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# **Turkey – Higher Education Policy Study**

## **Volume I: Strategic Directions for Higher Education in Turkey**

**June 2007**

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### **FISCAL YEAR**

January 1 to December 31

### **CURRENCY EQUIVALENTS**

(Exchange Rate Effective as of April 30, 2007)

#### **Currency Unit**

New Turkish Lira

#### **Equivalent units**

US\$1 = 1.33 YTL

### **WEIGHTS AND MEASURES**

Metric System

### **ABBREVIATIONS AND ACRONYMS**

EU	-	European Union
ICA	-	Investment Climate Assessment
MYO	-	Postsecondary Vocational School
OECD	-	Organization for Economic Co-operation and Development
OSS	-	College Entrance Examination
PISA	-	Programme for International Student Assessment
QA	-	Quality Assurance
SPO	-	State Planning Organization
UNESCO	-	United Nations Educational Scientific and Cultural Organization
VTHS	-	Vocational High School
YOK	-	Higher Education Council
WDR	-	World Development Report

Vice President:	Shigeo Katsu
Country Director:	Ulrich Zachau
Sector Director:	Tamar Manuelyan Atinc
Sector Manager:	Mamta Murthi
Task Team Leader:	Maureen McLaughlin

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## **STRATEGIC DIRECTIONS FOR HIGHER EDUCATION IN TURKEY**

### **Introduction: Competing Globally**

1. Countries that invest heavily and effectively in education and skills to produce information and knowledge will benefit economically and socially. The European Union (EU) has set the goal to make Europe “the most competitive and dynamic knowledge-based economy in the world.”<sup>1</sup> Turkey, in its Ninth Development Plan, aims to increase educational attainment and develop a lifelong education strategy to meet the requirements of a changing and developing economy and labor market. To meet the EU goal and the Turkey goal requires education systems that are more flexible, more effective and more easily accessible to a wider range of people.

2. Throughout the world investing in education pays off. Returns to education—private and social—are high for primary, secondary and higher education. For example, the most recent estimates of rates of return estimate a private return of 27 percent for primary education, 17 percent for secondary education and 19 percent for higher education.<sup>2</sup> These estimates also indicate that returns to higher education are increasing. Returns to education are highest for low- and middle-income countries and are higher for females than for males.

### **Educational Challenges and Opportunities**

3. Education and skill levels in Turkey lag international standards, including the European Union. As highlighted in figures and discussion in a later section of the paper on access and equity, results of international tests show poor performance for many students in Turkey and participation in secondary education, as well as tertiary education, is low by international standards. Significant disparities also exist in educational quality and access by gender, social and economic group, and geographic location. For example, 40 percent of 20 to 24 year olds in Turkey had a secondary degree in 2005, one half of the rate for the EU15 and well below the Lisbon target of 85 percent. The rates are lower for girls and for certain regions.

4. While educational attainment and skill levels are low in Turkey, at the same time, private returns to education are high.<sup>3</sup> There are positive impacts for secondary education as well as tertiary education. In addition, the positive impact of education on earnings is even more visible for females than for males.

5. Increasing educational attainment and performance at all levels of education is key to Turkey’s successful entry and integration into the EU in future years. As indicators of educational quality and access are much lower in Turkey than for EU countries, Turkey faces an even greater challenge in achieving these goals than countries already in the European Union. The issues of educational access and quality are intertwined at all levels of education, with opportunities at one level affecting the education occurring earlier as well as later. Expanding and reforming secondary and tertiary

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<sup>1</sup> See Lisbon Council Policy Brief, The Economics of Knowledge: Why Education is Key for Europe’s Success.

<sup>2</sup> See George Psacharopoulos and Harry Anthony Patrinos, Returns to Investment in Education: A Further Update, Education Economics, Vol. 12, No. 2, August 2004.

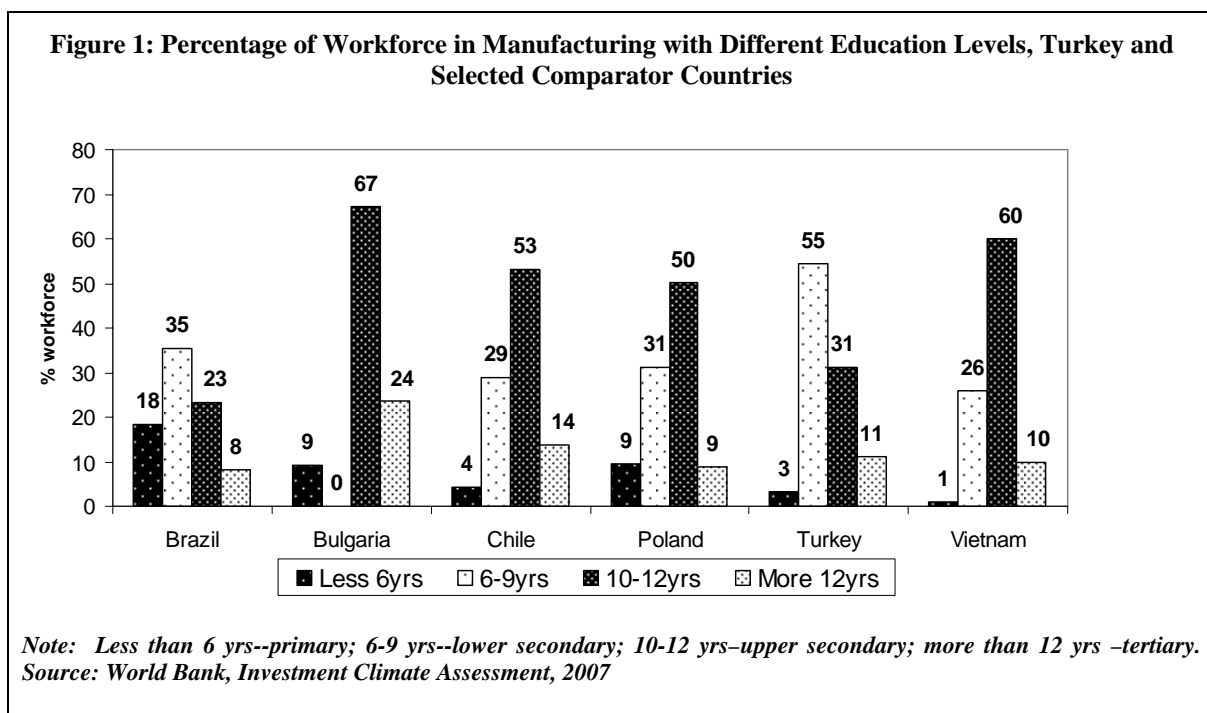
<sup>3</sup> See World Bank, Turkey Joint Poverty Assessment Report, Volume I, August 2005.

education in a balanced and coordinated way will be more effective than focusing predominantly—or sequentially—on one level of education.

6. Tertiary education is an essential part of the solution for Turkey offering opportunities to students who complete secondary education to go on to further educational opportunities and better job possibilities in the future. While tertiary education can provide pathways to future opportunities, it can, if overly constrained, also be a bottleneck for some students and further exacerbate equity concerns. In addition, options to reform vocational and technical education need to be coordinated across secondary and tertiary education so that all students in secondary education have strong general skills with more technical education and training occurring in later years of secondary education or early years of tertiary education.

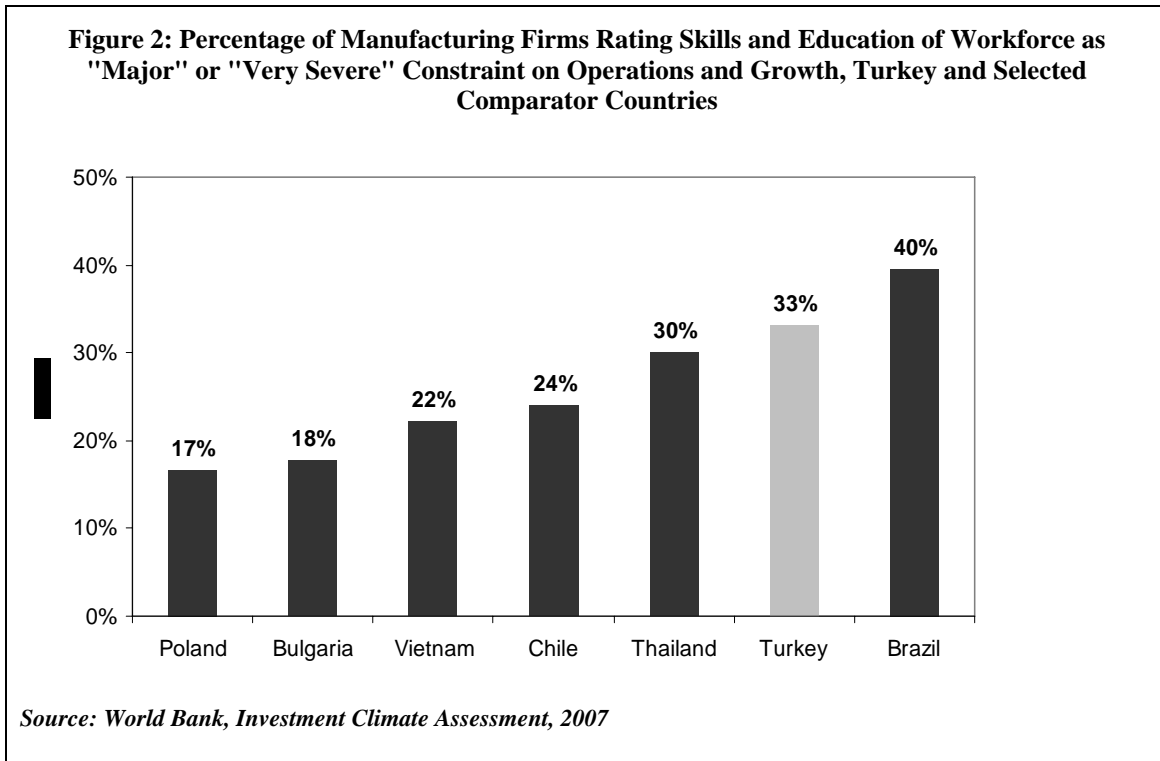
### Labor Market Needs

7. Education and skill levels in Turkey lag international standards and present a major concern and bottleneck for Turkey in job creation and competitiveness. According to the recent Investment Climate Assessment (ICA) for Turkey, the Turkish workforce in the manufacturing sector has lower levels of education than nearly all comparator countries.<sup>4</sup> Almost 60 percent of the Turkish workforce in the manufacturing sector has less than ten years of education, compared with 9 percent in Bulgaria, 27 percent in Vietnam, 33 percent in Chile, and 40 percent in Poland (see Figure 1).



<sup>4</sup> Comparator countries were selected on the basis of similar per capita income to Turkey and countries for which World Bank has recently carried out an ICA. According to the World Development Indicators, 2005, the GNI per capita (in current international dollars) was \$8,230 for Brazil, \$8,630 for Bulgaria, \$11,470 for Chile, \$13,490 for Poland, \$8,420 for Turkey, and \$3,010 for Vietnam. See World Bank, [Turkey Investment Climate Assessment](#) (2007)

8. As a result, not surprisingly, Turkish firms view the level of education and skills in the workforce as a significant constraint on operations and growth. One third of Turkish firms in the ICA rate education and skills as a major or very severe constraint, more than any of the comparator countries except Brazil. Poland and Bulgaria were much lower, each below 20 percent (see Figure 2).



9. One study commissioned for this report shows a mismatch between the skills Turkish firms are seeking and the skills that many students have when they leave tertiary education.<sup>5</sup> Firms see a real need for foreign language skills, especially English, computer skills, analytical skills, social, behavioral and communications skills. Firms also cite a lack of practical experience among many graduates. The results of this survey are discussed in more detail later in the report.

### **Demographic Challenges and Opportunities**

10. The demographic profile of Turkey presents a potential window of opportunity for Turkey to build up the skills of its labor force. There are more young people in Turkey than ever before--about 20 million youth between the ages of 10 and 24. Moreover, the share of young people will continue to rise and will peak in the year 2020.<sup>6</sup> The large youth population presents an opportunity or it could bring high unemployment and attendant social and economic problems. Whether the youth demographic in Turkey is an opportunity or a problem depends, in a significant way, on Turkey's policies to address education and employment.

<sup>5</sup> See Higher Education and the Labor Market in Turkey, 2007.

<sup>6</sup> See data on the demographic window of opportunity for Turkey in World Bank presentation, Development and the Next Generation, WDR2007, Turkey (December 2006).

11. For Turkey, the dependency rate – defined as the ratio of children and elderly to the working age population – will continue to decline and reach a minimum in about 2025. As dependency rates are falling, Turkey can boost growth with the right policies on education and employment. The expansion of the workforce with fewer children and elderly to support provides a window of opportunity to improve human capital, including education and skill levels.<sup>7</sup> At the same time, the large and growing youth population and increasing secondary education enrollment will put additional pressures on the education system at all levels and on the level of government resources available to expand and improve educational opportunities.

### **Reform of Tertiary Education**

12. Tertiary education, summarized in Table 1, is at a crossroads in Turkey and is central to many of the country’s objectives for growth and competitiveness. The country is looking to expand from an elite education system with low participation to a mass system with much higher access and participation and a greater diversity of educational programs and institutions. Participation in higher education is low by international standards, the desire and demand to expand higher education is strong, but the choices are complex and sensitive and the financial implications significant for individuals and government. The decisions Turkey makes now will have long-term implications for society and the economy.

<b>Table 1: Snapshot of Tertiary Education In Turkey in 2005</b>	
<b>Number of Universities</b>	
Public	53
Private	24
<b>TOTAL</b>	<b>77</b>
<b>Number of MYOs (Vocational)</b>	
Public	588
Private	32
<b>TOTAL</b>	<b>620</b>
<b>Total Enrollment*</b>	
Percent Private	4.8%
Percent Open University	34.7%
Percent Evening Programs	15.3%
Percent Female	42.8%
<b>Total</b>	<b>2.3 million</b>
Net Enrollment Rate (2004)	17%
Gross Enrollment Rate (2004)	30%
Source: Statistics from OSYM, YOK and MONE in Technical Annex I in <i>Higher Education in Turkey for 21<sup>st</sup> Century: Size and Composition</i> (2006)	
Note: In May 2007 Turkey authorized 17 new universities.	

13. Government strategies place a high priority on reform of higher education (see Box 1). The recently released *Higher Education Strategy for Turkey* was developed by the Higher Education Council (YOK) in Turkey after examining international experience in higher education across the

<sup>7</sup> World Bank, *World Development Report 2007*. One study described in the World Development Report attributes more than 40 percent of the higher growth in East Asia over Latin America in 1965-90 to the faster growth of the working-age population and better policies for trade and human capital development.



globe and discussing and debating issues with stakeholders in Turkey. The plan, presented to the President at the end of February 2007, identifies increased expectations for higher education in a global, knowledge economy. The Turkish strategy for higher education is also laid out in *The Ninth Development Plan*, which provides an overall strategy and direction for Turkey from 2007 to 2013. Turkey’s Ninth Development Plan emphasizes the need for a lifelong education strategy to ensure individuals have the skills needed for a changing and developing economy and labor market.

<b>Box 1: Higher Education Strategies for Turkey</b>	
<b>YOK Strategy</b>	<b>The Ninth Development Plan</b>
<p>Key strategic directions for higher education include:</p> <ul style="list-style-type: none"> <li>• increase access and participation in higher education;</li> <li>• develop an appropriate financing strategy to provide sufficient resources and to realize strategic objectives;</li> <li>• diversify education system in a flexible and open manner to allow institutions more autonomy and ability to adapt to changing conditions;</li> <li>• increase the employability of graduates and contribute to regional and economic development;</li> <li>• improve and ensure quality of higher education institutions and students;</li> <li>• increase the number of graduate students and university research.</li> </ul>	<p>Specific priorities for higher education include:</p> <ul style="list-style-type: none"> <li>• increase student contributions provided that grants and loans are available to help students meet the costs and to ensure equal opportunities;</li> <li>• permit private higher education if a system of quality assurance is set up and the entrance examination system is changed to increase the effectiveness of the system;</li> <li>• restructure the role of the YOK to be responsible for setting standards, coordination and planning;</li> <li>• provide administrative and financial autonomy to institutions along with transparency, accountability and mission diversification.</li> </ul>

14. This report responds to the need for a more in-depth look at higher education in Turkey by examining selected high priority issues, focusing on access and equity issues and the relevance of tertiary education to the labor market. The report first discusses constraints in finance and governance that must be addressed in order to improve the access, equity and relevance of tertiary education, and then diagnoses the problems in access, equity and relevance. The final section of the paper discusses policy directions and options for the future, evaluating how the options affect access, equity and labor market relevance. The key performance indicators include:

- **Access and equity:** addressing low rates of enrollment and gaps across groups, as documented by data in the later section on access and equity.
  - Increased enrollment and attainment in tertiary education.
  - Reduced gaps in enrollment and attainment by gender, income and geographical region.
- **Labor market relevance:** addressing skill mismatches and poor or no linkages, as documented by data in the later section on relevance to the labor market.
  - Greater private sector satisfaction regarding skills of recent graduates, as measured by surveys of employers.

- Improved linkages between higher education and local and regional economies—possible measures include relevant programs at local MYOs and universities, active education-business partnerships and education-business advisory boards.

15. Policy options discussed at the end of the paper, and presented in Table 7, affect these performance indicators with some policies being more effective for access and equity and some more effective at improving relevance. For example, increased cost sharing between governments and individuals along with higher levels of student aid would increase access and equity if student aid programs are well-designed. A high priority for Turkey in the short run, therefore, is to design an appropriate public/private financing plan. Better student preparation in basic and secondary education would also help to improve access and equity. It will take time to see the effects but it is a high priority to start implementing changes in the short-run. On the other hand, increasing system flexibility with institutional autonomy and accountability would allow the system to expand and provide greater access and more responsiveness to the labor market and regional and local economic needs but would not directly affect equity. A strong vocational/technical subsector of higher education would have similar effects. Introducing system flexibility and developing a plan for the vocational/technical subsector is a high priority for Turkey in the short run.

16. The work presented in this volume is based, largely, on papers commissioned by the World Bank after discussions with YOK and others in Turkey. The background papers<sup>8</sup>, presented in Volume II, focus on selected issues in higher education helping to benchmark issues in Turkey to international practice and experience. The papers are, by no means, comprehensive. They examine pressing issues for discussion and debate but they also raise additional questions and the need for further analysis and work. The background papers and other analyses were conceived as a first stage in a longer process of engagement. The discussion that has already occurred in Turkey around development of the government strategies for higher education and the papers undertaken in this study has already helped to move the debate and issues forward.

## **Financing Expansion**

17. Market-based systems of higher education are characterized by a larger role for the private sector and private funding, greater institutional autonomy, more responsiveness to needs of society and the economy, and more choice for students than highly regulated systems (see Table 2 for a comparison of the two approaches). While countries around the world are at very different places along the spectrum from regulatory to market approaches, most are moving from highly centralized and rigid systems towards a greater role for private sector financing, more autonomy for institutions and a different role for governments in setting the frameworks and providing incentives rather than making and enforcing rules.

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<sup>8</sup>The three background papers included in Volume II are Higher Education in Turkey for the 21<sup>st</sup> Century: Size and Composition by Sachi Hatakenaka; Higher Education and the Labor Market in Turkey by a TEPAV team led by Emre Deliveli; and The Alternative Sector of Tertiary Education in Turkey: Options for Reform of MYOs by Sam Mikhail. An additional policy note, Options for Reform of Higher Education: A Policy Note by Quentin Thompson and Sachi Hatakenaka, was previously discussed and reviewed and is not included in Volume II. A variety of additional notes and technical assistance were also supported, including work on development of a pilot to implement financial and administrative autonomy for institutions and a review of exams used in other countries, but are not included in background papers.

**Table 2: Characteristics of Regulatory and Market-Based Approaches**

Regulatory Approaches	Market-Based Approaches
<ul style="list-style-type: none"> <li>• Highly centralized</li> <li>• Government makes and enforces decisions               <ul style="list-style-type: none"> <li>– Defines rules and regulations</li> <li>– Input-based with strong audit function</li> </ul> </li> <li>• Heavy reliance on public funding</li> <li>• Limited role for the private sector</li> <li>• Little autonomy for institutions</li> <li>• Little choice for students in deciding where to enroll</li> <li>• Little attention to outcomes               <ul style="list-style-type: none"> <li>-- for ex, labor market outcomes, graduation rates</li> </ul> </li> <li>• Limited information and data</li> <li>• Lack of transparency</li> <li>• Rigid and nonresponsive to changes in society and economy</li> </ul>	<ul style="list-style-type: none"> <li>• Highly decentralized</li> <li>• Government sets the framework and provides incentives               <ul style="list-style-type: none"> <li>– Structures policies to provide incentives for desired results</li> <li>– Output and outcome-oriented results with accountability</li> </ul> </li> <li>• Increased reliance on private funding</li> <li>• Strong role for the private sector</li> <li>• Extensive autonomy for institutions</li> <li>• Significant choice and flexibility for students to choose where to enroll</li> <li>• Strong attention to outcomes               <ul style="list-style-type: none"> <li>– for, ex, labor market outcomes, graduation rates</li> </ul> </li> <li>• Extensive information and data</li> <li>• High degree of transparency</li> <li>• Responsive to changes in society and economy</li> </ul>

Source: Maureen McLaughlin, Presentation to Central Asia Workshop on Higher Education, *Transition from Regulatory to Market-Based Approaches*, June 2006.

18. Several different policy directions are available to Turkey in seeking to finance its goal of a significant expansion in tertiary education. Table 3 summarizes four models followed by countries that have expanded from elite systems of tertiary education with low participation to mass systems with much higher participation.<sup>9</sup> Most countries have relied on a greater role for private financing by students and families and/or a significantly larger role for private institutions. The specific approaches to increased reliance on the private sector vary, as described in models 2, 3, and 4 in Table 3, but at least half of the spending in Australia, the United States, New Zealand, Japan and Korea comes from private resources. In contrast, the Scandinavian countries, as shown in model 1, followed a different approach relying almost completely on public resources, expanding the public sector with low or no fees charged to students. This later approach is possible only if a country is willing and able to devote a significant share of its public resources to tertiary education. For example, the Scandinavian countries devote at least 1.5 percent of GDP to public spending on tertiary education, which is well above most countries in the world.

<sup>9</sup> For a further discussion of the models, see Arthur M. Hauptman, Four Models of Growth, International Higher Education, Number 45, Winter 2007.

**Table 3: Four Models of Growth in Tertiary Education**

Model	Country Examples	Spending as Percent of GDP		
		Public	Private	Total
	Turkey	1.1	.1	1.1
Model 1: Expansion of public sector charging low or no tuition fees*	Norway	1.5	.1	1.5
	Sweden	1.6	.2	1.8
	Finland	1.7	.1	1.8
Model 2: Publicly financed fees repaid through tax system once student graduates**	Australia	.8	.8	1.5
Model 3: Increased cost sharing combined with higher levels of student aid	United States	1.2	1.6	2.9
	New Zealand	.9	.6	1.5
	Canada	1.3	1.0	2.4
Model 4: Expanded number of private sector institutions	Japan	.5	.8	1.3
	Korea	.6	2.0	2.6
*U.S. in 1950s and 1960s; ** England & Thailand introduced in Academic Year 2006				
Source: Arthur M. Hauptman, <i>Four Models of Growth</i> , International Higher Education, Number 46, Winter 2007 combined with OECD data on spending as percent of GDP.				

19. Turkey devotes 1.1 percent of GDP to public spending on tertiary education, comparable with many countries and above many others, but below the Scandinavian countries. Turkey is unlikely to increase this percentage substantially, especially as the government faces competing educational priorities at the basic and secondary education levels.<sup>10</sup> At the same time private spending on tertiary education is .1 percent of GDP, on par with the Scandinavian countries but well below any of the other countries in Table 3. Without increases in the overall share of GDP devoted to tertiary education, it will be very difficult for Turkey, whose tertiary enrollment is substantially below any of the countries in Table 3, to expand its system. Such an expansion is likely to entail a significant increase in private spending

20. There are many good reasons why costs for higher education should be shared between governments and individuals. Data from many countries show quite clearly that earnings are higher for individuals with higher education compared with those with only a secondary education.<sup>11</sup> A recent survey in Turkey shows wage premia for higher education graduates over high school graduates, estimated between 11 and 17 percent.<sup>12</sup> Private rates of return vary by type of institution with higher rates for university graduates and lower rates for MYO and open university graduates.

<sup>10</sup> See discussion of supply side constraints due to financial resources in *Higher Education in Turkey in the 21<sup>st</sup> Century: Size and Composition* (2006).

<sup>11</sup> See data for OECD countries on higher wages for individuals with higher education compared with those with only a secondary school education in Lisbon Council Policy Brief, *The Economics of Knowledge: Why Education is Key for Europe's Success*.

<sup>12</sup> See the discussion of labor market demand in *Higher Education in Turkey for 21<sup>st</sup> Century: Size and Composition* (2006).

Rates also seem to vary across universities with higher returns for institutions in Istanbul and Ankara. Given the earnings differentials, individuals can afford to pay part of the costs of higher education. Students are also likely to take their education more seriously and to complete more quickly if they are paying part of the costs.

21. Except for cases like the Scandinavian countries, providing tertiary education to students with low or no fees limits the availability of higher education spaces and reduces access.<sup>13</sup> It may also reduce quality. Moreover, heavy reliance on government funding and “free” tuition tends to benefit most those with less financial need as they are likely to be better prepared academically and better able to participate in higher education.<sup>14</sup> The dual tuition structure in Turkey—where students in regular programs attend for free and students in secondary or evening programs pay full cost—almost certainly exacerbates these issues of access and equity.

### **Governance and Institutional Autonomy<sup>15</sup>**

22. The system of higher education in Turkey, as it currently operates, cannot easily respond to the needs of society and the economy because it is too centralized and highly rigid. The law covering higher education and the Higher Education Council (YOK) operates under the auspices of the Ministry of National Education and is highly detailed, rigid and out-of-date. Centralized practices in the current operations of YOK in interpreting and implementing the law as well as rigid internal arrangements at the institutional level further compound the rigidities of the law. While such a detailed and centrally determined approach may have been right at the time the law was drafted in the early 1980s, it is no longer appropriate for Turkey with its goals for growth and competitiveness.

23. Autonomy for tertiary education institutions is analogous to decentralization for schools. Greater autonomy is a key factor for tertiary institutions to enable them to develop different missions and purposes and thereby provide high quality, relevant education that can respond to the needs of the 21<sup>st</sup> century. Autonomy comes along with accountability for the appropriate use of resources, open and transparent decision making processes, and attention to the desired outcomes for the university, students and the public. Countries with mass higher education systems—the goal Turkey has set for itself—need and use this flexibility to respond to needs of the society and the economy. The countries discussed in Table 3—for example, the United States—have significant institutional autonomy and diversity of institutions, which has helped them to expand tertiary

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<sup>13</sup> One recent study of higher education across the provinces in Canada illustrates this. Quebec had the lowest average undergraduate tuition fees—C\$1,862 in 2003-04—yet the province had the lowest enrollment rates—20 percent. In contrast, Nova Scotia had the highest fees at C\$5,557 and highest enrollment rate, at 33 percent. See Montreal Economic Institute Report at <http://www.iedm.org>.

<sup>14</sup> See discussion of persisting inequalities in World Bank, Constructing Knowledge Societies: New Challenges for Tertiary Education (2002).

<sup>15</sup> Most of the discussion of governance and autonomy comes from Options for Reform of Higher Education: A Policy Note (2005), which examines the key issues and options in Turkey through a detailed look at Turkey but also based on the experiences of the authors in more than 20 countries around the world. The paper discusses the main policy issues and recommends additional analyses and studies to delve deeper in certain areas. The options paper was presented and discussed at YOK’s International Conference on Higher Education in November 2005. See YOK’s conference proceedings.

education and provide greater access. Without autonomy and flexibility for universities to respond, it will be difficult for Turkey to meet its goals.

**Box 2: Example of Universities in Malaysia and Singapore:  
Effects of Governance Structure**

At independence from the British, the University of Malaya operated as a two-campus university, one in Kuala Lumpur and the other in Singapore. The former evolved into the flagship University of Malaya from the very beginning, and the other became the National University of Singapore in 1980. Today, however, NUS functions as a true world-class university while the University of Malaya struggles as a second-tier research university. In examining the different evolutionary paths of these two institutions, several factors appear to constrain the University of Malaya's capacity to improve and innovate as the NUS has. The first one is that the government in Malaysia has restrictions on enrollment where Singapore does not. Second, NUS is able to mobilize almost twice as many financial resources as the University of Malaya through cost-sharing, investment revenue, fund raising and government resources. Third, in Malaysia, civil service regulations and a rigid financial framework make it difficult, if not impossible, to provide competitive compensation packages to attract the most competent professors and researchers, whereas NUS can pay market rates and provide performance incentives to get the best and the brightest.: Based on data from OSYM and YOK in technical Annex Table 1 in Higher Education in the 21st Century: size and Composition. 2006.

Source: Jamil Salmi, Transforming Russian Universities into World-Class Universities: Briefing Note (2007)

24. Administrative and financial autonomy are quite limited in Turkey.

- Administrative autonomy is nonexistent in Turkey. Governance, structure and staffing arrangements are all written into the law and controlled from the center. Universities cannot adjust the numbers and distribution of staff to best meet the needs and priorities of the institution.
- Financial autonomy is also extremely limited. Public universities in Turkey have very little flexibility on how they use their resources with at least 50 line items in their budgets with little flexibility to switch resources. In addition the amount allocated to each line item is largely determined by history.

25. As a result of rigidities throughout the system in Turkey, little differentiation exists in the missions and purposes of institutions of higher education in Turkey. Ninety-five percent of students attend public institutions, all of which operate on the same model. Most public institutions in Turkey have been developed as though they are or will be research universities even though the level of research is low at most institutions and the size of postgraduate education is small. Even for foundation (private) institutions, many of the requirements are set in the same model.

26. More differentiation is needed among institutions in Turkey in order to create a flexible system that can grow and change over time. One reason why tertiary enrollments are low in many parts of the world is the lack of institutional differentiation to accommodate diverse and growing demands.<sup>16</sup> This situation also exists in Turkey. A system of diverse, high quality higher education institutions,

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<sup>16</sup> See discussion of the need to expand tertiary education in World Bank, Constructing Knowledge Societies: New Challenges for Tertiary Education (2002).

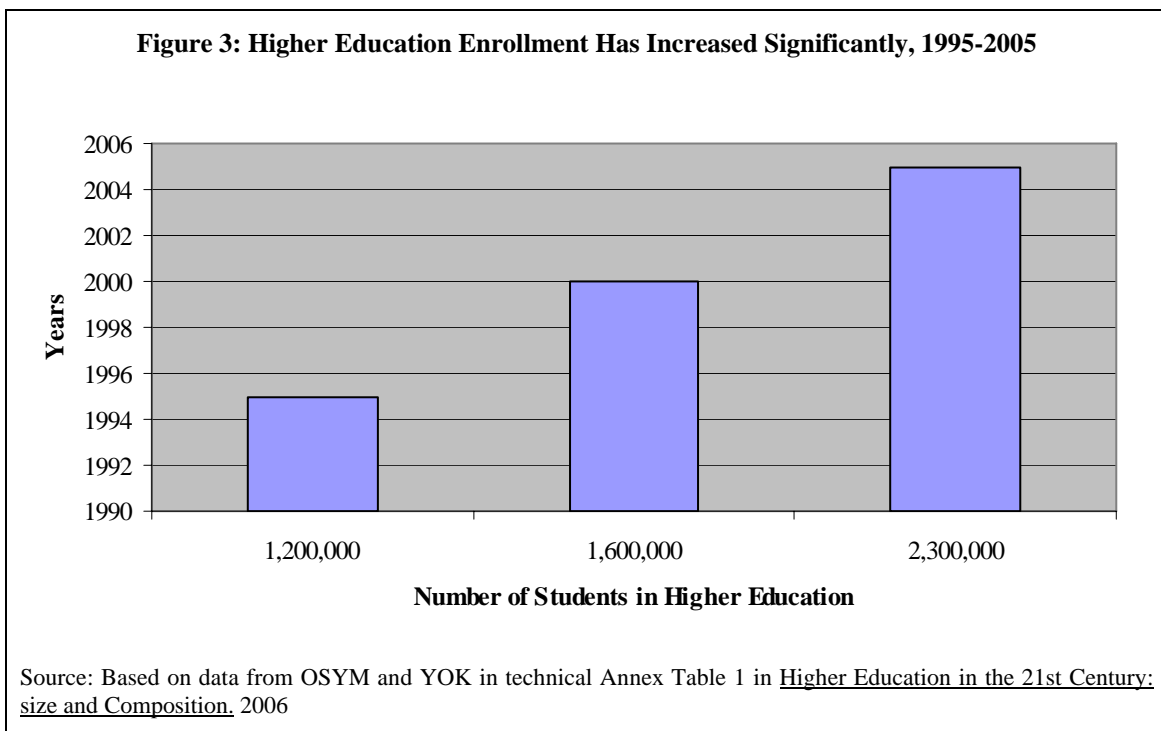
a flexible system to respond to changing needs of students and the market, a secondary school system with better quality and higher enrollment, and appropriate financing are necessary to any successful expansion of access.

### Access and Equity

27. This section explores the effects of low enrollment and attainment, poor preparation in secondary education, equity concerns, and the university entrance exam on access to higher education.

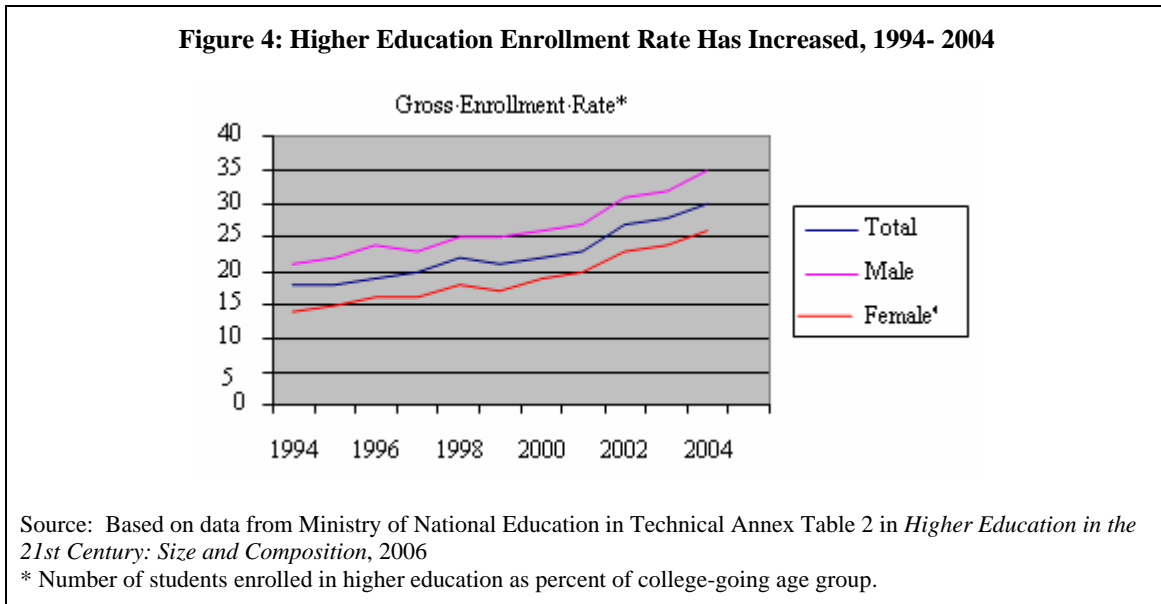
### Low Enrollment and Attainment

28. In 2005, almost 2.3 million students were enrolled in higher education in Turkey, a significant increase over previous years (see. Total enrollments, including graduate and distance education programs, increased from 1.2 million in 1995 to 1.6 million in 2000 to 2.3 million in 2005. Total enrollments increased at an annual rate of 8 percent in the last five years and by 5 percent in the five years previously.



29. New delivery modes have helped to make this expansion possible---about 40 percent of this expansion has occurred in open universities and evening/secondary programs. Of total student enrollment 18 percent were in formal postsecondary vocational programs, 42 percent in formal undergraduate programs, 35 percent in distance education programs, and 5 percent in graduate programs. Excluding distance education programs, 26 percent were in two-year postsecondary vocational schools; 65 percent in undergraduate programs, and 9 percent in advanced degree programs.

30. Reflecting these increases in the number of students, enrollment rates have increased significantly. The gross enrollment rate, according to data from the Ministry of Education was 30 percent in 2004, having increased from 18 percent ten years earlier (see Figure 4). The rate increased for males from 21 percent to 35 percent and from 14 percent to 26 percent.



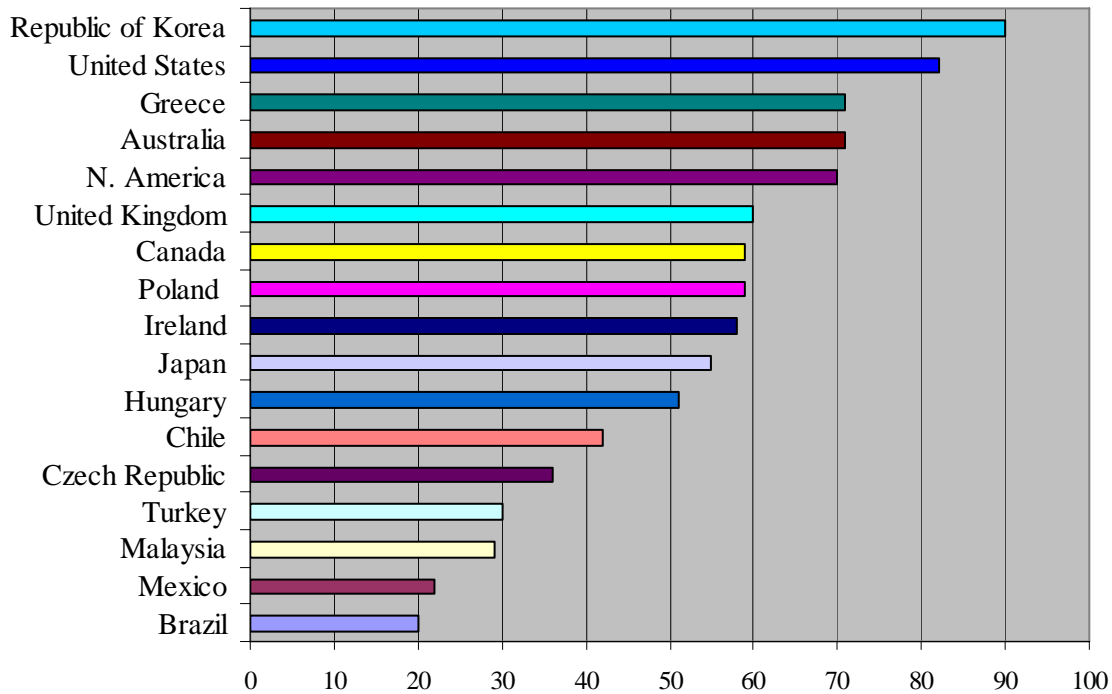
31. Despite these significant increases in participation in higher education in Turkey, Turkey’s enrollment in higher education is low by international standards and needs to increase significantly if Turkey is to compete successfully in the global economy.

32. Enrollment rates in higher education are lower for Turkey than for most, but not all countries with similar or somewhat higher levels of income (see Figure 5). Compared with the new EU member countries Turkey’s enrollment rate is low: roughly 30 percent compared with the Czech Republic (37 percent), Hungary (53 percent) and Poland (59 percent). Compared with upper middle income countries in South America, Turkey’s enrollment rate is below Chile (43 percent) but above Brazil (20 percent) and Mexico (22 percent). Turkey’s enrollment rate is similar to Malaysia.

33. Turkey’s participation rate in higher education is significantly below the enrollment rate in higher income countries, including North America and Western Europe (see Figure 5). Turkey’s gross enrollment rate is about half the rate of most countries in Western Europe (generally in the 55-65 percent range) and less than half of the rate for Australia (72 percent), the United States (82 percent) and Korea (89 percent).



**Figure 5: Higher Education Enrollment Rates for Selected Upper Middle and Higher Income Countries, 2004**



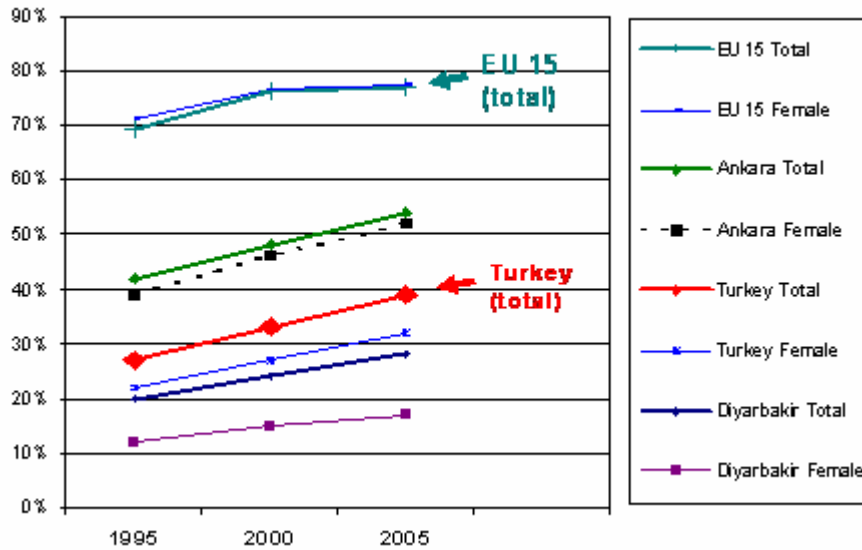
Source: Based on data from UNESCO in Technical Annex table 3 in Higher Education in the 21<sup>st</sup> Century: Size and Composition, 2006

34. While enrollment in tertiary education is important, attainment of a degree, be it a Bachelor's degree or below, is another important measure. Attainment data are not as readily available as enrollment data but Turkey's degree attainment rate of 11 percent among 25-34 year olds is the lowest among all OECD countries. The average for OECD countries is 31 percent.

### Poor Preparation in Secondary School

35. Low secondary school enrollment and attainment for Turkey—half the Lisbon target—present a serious constraint on access to higher education. Enrollment and completion of secondary education, which have increased in the past ten years, are still low by international standards. In 2005, 40 percent of 20 to 24 year olds had a secondary degree, one half of the rate for the EU15 and well below the Lisbon target of 85 percent (see Figure 6). The rates are lower for girls and for certain regions.

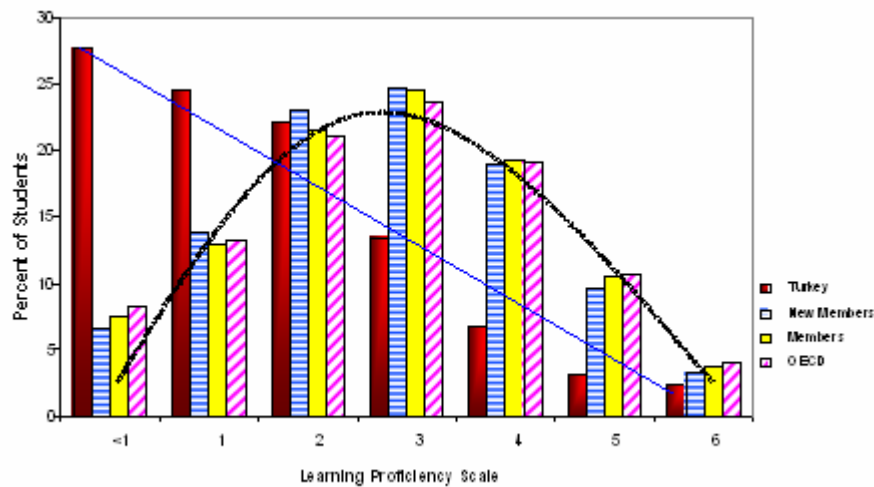
**Figure 6: Secondary Education Attainment Below  
EU and Lisbon Target Of 85 Percent**



Source: World Bank, *Education Sector Study*, 2005

36. Moreover, even if students do stay in secondary school the quality of their education is poor, presenting a further constraint on access to higher education. Results from international tests show that the top students in Turkey are well prepared but other students are very poorly prepared. As illustrated in Figure 8, the top students in Turkey perform well, but the vast majority of Turkish secondary school students perform at the lowest proficiency levels in basic competencies and problem solving. The distribution of Turkish scores is highly skewed toward the lower levels of proficiency in comparison to EU and OECD countries, which have a normal distribution of scores. Continuous learning, better jobs, and productivity gains require these kinds of skills.

**Figure 7: Distribution of 15-year-old Students by Proficiency Level, Turkey, EU and OECD**



Source: PISA data, graph from World Bank, *Education Sector Study*, 2005

### Equity Concerns

37. Access to tertiary education in Turkey is uneven, benefiting students from higher income families more than those from lower income families. A survey of students taking the college entrance exam (OSS) has shown that students from high-income families, with more educated parents, and from larger cities are more likely to be placed in higher education.<sup>17</sup> In addition, given significant differences in the quality of educational inputs and PISA scores by type of school, geographic area and family income<sup>18</sup>, higher-income students are generally better prepared academically. They are also better able to afford private tutoring for the university entrance exam, which appears to increase the chances of doing well in the OSS. All the evidence points in the direction of unequal access; this issue could be examined further in Turkey using household survey data.

38. A gender gap also exists in access to tertiary education and, unfortunately, it does not seem to be narrowing over time. The graph above on enrollment rates for higher education (see Figure 4) show a real difference between males and females and, unfortunately, the difference between the two groups does not seem to be narrowing. Figure 7 shows a similar differential in attainment rates for secondary education, which is a major factor in the gap between males and females at the tertiary education level.

<sup>17</sup> See *Higher Education in Turkey for the 21<sup>st</sup> Century: Size and Composition* (2006).

<sup>18</sup> See World Bank, *Turkey Education Sector Study* (2005).

## University Entrance Exam

39. The university entrance examination in Turkey, the OSS, is a key variable in determining where students can enroll in higher education. A student's score on the OSS exam combined with weights for his/her grade point average, and program choice determine a student's placement. Vocational school graduates may enter MYOs without any examination. The content of the exam and how it is used contributes to and reinforces issues of access and equity, quality, efficiency, and system rigidity.

40. The OSS exam, as structured, does not measure the secondary education curricula or what students learned in secondary school, nor does it measure what students need for a particular university or tertiary program of study.<sup>19</sup> Moreover, during the last year of secondary school, students focus more heavily on exam preparation than on school studies. As a result, universities cannot assume that students know the secondary school curricula or that they are well-prepared for their tertiary program of study.

41. Given the content of the exam and the high stakes attached to it, students spend substantial time and money getting private coaching for the exam diverting students away from school, especially in the last year of school, and diverting large amounts of private financing into tutoring. Students with more limited financial means are at a distinct disadvantage relative to other students in obtaining the extra tutoring to improve exam scores.

42. About 60 percent of people taking the OSS exam each year are repeaters. The question is whether the high demand as measured by OSS exam takers is largely the result of too few places. An analysis of the data on OSS applicants indicates that students repeating the OSS are generally looking to enroll in a better quality program or institution.<sup>20</sup> These data suggest that many students retake the exam in order to try to increase their scores and thereby enter or switch to a higher quality institution or one with a better reputation. The fact that that vocational schools (MYOs) are not generally viewed as high quality alternatives means that students will often continue to try for a place at the university instead of enrolling in a MYO. It is also quite difficult to switch programs within a university in Turkey, another reason that students may retake the test and try to enter a program that better matches their interests.

## Relevance to the Labor Market

43. Young people in Turkey tend to have slow transitions from school to work with high unemployment rates for many young people, even the most educated youth (see Figure 8).<sup>21</sup> For youth 20-24 years of age, the unemployment rate in 2003 for those with tertiary education is almost 40 percent compared with just over 15 percent for those with a primary school education and almost 25 percent for youth with a secondary education. The pattern is quite

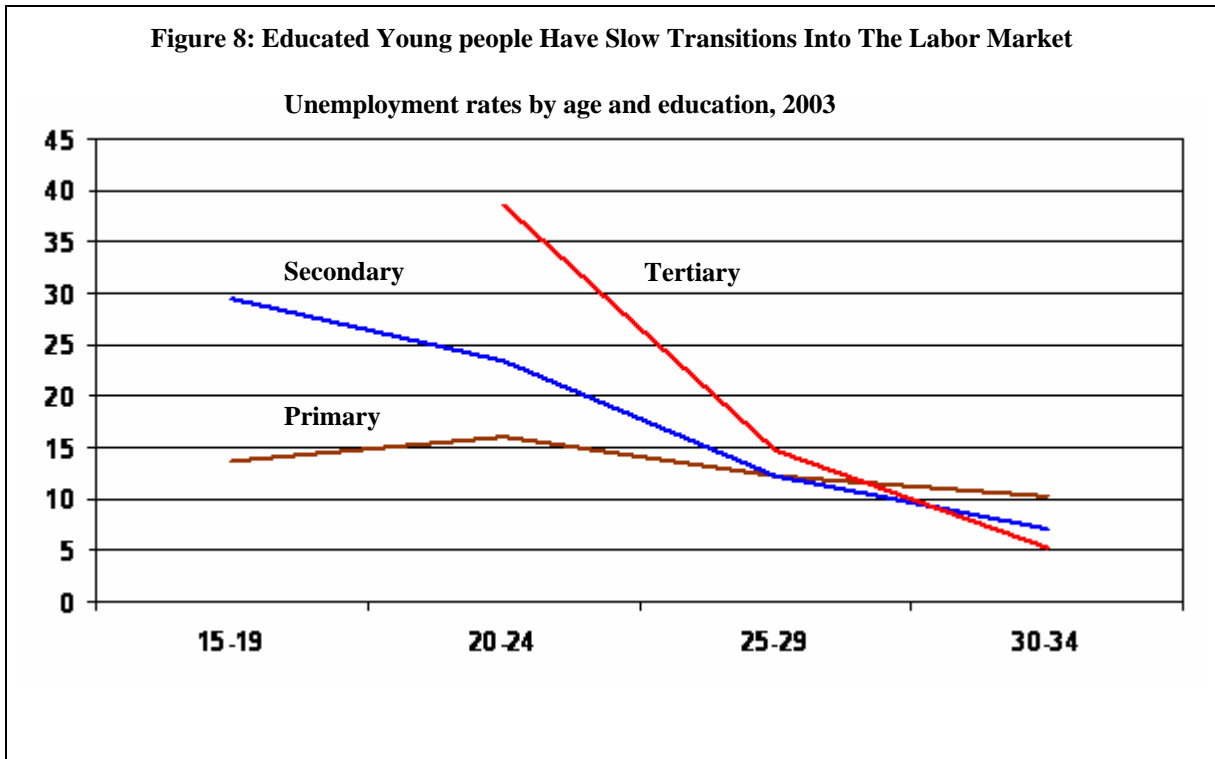
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<sup>19</sup> See discussion in Options for Reform of Higher Education: A Policy Note (2005).

<sup>20</sup> See the discussion of social demand in Higher Education in Turkey for 21<sup>st</sup> Century: Size and Composition (2006).

<sup>21</sup> Limited data have been available to explain the long transitions especially for the most educated youth. The Turkey youth employment and school-to-work study is examining this issue further.

different for those between the ages of 30 and 34 where unemployment rates are much lower especially for those with tertiary education.



44. One study commissioned by the World Bank for this report, Higher Education and the Labor Market, provides detailed data on the extent and nature of the skill mismatches between higher education and the private sector.<sup>22</sup> To our knowledge, this is the first study in Turkey to collect data from all the relevant parties---firms, tertiary education institutions, the employment service, students, employees and unemployed persons. As a result the study provides many important insights into skill mismatches and the relationships between higher education and the private sector. This study, together with the paper on MYOs provide much of the background information used in this section.<sup>23</sup>

<sup>22</sup> Data from this study were discussed in the Turkey Investment Climate Assessment (2007) and the presentations for the youth employment study.

<sup>23</sup> See The Alternative Sector of Tertiary Education in Turkey: Options for Reform of MYOs, 2006

### **Box 3: Description of the Labor Market Study**

The study interviewed people from private sector, higher education sector and regional employment service (ISKUR) offices. University students, employees of firms, and unemployed people from fourteen cities received questionnaires. Questionnaires were distributed to chambers in the network of the Union of Chambers and Commodity Exchanges of Turkey (TOBB) to be addressed to chamber members during regular assembly meetings. Finally, questionnaires that were used in prior studies are also utilized in this study to form an accurate picture of the relationship between higher education and the labor market. Panels were organized in universities and regional ISKUR offices, where students and unemployed people participated, respectively.

Key figures on study participants: 120 firms interviewed in 14 cities; 1654 employees at 88 firms filled out questionnaires; 512 unemployed filled out surveys; 24 universities visited; 985 students filled out questionnaires; and 1900 firms from 57 provinces completed survey.

Source: *Higher Education and the Labor Market in Turkey*, 2007

### **Skill Mismatches**

45. The survey shows a mismatch between the skills employers are seeking and the skills that many students have when they leave higher education. Firms see a real need for foreign language skills, especially English, computer skills, analytical skills, social, behavioral and communications skills. Firms also cite a lack of practical experience among many graduates.

- Language skills matter to firms, with English being the language of choice for most firms. Language skills are also among the skills that students, employees and the unemployed desire most to improve and students without them are at a disadvantage. Exporting/importing firms give importance to language skills so that workers can deal with clients and partners. For vocational college (MYO) graduates, language skills can be important because firms want employees to operate imported machinery easily. Interviewees did not report significant deficiencies in language skills in cities where English was taught (see Box 4).
- Computer skills are critical to firms, for university graduates as well as MYO graduates, but for different reasons. Computer skills are important for university graduates so that they can use computers on the job, whereas firms demand these skills from MYO graduates because they signal that workers will be able to use advanced machinery effectively.
- Managers of firms consistently emphasize the need for generic skills. Social and communication skills came out as the top problem skill in the survey in almost all sectors, cities and occupations. Traditional firms emphasized the need for behavioral skills, such as loyalty and trustworthiness, and modern firms tended to emphasize the need for analytical skills.
- The lack of practical training in universities and MYOs and the lack of productive internships are constraints for some firms. Firms highlighted a lack of up-to-date equipment and too few professors with relevant experience as issues at universities and MYOs. The analysis also pointed out that successful internships tend to be the result of the efforts of individual professors rather than university placement offices.

#### **Box 4: A Tale of Two Cities and Two Universities**

Denizli and Gaziantep are two export-oriented textile clusters, each with a local university. In the firm interviews, we noticed that many of the Denizli firms complain about the lack of language skills in university graduates, whereas the same issue was not mentioned at all in Gaziantep. Later we found that the Gaziantep University taught engineering classes in English, whereas the language of instruction in Pamukkale University (PAU) in Denizli was Turkish. In fact, both university officials and managers in Gaziantep proudly mentioned the language abilities of the university's graduates.

Source: *Higher Education and the Labor Market in Turkey*, 2007

46. The skills highlighted by Turkish firms are similar to skill needs in other countries. For example, Ireland's Expert Group on Skill Needs highlighted the following as crucial skills for 21<sup>st</sup> century: entrepreneurial, science, engineering and technology, math, marketing, ICT, soft skills, and foreign language (see Box 5). A recent study of changes in skills needed in jobs in the United States over past 30 years has highlighted increases in complex communication and expert thinking tasks.<sup>24</sup> These trends are happening all over the world and have major implications for education systems as the thinking and communication skills are often the hardest to teach.

47. An issue raised in Turkey and in other countries is the role of private firms in the education and training of their employees. Are firms' expectations of new employees reasonable? Some suggest that firms should do more training themselves to complement formal education. The ICA results for Turkey suggest that Turkish manufacturing firms provide less training than most comparator countries despite the skill deficiencies of the Turkish workforce. As is true around the world, larger firms and foreign firms in Turkey are more likely to provide training.

#### **Box 5: Example of Ireland:**

##### **Government, Education and Private Enterprise Working Together Pays Off**

- Explicit attention in education to needs of enterprises
  - Expert Group on Future Skill Needs
    - Business, education, unions
    - Enterprise one of key considerations in policy making for education
  - Crucial skills for 21<sup>st</sup> century
    - Entrepreneurial, science, engineering and technology, math, marketing, ICT, soft skills, and foreign language
  - Joint council between Irish university association and Irish business confederation
  - Willingness of higher education to engage in world of business
  - Formal links to business at all higher education institutions
    - Business Advisory Boards
  - New institutions of tertiary education, including regional technical institutes
    - Influenced traditional universities to change
    - Short-cycle institutions separate from traditional institutions to keep focus on their mission for technical preparation

<sup>24</sup> Levy and Murnane, How Computerized Work and Globalization Shape Human Skill Demands, May 2006.

- Results:
  - Improved economy and more opportunities for youth
  - Confident young people – best and brightest went into industry
  - Investment in education and skills – contributed to 20 percent of growth in output
  - Many well-educated who left the country returned bringing valuable experience and skills back to Ireland

Source: Presentations by Dr. Daniel O’Hare, President Emeritus, Dublin City University, *Skilled Labor in Positioning Ireland as the Celtic Tiger*, Washington DC (2006) and *Education, Skills, and Employment for Youth*, Rome (2007).

### **Relationship Between Tertiary Education and the Private Sector**

48. The survey also highlighted how little the private sector knows about higher education and likewise how little higher education knows about private firms. Interestingly, while firms were very critical of universities, a majority of firms—55 percent--admitted that they had not attempted any relations or partnerships with higher education (see Table 4). In fact, neither side seemed to have a good idea of how the other party might help. As a result of poor information on both sides, partnerships between the private sector and higher education are indeed rare in Turkey. In addition, when mechanisms do exist for partnerships, they tend to exist more on paper than in practice and to have occurred as a result of personal relationships.

**Table 4: Firms’ View on Different Statements about Universities**

	<b>% of respondents who strongly agree</b>
We cannot use the consultancy services of academics because the fees are too high.	57
Academics are far from the problems of the business environment, they fail keep up with the latest developments.	56
We haven’t attempted to cooperate with the universities	55
Universities are not very enthusiastic about cooperating with us	48
We are pleased with the quality of college educated workforce in our town.	43
The university in our town educates people with the qualities we need	39
The university in our town educates people in the areas we need	37

Source: TOBB Survey, *Higher Education and the Labor Market*, 2007

49. Other countries who have successfully tied education to economic development have done so with explicit relationships between higher education and the private sector. One such example is Ireland where explicit attention was paid to the needs of enterprise (see Box 5). Ireland’s Expert Group on Skill Needs included education, business and unions in planning; a joint council between the Irish University Association and the business confederation was established; and formal links to business were established at higher education institutions to advise on courses and skills needed. Ireland also created institutes of technology to provide education and training more tightly tied to the needs of the labor market.

50. Firms are highly unlikely to use local higher education institutions to provide education and training to their employees. Only 11 to 13 percent of firms in the survey responded



positively to questions about using the universities to train their employees (see Table 5). Responses on involvement with R&D projects or other projects at universities or hiring local academicians as consultants to firms are equally low.

51. Regional economic needs are often not considered by higher education. As Table 4 above indicates, less than 40 percent of firms indicate that the university educates people with the skills firms need and in the areas firms need. In interviews with universities, universities indicated that their primary goal is not to respond to regional needs but to give a quality uniform education. In fact, some universities viewed the region as more of a curse than an opportunity.

**Table 5 : Private Sector Firms - University Relationship**

	Yes	No	No, but maybe in the future
We accept university students as interns	41	44	15
We sponsor our employees to attend other courses and trainings	25	58	16
We attend career days at universities	14	70	16
We are taking advantage of the courses adapted to our needs offered by universities	13	58	30
We are taking the advantage of the short term courses offered by universities	11	57	32
We sponsor our employees to attend certificate programs in universities and to earn MYO/graduate/undergraduate degrees	11	70	20
We hire researchers and academicians from universities as consultants for training/R&D projects	11	67	22
We use the equipment and test control services of universities	11	72	18
We conduct R&D projects with universities	9	70	22
We conduct non R&D projects with universities	7	75	19

Source: TOBB Survey, *Higher Education and the Labor Market*, 2007

### **MYOs: Vocational/Technical Tertiary Education**

52. When YOK was established in the early 1980s institutions of tertiary education in Turkey were brought together.<sup>25</sup> As a result of this restructuring vocational/technical tertiary institutions (MYOs) were attached to the nearest university in their region. MYOs were defined as “institutions of tertiary education that provide four-semester education and training aimed at preparing middle level personnel for specific vocations and occupations in the labour force”. A recent report by YOK<sup>26</sup> indicates that the number of MYOs transferred from the Ministry of National Education MONE to the Higher Education Council YOK in 1982 was 44. This number reached 177 in 1992, 466 in 2002 and 612 in the 2005-2006 academic year. However, a number of these MYOs are not operational and YOK has initiated

<sup>25</sup> See *The New Tertiary Institutions in Turkey: Options for Reform of the MYOs*, 2006.

<sup>26</sup> Balci, S et al (2006). *Vocational Higher Schools: Current Status and Vision*. YOK

a study to assess the status of all MYOs in the sector. A master plan was adopted to make the MYOs supported by public universities spread widely over all the regions of Turkey.

53. The regional distribution is uneven for MYOs. In addition, ties to the regional needs are quite limited, even in the MYO sector, which, as discussed above, should have the strongest focus on local and regional needs for education and training as they are supposed to train intermediate workers for the private sector. Based on meetings, conversations and interviews, many small town MYOs do not operate well and are even more poorly resourced than MYOs on university campuses.<sup>27</sup> Moreover, in many cases, the MYOs have departments the regions do not need or they do not have other departments that are vital for the area. Despite the fact that MYOs are more occupational in nature, professional organizations are rarely involved in designing or restructuring the curricula. Many faculties do not have recent relevant industrial experience.

54. The MYO sector includes many small MYOs, with questionable quality, and a second status position within their home university and for their students. According to the most recent data more than 600 MYOs exist in Turkey compared with 72 universities (see Table 6). About half the MYOs are small, with less than 500 students, and about 15 percent are considered large, with more than 2000 students. It is very difficult for small MYOs to achieve quality especially across a range of programs due to economies of scale, resources available to them and the training of many MYO faculty. Informal estimates suggest that perhaps 50 MYOs are quite good, leaving many poor quality MYOs.

**Table 6: Distribution of Universities and MYOs by Size in Turkey**

Region	Number of Universities	Number of MYOs		
		Small (< 500)	Medium (500-2000)	Large (> 2000)
Marmara	27	73	47	24
Aegean	9	40	23	6
Black Sea	3	24	15	15
Central Anatolia	14	71	54	14
Mediterranean	9	42	36	6
Eastern Anatolia	6	29	31	17
South Eastern Anatolia	4	24	31	6
Total	72	303	230	88
		Total MYOs = 621*		

Source: *The Alternative Sector of Tertiary Education in Turkey: Options for Reform, 2006*

<sup>27</sup> Based on the interviews described in Higher Education and the Labor Market in Turkey, and meeting by author of Alternative Sector of Tertiary Education in Turkey: Options for Reform of MYOs.

55. Students entering MYOs are generally poorly prepared further exacerbating the quality issues. Vocational high school students can enter MYOs in their field directly without the OSS exam. As discussed in the box below, employers find the quality of MYO students has declined as a result of this provision. In fact, many firms prefer to hire vocational high school graduates over MYO graduates.

**Box 6: Entering Without Examination to MYOs: Is Anyone Happy?**

During the interviews, MYO directors as well as managers complained a lot that Law No. 4702, which allows Vocational/Technical High School (VTHS) graduates to enroll in MYO programs in their fields without any examination, has considerably decreased the quality of MYO graduates. MYO directors cite various examples to illustrate the decrease in quality. Directors at Denizli told our interviewer that although they are aware that the OSS (student placement exam) has serious deficiencies, it is necessary to have this exam to be selective. For their side, firms in Gaziantep, Kayseri, Denizli and Diyarbakir tied the low quality of MYO graduates to this new law. They specifically noted that the new law affected them adversely because of the low general quality of education in VTHSs. More interestingly, the manager of a firm in Gaziantep said that he had stopped hiring MYO graduates two years ago (in 2004) after he had observed a significant drop in the quality of the local MYO graduates. 2004 was the year students who first made use of the new law graduated.

Source: Higher Education and the Labor Market in Turkey, 2007

56. Contemporary alternative institutions in most OECD countries—community colleges, regional colleges, polytechnics, etc—offer an attractive alternative to universities because of their mission, size, flexibility and strong links to employers.<sup>28</sup> The titles of these institutions indicate their distinctiveness and important role in higher education. In contrast to alternative institutions in other countries, however, the MYO sector in Turkey has many shortcomings.<sup>29</sup> MYOs are not generally perceived to be important or high quality institutions in Turkey; they have limited ties to the private sector, regional and local economies, poor links to the labor market; and they tend to be under funded. It is essential to change this sector so it plays a key role in Turkey's system of higher education.

### **Policy Directions and Options**

57. Table 7 summarizes the policy components and options for finance, governance and institutional autonomy, access and equity, and labor market relevance. As highlighted in the table, key next steps for Turkey to carry out the policy directions presented in the YOK strategy and the Ninth Development Plan include:

- Design an appropriate public/private financing plan for tertiary education;

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<sup>28</sup> See The Alternative Sector of Tertiary Education in Turkey: Options for Reform of MYOs, 2006, for a review the alternative sectors in ten countries that have historically been leaders in the development of this sector and have distinct models in order to look at the lessons learned and best practices. The paper then examines the same issues for the MYOs in Turkey and presents proposals for reform of the MYO sector. The analysis in this paper, with particular emphasis on Canada and the U.S, has been presented and discussed at YOK's International Conference on Vocational and Technical Education in January 2007.

<sup>29</sup> For further details see The Alternative Sector of Tertiary Education in Turkey: Options for Reform of MYOs, 2006.

- Introduce system flexibility with institutional autonomy and accountability;
- Provide higher quality education to students in basic and secondary education; and
- Develop a strong vocational/technical sector in tertiary education.

58. These key next steps are central to the tertiary education strategies recently developed in Turkey. They are very much interrelated and need to be pursued in a complementary way to improve access, equity and relevance of tertiary education in Turkey. This section of the paper discusses the policy directions and options in more detail.

**Table 7: Effects of Policy Options on Access, Equity and Labor Market Relevance**

<b>Policy issue</b>	<b>Policy components and options</b>	<b>Effects on access and equity</b>	<b>Effects on labor market relevance</b>
<b>Financing Expansion</b>	<i>High priority for short run: Design an appropriate public/private financing plan for tertiary education.</i>		
	Expand public sector with little or no fees	Increase access and equity only if a significant increase in public resources; otherwise likely to exacerbate equity issues. Unlikely Turkey could increase public spending sufficiently.	Does not directly affect labor market relevance but expansion is likely to be successful only if additional opportunities are available in vocational/technical tertiary education
	Public fees repaid through tax system after graduation	Increase access and equity if sufficient up-front public spending, high institutional capacity and limited informal employment. Not feasible for major expansion in Turkey.	Does not directly affect labor market relevance but expansion is likely to be successful only if additional opportunities are available in vocational/technical tertiary education
	<i>Increased cost sharing with higher levels of student aid</i>	<i>Increase access and equity if student aid programs are well-designed. Most likely option for Turkey.</i>	Does not directly affect labor market relevance but expansion is likely to be successful only if additional opportunities are available in vocational/technical tertiary education
	Expand private sector institutions significantly	Increase access but not equity unless coupled with well-designed student aid programs. Small expansion in private sector likely in Turkey.	Does not directly affect labor market relevance but expansion is likely to be successful only if additional opportunities are available in vocational/technical tertiary education
<b>Governance/ Institutional Autonomy</b>	<i>High priority for short run: Introduce system flexibility with institutional autonomy and accountability</i>	<i>All components needed to allow system to expand and provide additional access but they do not directly affect equity.</i>	<i>All components needed to encourage diverse institutions with flexibility to respond to needs of labor market and regional and local economies.</i>
	New legal framework with flexibility	Needed to allow system to expand and provide additional access but does not directly affect equity	Needed to encourage diverse institutions with flexibility to respond to needs of labor market and regional and local economies
	Revised responsibilities for YOK	Needed to allow system to expand and	Needed to encourage diverse

		provide additional access but does not directly affect equity	institutions with flexibility to respond to needs of labor market and regional and local economies
	Institutional differentiation and autonomy in decision making	Needed to allow system to expand and provide additional access but does not directly affect equity	Needed to encourage diverse institutions with flexibility to respond to needs of labor market and regional and local economies
	Performance based funding and financial autonomy	All components needed to allow system to expand and provide additional access but does not directly affect equity	Needed to encourage diverse institutions with flexibility to respond to needs of labor market and regional and local economies
	Strong quality assurance	Needed to allow system to expand and provide additional access but does not directly affect equity; also needed to ensure quality of education in expansion.	Needed to encourage diverse institutions with flexibility to respond to needs of labor market and regional and local economies and to ensure quality of education.
<b>Access and Equity</b>			Does not directly affect labor market relevance but significant expansion is likely to be successful only if additional opportunities are available in vocational/technical tertiary education.
	Rate of expansion: very fast	Increase in access and equity depends on how financed	Does not directly affect labor market relevance
	Rate of expansion: balanced with other policy changes	Increase in access and equity depends on how financed. High priority to begin in short run.	Does not directly affect labor market relevance but more likely to provide high quality, relevant educational opportunities
	<i>Better student preparation in basic and secondary education; most effective in the long-run but high priority to start implementing changes in short run.</i>	<i>Increase access and equity: first chance option</i>	<i>Does not directly affect labor market relevance</i>
	Remedial education in tertiary	Increase access and equity : Second chance option needed for students who have academic deficiencies	Does not directly affect labor market relevance
	Change OSS exam and process	Increase access and equity by freeing up private resources and reducing regressive spending	Does not directly affect labor market relevance
<b>Relevance to</b>			

<b>Labor Market</b>			
	Flexibility and diversity of institutions	Needed to allow system to expand and provide additional access but does not directly affect equity.	Increase relevance as system can respond to needs of private sector
	Explicit links between education and private sector	Does not directly affect access and equity.	Increase relevance with education better linked to ties to regional and private sector needs
	<b>Strong vocational/technical sector. High priority in short run: agree on plan to develop this subsector.</b>	<b>Needed to allow system to expand and provide additional access but does not directly affect equity.</b>	<b>Increase relevance with education better linked to ties to regional and private sector needs</b>
	Competitive grants to institutions to encourage change	Not very effective at addressing access and equity	Could help to create higher quality, and more relevant institutions

## Financing Expansion

59. As discussed earlier in the paper, most countries have expanded access and participation through an increased role for private financing. Turkey now devotes a substantial percentage of public funding to tertiary education, comparable to many countries, and it seems unlikely that Turkey would be able to increase this percentage substantially given other competing education priorities. In addition, Turkey's spending from private sources is low, leaving room for expansion in private spending. Both the YOK and Ninth Development plan support an appropriate financing strategy with a carefully designed increase in private financing—balancing financing between the government and students and their families in a way that ensures equitable access.

60. Individuals who benefit from higher education can pay part of the costs through student fees. Instituting fees is often a difficult change for countries to undertake, however, as they often face strong political pressure to have no fees or to keep them very low. At present some students are paying fees in Turkey and some are not, but the fees that are now paid are done so in a regressive rather than progressive way, providing merit-based aid rather than need-based aid. At the same time, most all students pay for private tutoring to prepare for the college entrance exam. A more progressive system would provide more equitable access.

61. A system of student financing—including targeted grants, scholarships or fee rebates, as well as student loans—could help to expand access through the increased availability of funds while ensuring access for financially needy or at-risk students. This approach, described earlier in model 3 in Table 3 and used by New Zealand, Canada, and the United States, is envisioned in the YOK and Ninth Development strategies. Of the four models discussed earlier, this one seems the most likely to be successful in Turkey (see Table 7).

62. Any system of shared costs between government and individuals must consider the financial needs of poor families so that access and opportunity are available to them. Grants, scholarships, or fee rebates targeted to financially needy students or to poor geographic areas or to young women would ensure that fees would not prevent at-risk students from attending higher education. A carefully designed lending program would allow students to borrow against their future incomes and provide needed access to financing. Countries around the world have adopted many different approaches to the structuring of student loan programs—including different student eligibility criteria, repayment options, sources of capital, and role of private sector as compared with government. Turkey could draw upon this wide international experience to design a program that best addresses Turkey's situation and priorities.

63. The Turkey higher education strategies assume a careful expansion of the private sector. The creation of a somewhat larger private (foundation) sector in higher education in Turkey is quite likely and is a good way to expand the system and provide further differentiation as long as quality assurance is appropriate. Turkey has a very small private sector at present, enrolling five percent of total students. The sector has expanded rapidly in the recent past, but from a very small base. As is the case in many countries, there have been striking cases of success with innovative and high quality teaching. At the same time, there are already some



signs of variable quality at some institutions in terms of OSS scores of students attending their institutions. A key question for Turkey is how to strike a balance between regulatory tightness to control quality and regulator openness to permit new institutions and competition. Internationally, countries have responded to this balance in different ways.

64. The issues of how to finance an expanded system of higher education, the sharing of costs between government and individuals, and the development of a system of student financing (grants and loans) were not addressed in a detailed way in the papers commissioned for this study. The YOK strategy and the Ninth Development Plan recognize the need to develop such an approach but much additional work needs to be done to develop a specific plan and estimate the costs. This is a necessary early step for Turkey to expand access and equity carefully and effectively.

### **Governance and Institutional Autonomy**

65. To increase the flexibility and responsiveness of the higher education system in Turkey and thereby ensure more diversity in the purposes and missions of higher education institutions requires a new legal framework governing higher education and a revised set of responsibilities for YOK to guide and oversee the system. As is the case internationally, these changes are needed to improve access, equity, quality and relevance in Turkish higher education.

66. A new legal framework for higher education would provide flexibility for the system, moving away from detailed rigid prescriptions. This flexibility would encourage a more open system with greater diversification in the missions and priorities of institutions, a system better able to reflect the changing needs of society and the economy. As discussed previously in the paper, systems that have moved to higher levels of access have much more flexible operating environments. Turkey could then develop more specific points through regulations and operating procedures where more detail is required for implementation. It is easier to change regulations and procedures as needed than to revise the law.

67. Internationally, higher education councils set national policy and guide the system. The YOK strategy and the Ninth Development Plan recognize the need for such changes in YOK's current operating environment. While countries around the world have developed their higher education councils in different ways, general principles apply to all of them. Box 7 summarizes the responsibilities of a revised higher education council that operates in a more strategic way.

### **Box 7: Revised Responsibilities for YOK**

- Develop national policy on an analytical basis with input from stakeholders—including the strategy for higher education.
- Review high level mission statements for universities and MYOs to ensure relevance and adequate differentiation in the system to meet the overall needs of the country.
- Design the Quality Assurance System for public and foundation universities.
- Work with Ministry of Finance to design funding formula for institutions with performance incentives included in formula.
- No longer involved in administrative detail of universities

Source: *Options for Reform of Higher Education: A Policy Note*, 2005

68. In addition, in order to encourage strong universities as well as strong vocational/technical institutions at the tertiary level (improved MYOs or institutions with another name), Turkey could consider a new governance structure with two boards under YOK, one for the universities and one for the vocational/technical sector. Some countries have two boards as suggested here and some do not. OECD in its country studies of tertiary education generally recommends two boards so that each sector can develop its own identity and mission with high quality institutions in both sectors. This could help MYOs to improve their quality and become colleges of choice for students with positive labor market outcomes rather than second choice institutions.

69. A strong and rigorous quality assurance process is a key part of any expansion of access to higher education; it is also a key component in ensuring and improving quality. The Bologna process, accreditation of institutions, performance standards, the open and transparent reporting of information on the inputs, outputs and outcomes of higher education institutions are all parts of quality assurance. One of the roles of a new YOK is help design a Quality Assurance (QA) system with input from all stakeholders. The QA body would be a new and independent organization, as is the case in other countries, that meets high standards of integrity and has the confidence of universities as well as the public. Some of the specific standards used in QA --especially outcome standards--would vary for universities as compared with MYOs. For example, MYOs would include more emphasis on job placement.

70. With a revised role for YOK, higher education institutions would have greater autonomy to develop different missions and purposes and provide high quality, relevant education that is responsive to the needs of the 21<sup>st</sup> century. A wide variety of high quality institutions is needed in Turkey. Universities could set the standards that they expect from students in their institutions. This helps to increase the quality of the preparation of their students for the university's programs and the quality of the outcomes. It also means that admissions standards vary across institutions according to their mission and purposes.

71. Institutional flexibility and freedom to make their own decisions and this autonomy must be carefully tied to accountability for results. This requires new approaches to the distribution

of funds to institutions and flexibility for institutions to decide how to spend their resources to meet their priorities. Table 8 summarizes the key differences between traditional and performance-based allocation mechanisms.

**Table 8: Traditional and Performance-Based Allocation Mechanism**

Traditional	Performance-based
<p><b>Negotiated Budgets</b> – allocations of public funds are negotiated between government agencies and institutions</p> <p><b>Categorical Funds</b> – categories of institutions designated as eligible for funds for specific purposes including facilities, equipment, and programs</p> <p><b>Funding formulas</b> – funds are allocated to institutions on the basis of staff numbers or enrollment levels and unit costs</p>	<p><b>Performance contracts</b> – governments enter into binding agreements with institutions to reward them with resources linked to the achievement of mutually determined performance-based objectives</p> <p><b>Performance set asides</b> – a portion of public funding for tertiary education is set aside to pay institutions on the basis of their achieving various performance targets</p> <p><b>Competitive funds</b> – institutions or faculty compete on the basis of peer reviewed project proposals against a set of policy objectives</p> <p><b>Payments for results</b> – output or outcome measures are used to determine all or a portion of distributions from a funding formula. Or institutions are paid for the number of students graduating in certain fields of study or with specific skills</p>

Source: *World Bank Paper on Innovations in Tertiary Education Financing: A Comparative Evaluation of Allocation Mechanisms*, September 2006

72. A new approach to distribute funds to institutions would allow Turkey to move from funding levels determined on the basis of inputs (predominantly staff and others costs) and history to funding approaches based more on desired outcomes or desired outputs. Introducing performance-based funding would provide incentives for institutions to reflect better national or regional needs and priorities. Incentives could encourage, for example, degree completion, more students enrolling or graduating in certain fields, improved quality of teaching or research, or more partnerships with the private sector. Performance-based funding has many different variants in countries across the world.<sup>30</sup> MOF and YOK could develop the formula jointly to reflect Turkey’s priorities for higher education.

73. Universities would have flexibility on how they spend their budgets, including autonomy for the number of staff, and for selecting and promoting staff, academic as well as non-academic staff. In this way different institutions with different priorities can operate and staff their universities appropriately.

74. The simplest way to increase financial autonomy is to reduce the number of funding blocks or line items that are specified to institutions. This might be accomplished in a two-step process, first reducing the number of line items from over 50 to four main areas. The

<sup>30</sup> A recent World Bank study, *Innovations in Tertiary Education Financing: A Comparative Evaluation of Allocation Mechanisms* (2006), examines allocation mechanisms around the world, discussing performance-based approaches versus traditional allocation methods. The paper discusses and assesses the different approaches and provides examples of different performance-based approaches in a wide variety of countries across the world and in states within the United States.

second step would be to move to two categories—one for recurrent expenditures and one for capital budgets. This could be piloted<sup>31</sup> or introduced for the entire system. Given that institutions in Turkey have not had this responsibility in the past, training to build capacity at the national and institutional levels is essential.

75. As shown in Table 7 all the components discussed in this section on governance and institutional autonomy are needed to allow the system to expand and provide additional access but they do not directly address issues of equity. These policy changes are also needed to encourage a diversity of institutions with flexibility and incentives to respond to the needs of the labor market and local and regional economies.

### **Access and Equity**

76. How big should an expansion be? What would be the path of expansion? What are the needed policy changes?

77. The need to expand access to higher education is well accepted in Turkey. Expansion is already happening and the question for Turkey is how fast the expansion will continue. To make this decision, Turkey is looking at participation rates in other countries, as discussed earlier, and at the demands of individuals for higher education and demands of the labor market for employees with different kinds of skills.

78. *Determining the desired level of participation is a political decision about how to balance the different demands while considering availability of financial resources.* Any decision on a realistic target must consider how the expansion would be achieved. Some key decisions to make on the strategy going forward, which are discussed in other sections of the paper, include:

- Affordability for government—shared cost between government and individuals as well as efficient use of resources;
- Balance between public institutions and private institutions;
- Balance between expanding and improving existing institutions compared with establishing new institutions;
- Role of different kinds of institutions—universities compared with MYOs; and
- Role of distance learning

79. YOK's higher education strategy suggests an ambitious 65 percent target in 2025 for gross higher education enrollment, increasing from the current rate of 30 percent. This level of participation would place Turkey at the top end of participation rates in Europe, and somewhat above many countries in Europe. It is possible that the 65 percent target is too ambitious for Turkey at this point given constraints in the current system and in the availability of financial resources in the country.

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<sup>31</sup> Pilots for autonomy, especially financial and administrative autonomy, have been discussed with YOK, Treasury and SPO in the past and some initial development work on how to design and implement a pilot was developed under this activity

80. An alternative path of 50 to 55 percent, as recommended in one of the papers in Volume II, is still quite ambitious but would allow Turkey to build strong foundations through needed structural changes while expanding a bit more slowly than proposed in the strategy. The background paper,<sup>32</sup> which analyzes the supply and demand conditions in Turkey and looks at international experience, concludes that the goal of expansion can only be achieved satisfactorily if the necessary changes to the system are ensured. The background paper presents several main reasons to expand a bit more slowly while carefully undertaking structural changes.

81. First, as discussed in an earlier section on the nature of the social demand in Turkey, there is substantial evidence to suggest that the problems of high demand and acute competition for university entrance in Turkey would not be solved by a simple expansion. Prospective students seem to care deeply about the quality and reputation of institutions and programs –this is one of the main reasons that they repeat the OSS test multiple times.

82. The competition for programs and institutions perceived to be the highest quality ones could actually worsen if the system was expanded without sufficient attention to the quality and effectiveness of new programs. A too-rapid expansion of higher education can result in serious quality issues, as seen in some other countries, including the United States and New Zealand, when enrollments increased rapidly and new institutions came into being. It is clear that attention to quality, including upgrading of the existing institutions and the creation of new institutions, is an important first step. A strong quality assurance system is essential.

83. Second, the entering student population in Turkey is already diverse and will be even more so in the future requiring the system to offer diverse educational opportunities to meet their respective needs. As the Turkish higher education system is becoming a mass system; a degree will no longer be a privilege for the few but a standard expectation for many. The system must offer diversity in excellence so that each diploma/degree can offer appropriate value added for each student. For some, students, professional relevance and excellence would be more important than traditional academic excellence. It is essential to ensure a range of institutions to meet different needs for society, the labor market, and individuals. Not all institutions should strive for the same purpose.

84. Third, as unemployment rates of young people are high in Turkey and labor market needs are diverse, there is an urgent need for all higher education institutions to be linked more closely with employers to ensure the education is relevant to the world of work. There are some serious structural issues in the transition of graduates from university or MYOs to work as programs are now not designed to meet needs of the labor market. Programs are not designed to meet employers' needs which increasingly focus on generic and social skills such as communication, analytical thinking and leadership skills. Students are not adequately informed about labor market conditions, and often enough, it is their unrealistic expectations, which lead them to graduate unemployment.

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<sup>32</sup> See Higher Education in the 21<sup>st</sup> Century: Size and Composition (2006).

85. The transition from university to work could worsen in the future, given that the Turkish economy is undergoing rapid modernization and structural change. Employer needs are already different between firms or regions. There will be additional complexities in the labor markets as different firms/regions undergo different economic transformations. It is critically important that universities as well as MYOs develop better relationships with industry. Their programs must prepare their students appropriately for the future, and inform and guide students about what to expect in their first jobs. This is not a cosmetic change; it would require a significant cultural change in universities as well as MYOs. The quality of teaching must also improve both in the content and in the teaching style.

86. ***Improving student preparation for tertiary education is a key challenge for Turkey as it is in many countries around the world.*** International research from a number of countries, including the U.S., Australia and New Zealand, shows that improving academic performance for students in secondary school is essential to help students from poorer backgrounds to be successful in higher education. In fact, providing at-risk students a rigorous education in secondary school does more to offset family background than any other factor.

87. Remedial, or compensatory, programs at the higher education level, are another option to improve access for more at-risk students. Many countries have these types of second chance programs on campuses to help students catch up. In addition some or students enter other institutions, such as community colleges, for the first two years to get the necessary requirements and then transfer to four-year colleges or universities. This role should be part of the discussion and design of a differentiated system with opportunities to transfer among schools and clear articulation paths.

88. Many agree on the need to change the OSS and the admissions process into university although there is less agreement on the details. At a minimum, the exam should be comprehensive covering all curricula and should measure what students learned in secondary school, including the curricula for the last year of secondary schooling. Looking at exams in other countries—for example, the International Baccalaureate, the German Abitur, and the British “A”levels-- is a way to start thinking about how to develop a new exam. This is a highly sensitive area of reform but changing the exam and how it is used to allocate spaces would have many beneficial effects for the higher education system in Turkey. Reducing the need for tutoring would also free up private resources to be used in other ways.

#### **Box 8: Benefits of a New Exam System**

- Better reflection of the concept of education;
- Ensure that students remained in school the entire final year;
- Provide a better picture of school achievements;
- Be able to assess generic and other wider skills;
- Significantly reduce time and money spent on learning multiple choice exam techniques;
- Reduce the need or temptation to retake the exam;
- Provide a better picture for university admission of the potential of prospective students;
- Be fair between different types of schools – with no need for any weighing factors and
- Provide university entrants with a better start to their higher education.

Source: *Options for Reform of Higher Education: A Policy Note, 2005*

#### **Relevance to the Labor Market**

89. Mission differentiation and a variety of kinds of higher education institutions will provide more choices to meet different needs of students, society and the labor market. In Turkey public institutions have been developed as though they are or will be research institutions when there is little research at most universities. While countries have different approaches to kinds of institutions, and the names vary across countries, the main types of institutions include: research universities, applied science and technology institutes, teaching colleges, vocational colleges, and open universities. Most research universities develop centers of excellence in research in specific fields of local/regional relevance and a small number of universities might be on the cutting edge of research internationally. Vocational colleges offer sub-degree programs in vocational and technical fields while technology institutes offer degrees in technical and professional fields.

90. *An immediate priority for Turkey is to create a high quality vocational/technical sector with clear links to regional and local communities and to the labor market.*<sup>33</sup> This is necessary to increase the diversity of institutions, improve quality and better prepare students for the mid-level vocational and technical professions. There are a variety of ways to develop the alternative sector based on other countries' models, including broadening the mission of MYOs –for example, regional technical colleges, polytechnics or community colleges—and renaming the institutions to reflect the new, broader and high quality mission.

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<sup>33</sup> YOK has sponsored a set of meetings around the country with education and the private sector to examine in more depth how to bring in the private sector and link higher education, especially vocational and technical education, more closely with the needs of the private sector.

91. There is strong evidence internationally that non-university alternatives can produce graduates with skills needed in the labor market.<sup>34</sup> This is very much needed in Turkey and the box below summarizes the main challenges in developing a stronger MYO or alternative sector. Clustering MYOs into larger regional technical colleges or community colleges could tie them more closely to the private sector and local and regional labor markets and economic development and provide more access to underserved areas and individuals. As discussed earlier, quality and relevance at small-town MYOs is particularly problematic. In this approach the number of institutions would be reduced substantially and quality would be increased.<sup>35</sup>

92. To make the new institutions, institutions of choice for a diverse and broad segment of potential of students, Turkey could create two distinct program streams at the new MYOs that focus on different skill levels needed in labor market.<sup>36</sup> The first would be an open entry, non-tertiary stream focusing on an apprenticeship programs for the trades. The second would focus on knowledge-intensive disciplines, involving two phases: a 2-year, short-cycle phase leading to a tertiary diploma or associate degrees, and employment as a middle-level paraprofessionals, and an additional 2-year degree- completion phase either in the same institution, or at a university after completing a bridging program.

93. In addition, as it is often easier to design new institutions than to reform existing ones, the creation of some new targeted institutions especially ones with greater ties to technology and labor markets is a good step forward. It is essential that the rules and requirements for setting up a new institution, be it public or private, be well-designed, transparent, fair and minimally burdensome on those who wish to start institutions, encouraging the creation of high quality institutions rather than inhibiting them.

94. To ensure that two viable, and articulated complimentary sectors of tertiary education contribute to the vitality of the overall endeavour, YOK should consider the development of a comprehensive articulation framework that clearly defines the guiding principles for the transfer of academic credits and mobility of students in both directions between the two sectors. This would enable students to switch programs or streams, something that is now very difficult to do in Turkey, but is an important part of strong, diversified systems in other countries.

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<sup>34</sup> See discussion on need to expand tertiary education in World Bank, Constructing Knowledge Societies: New Challenges for Tertiary Education (2002).

<sup>35</sup> There are many specific ways to consider clustering of the now 600 small and specialized MYOs. One specific suggestion is to create 65-85 comprehensive larger regional institutions associated with existing universities. See The Alternative Sector of Tertiary Education in Turkey: Options for Reform of MYOs, 2006, for a further discussion of this option and the main challenges in developing a high quality and relevant sector.

<sup>36</sup> For more discussion of this approach see The Alternative Sector of Tertiary Education in Turkey: Options for Reform of MYOs, 2006



**Box 9: Ten Challenges Facing the Development of a Stronger MYO, or Alternative Sector**

- Defining a broader vision and carving a different identity, and mission for the new institutions
- Making the new institutions, the institutions of choice for a diverse and broad segment of potential of students
- Adopting a governance framework that ensures autonomy and accountability, and enhances identity
- Diversification of sources of funding to ensure sustainability of the sector, and adopting a more equitable, transparent and effective funding formula
- Building and sustaining the human, physical and learning resources capacity of the new institutions
- Ensuring the quality and continued relevance of programs, and establishing a student-centered learning environment
- Building the foundation for strong mutually beneficial partnership with business, industry and key players in the local economy
- Ensuring the ongoing knowledge of and support from the labor market and employers
- Ensuring that two viable and articulated complimentary sectors of tertiary education contribute to the vitality of the overall endeavour.

Source: *The Alternative Sector of Tertiary Education in Turkey: Options for Reform of MYOs*, 2006. Based on experiences in ten countries.

95. Real dialogue and partnership with the private sector are also essential to design and implement programs needed in the local area and to reduce the skills mismatch between education and the labor market. Explicit ties with the private sector, as discussed in the Irish example, could help to bring higher education and the private sector together. Tax incentives for businesses and public-private partnerships to provide high quality education and training are other possible approaches. Boards of Directors for universities and MYOs with membership from the community and the private sector would help to get a different focus at institutions, one that is looking to external needs and demands in addition to internal ones.

96. Competitive grant programs, which are used internationally, are another strong policy lever to support innovation and excellence in higher education. Grant programs can be targeted to encourage and foster mission differentiation and improvements in teaching, research or service. Many countries have competitive grant programs, including the Fund for the Improvement of Postsecondary Education in the U.S. and competitive funding programs to support centers of excellence in the U.K and Japan. World Bank loans have supported competitive funds in a number of countries, including Chile, Indonesia, Egypt and Jordan<sup>37</sup>. To have an effective competitive grant program requires a high quality and fair peer review process.

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<sup>37</sup> See [Innovations in Tertiary Education Financing: A Comparative Evaluation of Allocation Mechanisms](#) (2006) for examples of competitive grant programs around the world.

## Next Steps

97. Turkey is at a crossroads in tertiary education. The YOK strategy and Ninth Development Plan include ambitious and far reaching plans to reform, modernize and expand tertiary education in Turkey. To support expanded access and equity and to increase the relevance of tertiary education to the labor market, as laid out in the YOK strategy and the Ninth Development Plan, Turkey has several key next steps to take to:

- Design an appropriate public/private financing plan for expansion;
- Introduce system flexibility with institutional autonomy and accountability;
- Provide higher quality education to students in basic and secondary education; and
- Develop strong vocational/technical sector in tertiary education

98. These next steps are central to successful implementation of the tertiary education strategies recently developed in Turkey. The steps are very much interrelated and need to be pursued in a complementary way. Decisions made now will have implications for decades to come on tertiary education, society, job creation and competitiveness in Turkey. As highlighted in this paper increased cooperation and partnership between higher education and the private sector is important.

99. Discussing and debating the strategy for tertiary education across the country--with citizens, stakeholders, government, and the private sector—could help to develop a consensus in the country on the way forward and the next steps. This political consensus is important as many of the reforms are politically very sensitive. A commission with high-level membership from the private sector, policy makers, school superintendents, college presidents, researchers, and unions is one way to focus attention on the labor market and education issues and help to develop a consensus on the policy changes needed. A recent example of such a commission is the New Commission on the Skills of the American Workforce, which looked at the economic and educational challenges in the United States and recommended comprehensive changes to education.<sup>38</sup> Another approach is the Expert Group on Future Skill Needs in Ireland, discussed earlier in the paper.

100. As consensus is developed on the path forward, it will be necessary is to develop further the specifics on implementation, including how quickly to move ahead and what to do first. Continued development and discussion of the plans—with education, government, private sector and students--is essential. Estimating the cost of the strategy and how it will be a paid for is a necessary step to successful implementation. The papers discussed here look at many of the policy issues but more is needed on the overall costs and economic implications of the plans, including how to change higher education financing to share costs of the expansion between government and individuals. Additional analyses and technical assistance, including on issues of the entrance exam, linkages across secondary and higher education, design of institutional autonomy and accountability, equity, and the role of the private sector, would also help.

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<sup>38</sup> Information on the commission and the final report, Tough Times or Tough Choices, are available at [skillscommission.org](http://skillscommission.org).