimation methodology and Annex 2 for variable definitions. We use two alternative methods to estimate the differential impact of private courses and private courses with 6+ providers controlling for differences in the courses and trainees characteristics in Table A4. First, we estimate a propensity score for the likelihood of being in those type of courses as a function of the characteristics in Table A4. We then re-run equation (2) in Annex 1 weighting courses by this propensity score, which yields the differential impact estimate called "weighted by propensity-score." The alternative method involves re-running equation (2) in Annex 1 and controlling for the interaction between the treatment variable and the propensity score.