

# Turkey

Making the Productivity  
and Growth Breakthrough

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With more than 6,500 consultants deployed from 82 offices in 44 countries, McKinsey advises leading companies on strategic, operational, organizational, and technological issues. We work for the largest and most prestigious companies in each market we serve. In addition, we advise a diverse group of governments, public sector institutions, and nonprofit organizations on management and policy challenges. McKinsey has had a permanent office in Turkey since 1994, from which we serve a wide array of clients in the areas of financial institutions, manufacturing, consumer goods and services, energy, and telecommunications. We have also worked at the holding level for many of major conglomerates in the country. Finally, we have also done important work in the public sector, most notably with the nascent Privatization Agency in the mid-1990s, with the Banking Regulatory and Supervisory Agency and, most recently, in privatization of gas distribution systems.

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The McKinsey Global Institute (MGI) is the internal economic research think tank of McKinsey & Company. Founded in 1990 and based in Washington, D.C., its mission is to offer insights into global economic issues of relevance to our clients and international leaders, and to research the key barriers to faster growth in the world economy.

The MGI methodology is built on a combination of two distinct disciplines: economics and management. Both of these disciplines are concerned with economic growth, but neither is positioned to understand it fully. Economists have scant access to the real-life problems facing business managers, while managers often lack the time and incentive to look beyond their own situation to the larger issues of productivity in their industry or the economy as a whole. McKinsey's economic research remedies this by combining the academic rigor and breadth of the field of economics with the deep and practical industry knowledge and management understanding we use in our daily work with clients. Thus, MGI research is founded on a unique collection of facts and microeconomic analyses that is beyond the reach of most academic and government-sponsored research. Our teams have conducted in-depth analyses of 15 countries covering all continents, ranging from the most advanced economies (e.g., the US, Japan, the UK, the Netherlands, France, and Germany) to developing ones (e.g., India, Russia, and Brazil). In each country, a representative sample of economic sectors has been studied, covering a broad spectrum of products and services. The result is a unique perspective on productivity and its contribution to economic growth.

In all of our MGI studies, we have drawn heavily on the members of an Academic Advisory Board to ensure conceptual rigor and to provide technical counsel on key analytical issues. In this study of Turkey, we have been privileged to work with Olivier Blanchard from the Massachusetts Institute of Technology (MIT), Dani Rodrik from Harvard's Kennedy School of Government, Daron Acemoglu from MIT, and Martin Baily of the Institute for International Economics in Washington, D.C.

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This work was carried out under the direction of David E. Meen, a Director in McKinsey and the Manager of our practice in Turkey. Diana Farrell, Director of the McKinsey Global Institute, was a core contributor through her continuous support, counsel and encouragement. Didem Dinçer Başer was responsible for the management of the project. Vincent Palmade, a Principal with MGI who has spent most of the past 10 years working on productivity issues, provided essential direction on the use of key frameworks and guidance on performing specific analyses.

We are indebted to, and wish to thank deeply, the members of our Academic Advisory Board for this study of Turkey: Olivier Blanchard, Dani Rodrik, Daron Acemoğlu, and Martin Baily. Not only did they help keep us to a very high standard of intellectual rigor, but they also inspired us to reach further than we knew we could to draw out themes that should resonate with Turkish policymakers. They also helped make the effort enormously enjoyable.

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# A Call to Action

So close, and yet so far . . .

One step backward for every step forward . . .

The breakthrough is always one more crisis away . . .

Variations on these refrains have been a constant in Turkey since at least the early 1990s. Encouraging growth spurts are eclipsed by confidence-rattling contractions. International lenders pour energy and resources into helping, and a debt trap swallows them up. Turkey's investment regulations are among the most investor-friendly in the world, but foreign direct investment (FDI) is stubbornly stuck at around 90<sup>th</sup> in the global tables. Turkey has been consistently ranked in the top 10 emerging markets in terms of potential, and yet real GDP per capita grew at less than 2 percent per year from 1990 to 2000. More than 40 percent of secondary and tertiary school graduates in the past decade have been women, but the workforce participation of women is lower than in almost any other country of significance.

In the search for answers, many aspects of the Turkish economy have been carefully studied. A notable exception has been core operational productivity. In fact, the McKinsey Global Institute's study of productivity growth in the Turkish economy points strongly to a direction that could make the difference between continuing on the economic seesaw or launching the country into an era of sustained rapid growth and employment creation. This Call To Action underlines the small handful of measures that policymakers must implement to create sustainable positive momentum.

Productivity growth is the engine of economic growth, a fact demonstrated time and again in developed and developing economies alike. And Turkey's productivity performance is weak: labor productivity is at 40 percent of the US level and total factor productivity (TFP) overall is slightly above one-half the US level. However, the story is by no means uniformly true. In every sector there is a segment, of one size or another, that is reasonably modern and substantially productive. In those modern segments, skill levels are high and, in many instances, world-class players are present to some degree. Further, natural market forces are increasing the share commanded by modern players in most sectors.

However, in all but the most capital-intensive sectors there is also a traditional segment, one in which modern operational and marketing techniques are scarcely known. These are the bakkals and open bazaars in food retailing, the mandiras in dairy processing, and many of the processors of long products in steel. Labor productivities in the traditional segment of a sector can be as low as 20 percent of benchmark levels, and yet this segment often employs well more than half of the labor in the sector. At this stage of Turkey's development, the simple mathematics of the traditional segment's extremely low productivity, combined with its high share of output, overwhelms the results from the modern segment and drives Turkey's total performance down to disappointing levels.

There is a crucial role for small enterprises in a successful economy, as long as they are efficient and play by the same rules that govern their larger modern counterparts. In the US, for example, small-to-medium-sized enterprises (SMEs) account for a substantial share of employment and of value added in the economy – proportionately more than in Turkey, in fact. However, in Turkey most of the smaller, traditional players operate informally; that is,

they evade their obligations to pay VAT, or income taxes, or social security payments, or they fail to meet mandated product health or safety standards. The significant costs they save through these evasions is often what enables them to stay in business, and frequently at only subsistence levels. However, *being allowed* to evade obligations is, by the same token, often what eliminates any incentive for them to modernize in ways long-since pioneered in developed economies.

Modern operators as well are far from being without productivity shortcomings. In almost all sectors there are major improvements that can be made in the organization of functions and tasks (OFT) – that is, the way in which the business system is structured and operated. As well, in many sectors, Turkey operates at plant capacity utilization and operating scale levels that are well below accepted norms, revealing failures in overall planning.

Macroeconomic and political instability, as reflected in high real interest rates and economic volatility, is most often the culprit behind the gaps in productivity in the modern segment. It accounts for almost 50 percent of the productivity shortfall in the economy overall. High interest rates substantially distort focus in cash-oriented businesses, as rational managers focus on the gains available via superior cash management rather than on the profit potential from improving core operations. Large fluctuations in demand bedevil managers' efforts to plan capacity and output. Overall economic fragility limits the presence of foreign investment, substantially reducing the competitive intensity necessary to ensure attention to productivity.

Of course, state ownership of monopolies in some components of the modern segment creates its own unique barriers to productivity. Lacking market-oriented or profit-maximizing incentives, or constrained by the rights of government employees, managers have allowed labor productivity to lag far below benchmark levels. With the same lack of acute focus on the marketplace, monopoly operators have often failed to create and market the goods and/or services that will stimulate demand and thus increase output and productivity.

In understanding these barriers to productivity growth there is the core of an action program that can deliver a breakthrough. We propose that the Turkish government adopt a “cabinet-level” resolve to jump-start rapid productivity growth by focusing on achieving three outcomes over the next 24 to 36 months:

1. **Reduce dramatically the level of informality in the economy.** Policymakers need not fear the social risk. This study amply demonstrates that effective measures will achieve two significant goals:
  - Induce many of today's traditional operators to modernize along paths available to them, and thus allow them to retain a role in the economy as productive small and medium enterprises, comparable to the dominant role played by such entities in developed economies
  - Stimulate sufficient output growth to accelerate overall job creation that will offer secure employment opportunities to those that can not make the transition.

In this report we propose a specific program that draws on international experience and combines “carrot” and “stick” to limit informality.

2. **Ensure that liberalization of the utilities sectors takes place only within a robust regulatory and judicial framework.** Consumers, investors, and international lenders alike are watching very closely the liberalization of telecommunications and energy in Turkey. Consumers want and need lower

prices, investors want and need fair returns, the state needs substantial contributions to the Turkish treasury from privatization proceeds. However, these goals are often in conflict and the Turkish regulatory and judicial regime is not sufficiently equipped today to understand and handle the trade-offs. Since successful liberalization could be the bellwether for future FDI, policymakers must focus now on ensuring the rigorous and comprehensive problem solving required for success.

3. **Achieve macroeconomic stability.** Broadly speaking, there is absolutely no news in pointing out the importance of economic stability to a country. However, this study offers compelling evidence that without a stop to volatility and high interest rates, the productivity gains necessary to drive GDP growth can never be attained. This report can not attempt to offer further program elements in this arena; it can only serve as another major spur for policymakers not to flag in their efforts.

Of course, the government should also make other important policy changes that, while not as central as the three above, will make an important difference at the sector level. Among those outlined in the report, one of the most exciting is the set of measures that can enable Turkey to create a meaningful residential mortgage market, even before the evolution to a stable macroeconomic setting is complete.

\* \* \*

Turkey has the potential to almost double its productivity by 2015. The payoff from productivity growth of that magnitude could well be sustained GDP growth of as much as 8.5 percent per annum in the decade 2005 to 2015, and the creation of 6 million additional jobs in the economy. Many of these jobs will be in service sectors that are attractive to female workers, allowing Turkey to tap a badly underutilized resource.

It can be done.



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# Objectives and Approach

We have undertaken a comprehensive assessment of productivity in Turkey to identify the policy measures and priorities that will help accelerate Turkey's economic growth. In addition, we have sought to determine a realistic scenario for the impact such measures could have on total output growth (GDP per capita) and employment.

The McKinsey Global Institute (MGI) was driven to begin this study early in 2002 by the conviction that Turkey's worst financial crisis in over 50 years presented both a need and an opportunity to generate new insights about the country's economy: a "need" because Turkey can never emerge as a fully developed economy if it does not conquer its boom-and-bust history; an "opportunity" because, arguably, all Turkish labor, business, and government constituents are more open to change now than they have been in a generation. The possibility that Turkey's accession to the European Union is within reach has fueled our intent to make a difference with our work.

In this chapter we explain our objectives in greater detail, followed by our approach and the methodology behind our analyses and conclusions.

## STUDY OBJECTIVES

We believe that rapid productivity growth is the *sine qua non* for attaining attractive GDP growth levels (see Box 1: Productivity – the engine of economic growth). More efficient use of resources to create value allows the economy to provide lower-cost goods and services to domestic consumers and to compete for customers in international markets. This efficiency, in turn, increases the overall surplus in the economy and raises the nation's living standards.

Turkey's economic growth has been the focus of many studies, both academic and in the popular press. The country's economic stagnation since the 1990s has been attributed to many factors: macroeconomic instability, lack of capital, uneducated labor force, and the like. What has been lacking is a systematic evaluation of the relative importance of the factors that explain Turkey's low productivity. Furthermore, the bulk of the literature has looked at Turkey's growth from a macroeconomic perspective – the bird's-eye view. What is needed is a ground-level view: an understanding of the microeconomic forces driving productivity performance.

**Box 1**

**PRODUCTIVITY: THE ENGINE OF ECONOMIC GROWTH**

Productivity improvements should trigger a virtuous cycle that, under the right competitive conditions, will result in economic growth (Exhibit 1). Assume that productivity increases in a specific sector in the form of more efficient use of resources and more product and service innovations. These enable either creation of higher value added and/or of lower costs, thus creating a surplus for the companies involved. This surplus is distributed as lower prices to consumers if the right competitive intensity exists in the sector. In addition, the surplus may also be distributed as higher profits to owners or higher salaries to employees, all of which will be recycled into either investment or consumption.

Productivity improvements in a given sector decrease prices, thus increasing output through stimulation of demand. The lower prices increase disposable income and demand elsewhere, thus increasing employment in the total economy. An increase in employment in the originating sector is not a given, since it can go up or down depending on the price elasticity in that sector.

On the supply side, once better capacity utilization is exhausted as a source of output growth, further increase in output within existing capacity will be accommodated by the same measures that result in improved productivity. For example, organization of functions and tasks (OFT) measures in our report's manufacturing sectors will produce both labor productivity increases and output growth within existing capacity. However, at some point accommodating further growth will require new capacity. The same increase in purchasing power already noted is also a source for the increased savings necessary for financing this new capacity, since individuals in the economy will have more real income at their disposal to save or spend. All of these factors will increase resources set aside (savings) and made available for the maintenance and upgrade of existing capacity as well as the installation of new capacity (investment). This is the supply-side requirement of output growth. Fair and intense competition in all sectors of the economy will ensure that the retained earnings available for reinvestment occur in the most productive companies.

**Box 1****PRODUCTIVITY: THE ENGINE OF ECONOMIC GROWTH  
(CONTINUED)**

As for the effect of these on employment, in some sectors the growth in output due to lower prices more than compensates for the increase in labor productivity and sector employment increases. (We believe this can occur, for example, in the Turkish telecommunications sector.) Of course, in other instances output does not grow as quickly as productivity, and sector employment decreases (experienced in the Turkish cement sector in the 1990s). Nevertheless, positive spillover effects among sectors from higher process efficiency and product and service innovations help provide redeployment opportunities to displaced workers. The growth in output in mature industries will also create growth and employment in related industries (e.g., upstream and downstream sectors). In either case, however, the increased disposable income results in higher economy-wide output, and this means higher GDP and employment growth in the economy.

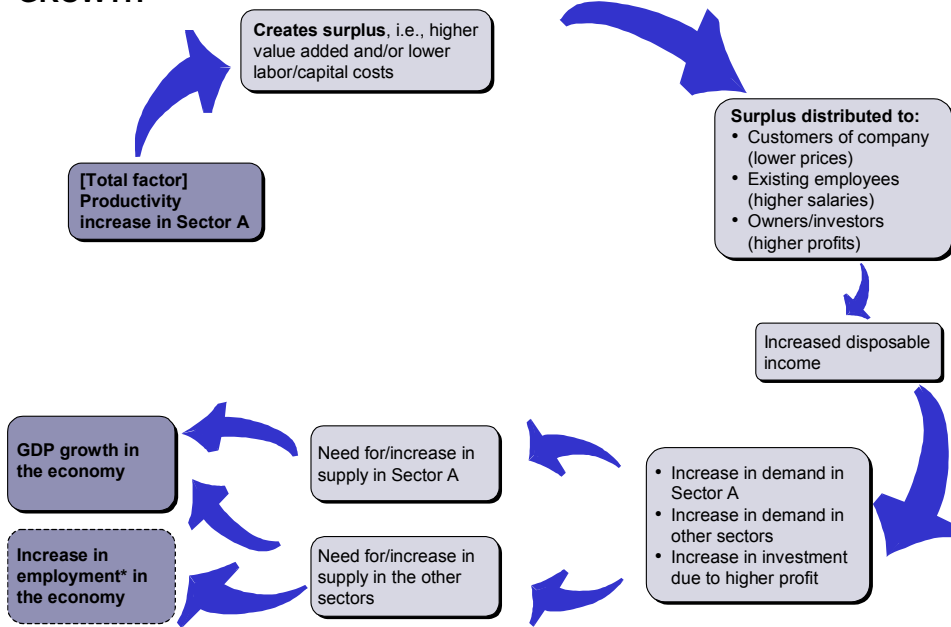
For a tradable goods/services sector, competitiveness could be interpreted as the share that a country captures in export markets. For a specific good/service of a given quality, there are two key determinants of its price and, thus, its competitiveness: costs of factor inputs used to produce the good, and efficiency with which those inputs are used, i.e., the productivity with which that good/service is produced. As a country develops, the advantages it has regarding factor input costs will diminish, especially with stronger currency values, but also with increasing wage levels converging with other developed countries. Therefore, competitiveness based only on the cost of factor inputs is not sustainable. Thereafter, the only way a sector can achieve sustained competitiveness in the longer run is through rapid and sustained productivity growth.

The empirical evidence that these mechanics truly work comes from comparing countries' labor productivities and GDP per capita levels (Exhibit 2). Although it is not possible to prove the causality in any one time frame, the very strong correlation between GDP per capita and labor productivity reinforces the presence of a virtuous cycle in which productivity growth leads to GDP growth. Turkish economic history also demonstrates the link since the high GDP per capita growth period from 1980 to 1990 coincides with a period of higher productivity growth.

The empirical data not only reinforces the fundamental link between productivity growth and output, but also the link between productivity and employment, dispelling fears of unemployment. Both in the experience of Turkey and other countries, we see the high-productivity growth during their takeoff years coupled with employment growth (Exhibit 3).

Exhibit 1

**VIRTUOUS CYCLE: PRODUCTIVITY GROWTH LEADING TO ECONOMIC GROWTH**



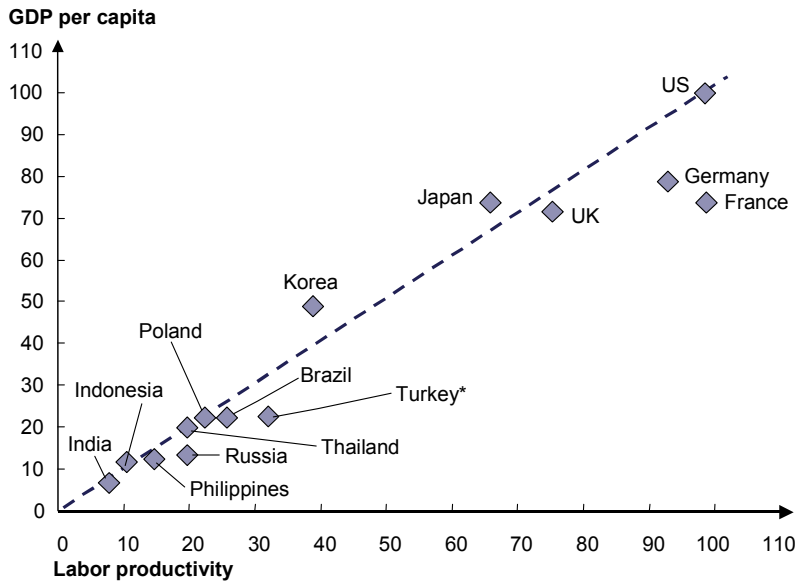
\* Increases either in the specific sector and/or in other sectors

Source: MGI

Exhibit 2

**EMPIRICAL EVIDENCE: HIGHER PRODUCTIVITY CORRELATES STRONGLY WITH HIGHER GDP**

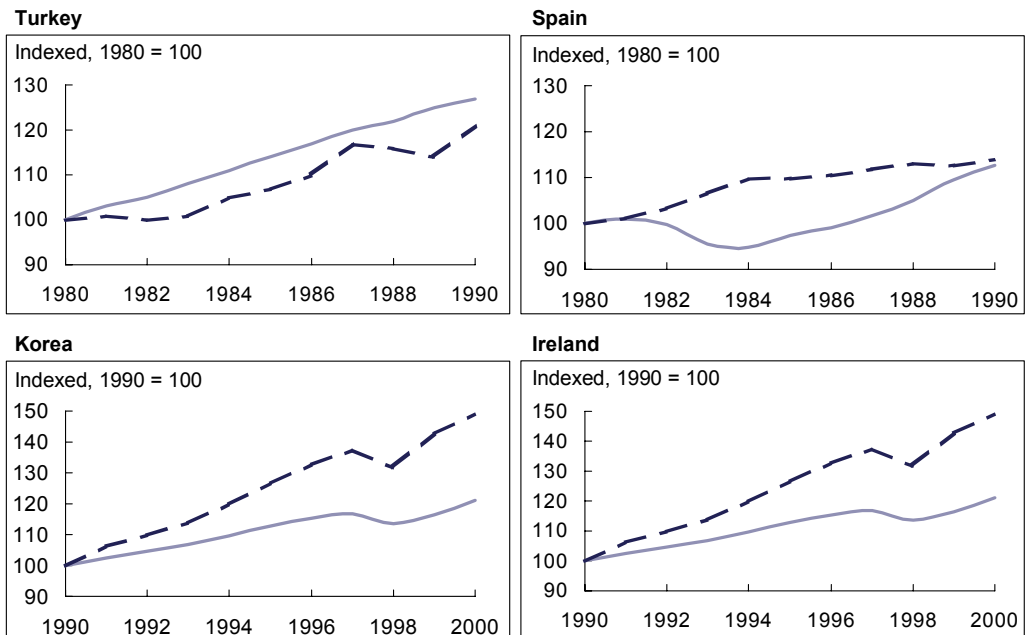
Indexed, US = 100 at PPP in 1999



\* Year 2000 data

Source: MGI analysis

Exhibit 3

**LABOR PRODUCTIVITY vs. EMPLOYMENT  
GROWTH IN A COUNTRY**

Source: Penn World Tables; World Development Indicators; State Institute of Statistics; MGI analysis

The focus of this work is to assess current productivity performance, identify the policy changes required to remove barriers to productivity, and to assess the output growth potential that Turkey can achieve through these suggested policy measures. In addition, we assess the GDP per capita and employment levels to which Turkey might aspire as a result of these changes. Through 11 detailed industry case studies, we seek to understand the relative importance of the barriers that have hindered productivity in the past. By benchmarking Turkey's performance in each sector to world best practice performance and normalizing for unique conditions, we are then able to assess productivity and output growth that is achievable when these barriers are removed. By marrying this understanding of productivity to a comprehensive assessment of changes in labor and capital input levels, we are able to define to what extent Turkey can hope to duplicate the high GDP per capita growth rates that countries such as Korea achieved in their breakthrough eras.

During the process of economic development, improvements in average productivity levels are brought about through: 1) raising productivity in existing establishments; and 2) through a spread of these and other modern, higher-productivity establishments, which displace inefficient, small-scale operations. Our case studies cover a wide range of industry structures, allowing us to assess the relative importance of growth from these two sources.

We are interested in understanding Turkey's structural economic potential. By structural potential, we mean the maximum growth that the country could achieve

given the resources at its disposal, assuming certain policy preconditions. Hence, we do not make recommendations on short-term macroeconomic policies. Finally, in drawing policy implications from our findings, we bear in mind that higher material living standards are only one of many policy goals that a government can have. Yet higher productivity and output levels provide the resources often necessary to address other types of social challenges in the long term as well.

## STUDY APPROACH

The approach used in this study is based on the methodology used in previous MGI studies.<sup>1</sup> Industry case studies form the core of the study and are complemented by analyses of relevant aggregate economic performance. In addition, since we were studying an emerging market, we paid more attention to the feasibility of productivity and output growth rates. While growth at the sector level is explored within each case study, the main discussion of growth and any aggregate barriers are elevated to the economy overall.

**Aggregate economic performance.** The first chapter diagnoses Turkey's economic performance, especially in terms of material living standards – GDP per capita – based on aggregate data and relevant literature. Through a comparison with the US, France, Korea, and Brazil we seek to identify the main drivers of Turkey's current GDP per capita level as well as the growth rate of the economy as a whole. From this macroeconomic view, important questions are identified that must be answered through the bottom-up examination of sector performance.

**Sector case studies.** The core of the project is the 11 detailed industry case studies. Analyzing industries through a microeconomic glass allows us to understand how operations in Turkey differ from global best practice benchmarks and what the reasons are for the different choices Turkish managers have made. Only through this detailed understanding of industry operations are we able to draw conclusions on the causality and relative importance of the potential barriers to productivity growth, and to estimate the sector's growth potential when these barriers are removed.

Our cases are selected to represent a significant share of the non-agricultural economy – 27 percent of non-agricultural GDP and 31 percent of non-agricultural employment (see Box 2: Why do we focus on non-agricultural productivity?). The sectors are also representative of the larger group of utilities, manufacturing, and services aggregate sectors.

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<sup>1</sup> The depth and quality of analysis in this report would not have been possible without the analytical road map and refinements developed during 14 prior MGI studies. It would also have been impossible without oversight and input from our Academic Advisory Committee.

## Box 2

### WHY DO WE FOCUS ON NON-AGRICULTURAL PRODUCTIVITY?

We focus on non-agricultural productivity for two main reasons. The first is practical: low agricultural productivity has already been the focus of most research in development economics, and given that almost all of McKinsey's global experience is in non-agricultural industries, we are more likely to be able to contribute by focusing on our area of expertise.

The second reason is more fundamental. Turkey's non-agricultural productivity is the key determinant of its overall economic performance. Its agricultural productivity, although very low, is at least partly a by-product of the performance of its non-agricultural sector, since agriculture is typically the recipient of surplus (residual) labor in the economy. In all countries, the agricultural share of employment falls as the economy develops. This decline in agricultural employment requires, firstly, that the agricultural sector be able, with less labor, to feed the country and, secondly, that the non-agricultural sector be productive enough to create attractive alternative employment opportunities. As the spread of advanced agricultural techniques has made meeting the first prerequisite largely feasible, the challenge for middle-income countries, with Turkey no exception, lies in achieving the second requirement.

Each of the cases follows the same sequential analytical process, starting with a measurement of current productivity levels in the Turkish sector relative to global best practice standards (see Box 3: Interpreting global best practice productivity benchmarks). We then generate and test hypotheses on the causal factors that explain the observed gap. We conclude by synthesizing the findings on obstacles to productivity growth and estimating the rate of achievable productivity growth when these hindrances are removed.

¶ **Measuring productivity in the sectors.** Productivity reflects the efficiency with which resources are used to create value in the marketplace. It is measured by computing the ratio of output to input. We first define each industry consistently between Turkey and the benchmark countries, making sure that our industries include the same parts of an industry value chain. We then collect data<sup>2</sup> on output produced in each sector using measures of physical output or value added

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<sup>2</sup> Across 11 sectors we conducted in excess of 500 interviews, working sessions, and data-gathering exercises. Wherever possible, we also collected detailed numerical data from company information systems, on the condition of confidentiality.

adjusted by purchasing-power parity (PPP). Similarly, the labor inputs are measured in physical terms as number of hours worked, and capital inputs, when available, as capital services obtained from the existing stock of physical capital.

Of the two components of total factor productivity (TFP) – labor productivity and capital productivity – labor productivity is measured in all sectors we have studied. In capital-intensive sectors (e.g., telecommunications and electricity), capital productivity is measured explicitly as well. For other sectors where capital inputs are a sufficiently smaller part of the factor inputs, a qualitative point of view has been developed on capital productivity. Through estimates of minimum-efficient scale and capacity utilization, consistent with previous studies, we have found that the same factors explaining low labor productivity explain low capital productivity as well. The theoretical trade-off between labor and capital productivity has been found to be relatively unimportant. Therefore, since labor productivity is the factor measured in all sectors and is used as a proxy for TFP in sectors where TFP has not been measured, we refer to labor productivity in this and the next chapter, which aggregate sector productivity findings to the overall economy.

¶ **Generating and testing causality hypotheses on operational factors.**

To explain why levels of productivity in Turkey differ from the benchmarks, we start by generating a set of hypotheses on the possible causes. In this phase, we benefit from the consulting experience of McKinsey & Company by using interviews with McKinsey consultants who are experts in the field. We also draw upon interviews with members of industry associations and with company managers in both Turkey and the benchmark countries. The hypotheses are tested with further fact-based analyses and plant visits, which allow us to conclude with an assessment of the relative importance of the causal factors in explaining the productivity difference in each sector. This is an efficient way of identifying major operational differences and the reasons behind them.

We use a systematic framework to explain productivity differences across countries, which captures the major possible causal factors. This causal framework has three layers of causality: causal factors at the production process level, factors arising from industry dynamics, and external factors (Exhibit 4).



- ¶ **Estimating achievable productivity growth.** Based on our understanding of the current barriers to productivity growth, we then estimate how fast productivity can grow in a period of 10 years if these barriers are removed. These predictions consider productivity improvements achievable in existing establishments, without additional capital but through reorganization of functions and task, gains from new investments in these establishments, and the effect of potential new entrants to the sector.

**Box 3**

**INTERPRETING GLOBAL BEST PRACTICE PRODUCTIVITY BENCHMARKS**

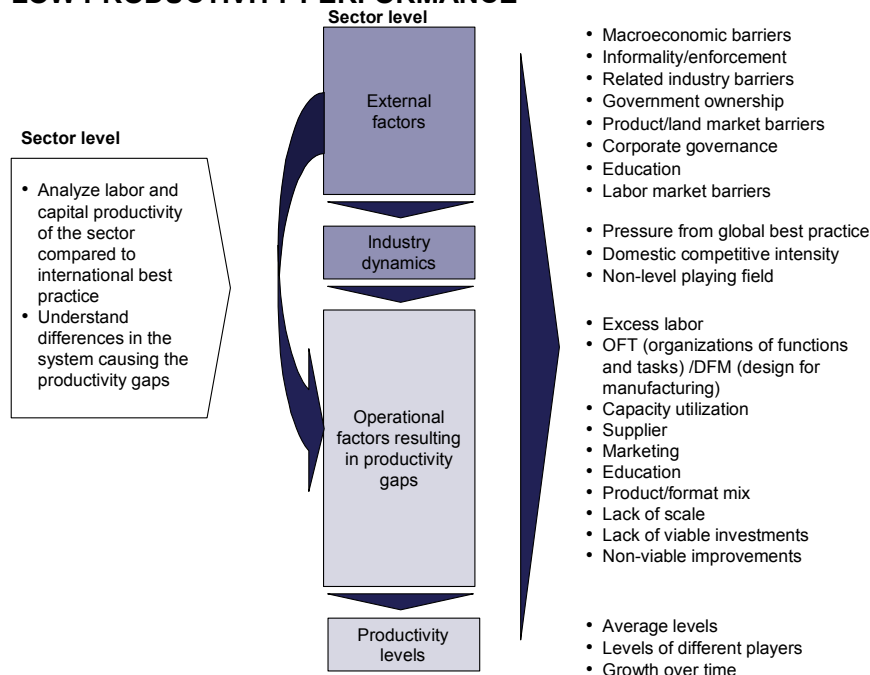
In order to assess the performance of Turkish sectors, we compare their average TFP or labor productivity, where appropriate, to the best-performing economy in that sector in the world. This benchmarking allows us to measure how efficient Turkish companies are in the production process relative to their potential. The use of comparison countries allows us also to identify the reasons for the productivity gap through a detailed comparison of production processes and other business practices in Turkey versus the benchmark country.

The global benchmarks should not be perceived as a measure of maximum achievable productivity, however. At any moment, there are individual companies with productivity levels above the average of the best-performing country. And over time, the global benchmark rises as individual companies continuously improve their productivity. And so, while the benchmark productivity level can be interpreted as a realistically achievable level of efficiency for the sector as a whole, it should not be seen as a limitation to reaching for an even higher level.

Independent of what the global benchmark for any specific sector is, we have also chosen to express all of our productivity measures in consistent units defined relative to the US average productivity level, since the US has the highest real income level in the world, which makes it the best measure for the level of total GDP per capita. Using a consistent benchmark unit helps in calculating the aggregate growth potential for Turkey in relation to the US.

Exhibit 4

**MGI FRAMEWORK: FINDING THE DETAILED CAUSES FOR SECTORAL LOW PRODUCTIVITY PERFORMANCE**



**Synthesis.** In the synthesis work we look across both the detailed findings from our case studies and the directions suggested by the aggregate analysis. In many respects the synthesis is the focal point for policymakers: it makes a difference whether the most important changes are industry-specific or whether they will have impact on a broader front. It matters whether there is a small handful of measures that will effect a breakthrough or whether a many-faceted approach is required. It is important to know whether policy decisions in one sector or on one dimension have spillover effects to others. And so, the synthesis is intended to add value by drawing out patterns and themes that can help focus the attention of policymakers.

The next step in the synthesis is to assess the aggregate output growth potential after the obstacles to productivity growth are removed. We ask the question: how fast can Turkey’s GDP per capita grow over a 10-year period? (see Box 4: Reconciling projections and base year data) Our answer is derived using information from our cases together with aggregate data drawn from the experiences of other countries at similar stages of development. We use the potential productivity growth rates from our industry cases to estimate productivity growth potential for each of the aggregate sectors of the economy, then the total economy. Based on output compositions of other countries, we then construct a benchmark that describes the sector output breakdown in Turkey assuming the potential productivity growth rates from the cases. Finally, we derive the benchmark employment composition from the implied output values by sector, projected productivity growth rates, and the growth of employed labor force.

**Box 4**

**RECONCILING PROJECTIONS AND BASE-YEAR DATA**

The base year for our productivity measurements is taken to be year 2000, except for retail banking, wireless communications and apparel (2002) and for electricity (1999). As Turkey experienced a major financial crisis in 2001, any numbers used from that year in the calculations would be very much distorted and not reflect the general conditions in the country.

Between 2000 and the beginning of 2003, evidently much has changed. Nonetheless, we are fundamentally interested in exploring Turkey's structural economic potential and this, we believe, has not changed materially between the end of 2000 and the beginning of 2003. Turkey's GDP per capita on a PPP basis in 2002 is still likely to be around one-quarter that of the US, as it was in 2000. We thus believe that our diagnostic of economic fundamentals remains current. Consequently, we also believe that the projections of output and productivity growth that are based on that diagnostic remain valid and pertinent.



## Turkey's Aggregate Economic Performance

The best available, quantifiable measure of a country's economic performance is the standard of living it provides to its people. Like most reviewers of economic performance, we use gross domestic product (GDP) per capita measured in terms of purchasing power parity (PPP) as the measure of the standard of living a country has achieved.

Again like most other reviewers, we compare the performance of one economy to other economies over time to understand relative performance. In this aggregate analysis, we benchmark Turkey against both the US, the largest and most productive economy in the world, and France, another highly developed economy. In addition, we have compared Turkey to Korea, a developing economy that “took off” in the mid-1980s, and to Brazil, a developing economy that, like Turkey, has yet to experience a sharp increase in its growth trajectory.

Finally, we disaggregate GDP per capita into its two principal drivers: total factor productivity (TFP) and total factor inputs (TFI). TFP measures the amount of physical output per unit of input, or the efficiency with which inputs are converted to output. TFI measures the total amount of input – capital and labor – that is made available to the economy to generate the output.<sup>1</sup>

The results of our aggregate analysis of Turkey's economy can be summarized as follows:

- ¶ Turkey's GDP per capita levels are only about one-quarter those of the US, as Turkey has suffered from both a low level of TFI and a mediocre level of TFP. In fact, Turkey's growth rate during the decade of the 1990s declined to the weak levels of the pre-liberalization era (1968-1980).
- ¶ Turkey's development path has been neither characterized by strong productivity gains, nor significantly boosted by strong factor input growth. Therefore, given Turkey's evolution to date and its current snapshot, the path to future prosperity must be built on a dramatic growth in productivity that takes place in the context of significant increases in factor inputs.

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<sup>1</sup> Please refer to the “Objectives and Approach” chapter for further detail.

- ¶ Leaving aside human rights and other political and legal considerations, Turkey's relatively weak economic performance, combined with its large population, understandably makes it a very challenging bite for the European Union (EU) to digest.
- ¶ Against this backdrop, the aggregate analysis poses important direction-setting questions that must be answered through detailed assessments of relevant industry sectors. Mostly, these questions concern the potential for accelerated productivity growth in Turkey, and whether it can be realized by doing a small number of things well.

The remainder of this chapter will elaborate on each of these findings.

## **CURRENT AND PAST GDP PER CAPITA PERFORMANCE**

Turkey's current GDP per capita at PPP is only 24 percent<sup>2</sup> of the US (Exhibit 1). Disaggregating GDP per capita into its components, TFI and TFP, and comparing these rates with their counterparts in benchmark countries, we observe the following:

- ¶ Turkey has low levels of TFP when compared to the benchmark developed countries, the US and France; however, Turkey's TFI levels have also been lower.
- ¶ Comparing Turkey to Korea we see that Korea's GDP per capita is double that of Turkey, and that this is because Korea has sustained a very high level of TFI for its development level, while its TFP is comparable to Turkey's.
- ¶ Comparing Turkey to Brazil, we see that Turkey is very similar in development to Brazil, a country whose economic growth has not yet taken off and that does not have a strong level of either TFI or TFP.

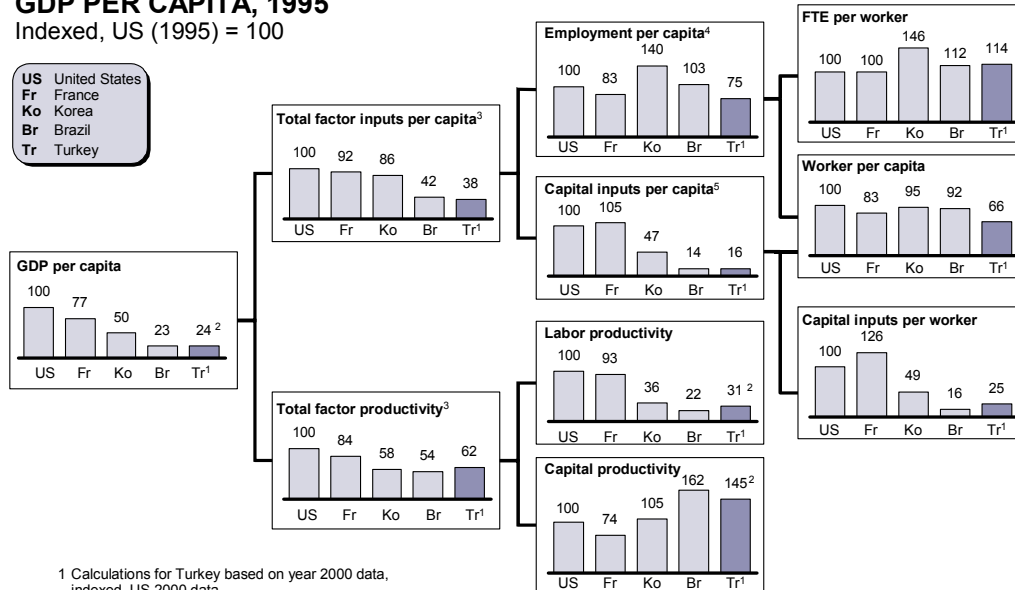
In short, Turkey's weak GDP per capita performance is attributable both to its low level of TFI and to its mediocre TFP results.

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<sup>2</sup> Including an informal GDP estimate of 20 percent of GDP in addition to the GDP measured by the State Institute of Statistics.

Exhibit 1

**CAPITAL AND LABOR INPUTS AND PRODUCTIVITIES AS LEVERS OF GDP PER CAPITA, 1995**  
Indexed, US (1995) = 100



1 Calculations for Turkey based on year 2000 data, indexed, US 2000 data  
 2 Assuming an informal output of 20% GDP, which is not captured in the GDP estimation of State Institute of Statistics  
 3 Based on Cobb-Douglas production function with capital share of 0.45 (geometric averages of  $\alpha_{US} = 0.33$  and  $\alpha_{Turkey} = 0.60$ )  
 4 FTE per capita, including the effect of different average hours worked per employee  
 5 Excluding residential component in capital stock  
 Source: State Institute of Statistics; State Planning Organization; *World Development Indicators*; Economist Intelligence Unit; Bureau of Economic Analysis; International Financial Statistics

**Low level of TFI**

To understand why the level of TFI<sup>3</sup> has been low in Turkey, we further disaggregate TFI to its components: capital and labor. We conclude that, as expected for a developing country, Turkey’s capital accumulation has not been strong. More surprisingly, however, we observe that Turkey also has a significantly lower level of labor inputs.

¶ **Low level of capital inputs both at per capita and per worker level.**  
 The level of capital input appears to be a key factor in explaining Turkey’s low aggregate output level. Compared to the US, France, and Korea, Turkey has much lower capital inputs at the per capita level, although some of the gap closes at the per worker level. Still, Turkey’s capital stock at a per worker level is only 25 percent of US levels in 2000 (Exhibit 1).

One of the reasons for the low capital input could be relative factor prices, as cost of capital relative to labor has been significantly higher in Turkey than in other countries as a result of high real interest rates and lower wages (Exhibit 2). The high cost of capital may have provided businesses with an incentive to favor more labor-intensive methods of

<sup>3</sup> Estimated as a weighted average of labor and capital inputs based on Cobb-Douglas production function with capital share of 0.45 (geometric averages of  $\alpha_{US} = 0.33$  and  $\alpha_{Turkey} = 0.60$ ).

work and not to undertake labor-saving capital investments that may be economical at the respective costs in the benchmark countries. We shed more light on this hypothesis through our sector cases.

¶ **Very low level of employment per capita in Turkey due to low female participation in the labor force.** Low employment per capita is one of the major reasons that Turkey's TFI are so low. While statistics such as average hours worked per employee, unemployment, and the ratio of working age population to population as a whole are in line with other countries, Turkey's labor input difference relative to other countries is driven mainly by a lower labor force participation rate,<sup>4</sup> especially of the female population (Exhibit 3).

### **Mediocre level of TFP<sup>5</sup>**

Turkey's TFP level sheds some light on part of the gap in the level of output between Turkey (62 percent of US) and developed countries such as the US and France (84 percent of US). Moreover, TFP in Turkey is roughly equivalent to that of developing countries such as Korea (58 percent of US) and Brazil (54 percent of US).

Even though TFP is the aggregate measure to be interpreted at the economy level rather than labor and capital productivity separately, it is useful to underline here that the reason why developing countries have much higher capital productivity, as seen in Exhibit 1, is usually not because capital is used more productively, but because these countries have little capital available relative to the amount of labor available to achieve their level of output.

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<sup>4</sup> The ratio of labor force in the working age population.

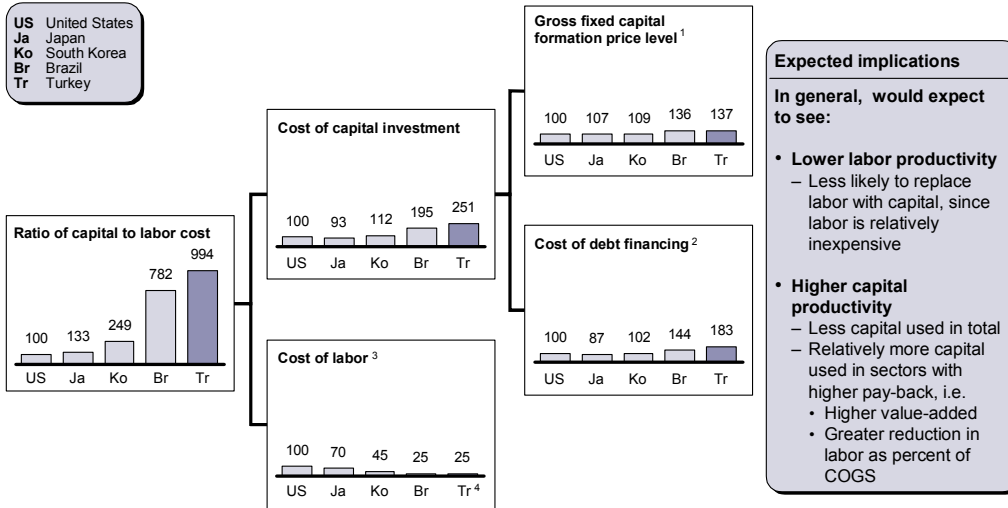
<sup>5</sup> Estimated as a weighted average of labor and capital productivities based on Cobb-Douglas production function with capital share of 0.45 (geometric averages of  $\alpha_{US} = 0.33$  and  $\alpha_{Turkey} = 0.60$ ).



Exhibit 2

**COMPARATIVE COSTS OF FACTOR INPUTS – COST OF CAPITAL VS. COST OF LABOR**

Indexed, US (1998) = 100



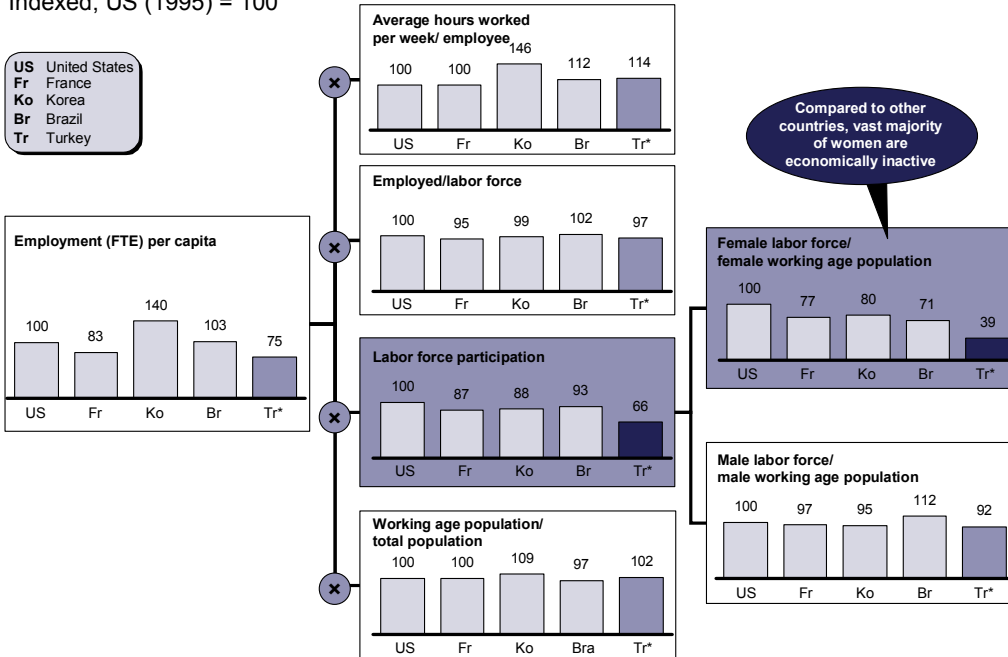
1 Relative to price level of GDP (PPP)  
 2 Calculated assuming 3% risk premium (which represents risk premium for a company with a BB credit rating applying for a long-term loan) on country risk premium (10-year bonds issued in US Dollars)  
 3 Average manufacturing labor cost at PPP  
 4 Ratio of manufacturing labor costs is assumed/calculated equal to ratio of minimum wage labor costs in US vs. Turkey

Source: World Development Indicators; Ministry of Labor; Bloomberg

Exhibit 3

**BREAKDOWN OF EMPLOYMENT PER CAPITA – 1995**

Indexed, US (1995) = 100



\* 2000 data indexed, US 2000  
 Source: World Development Indicators; MGI studies

## **Low and declining GDP per capita growth rates**

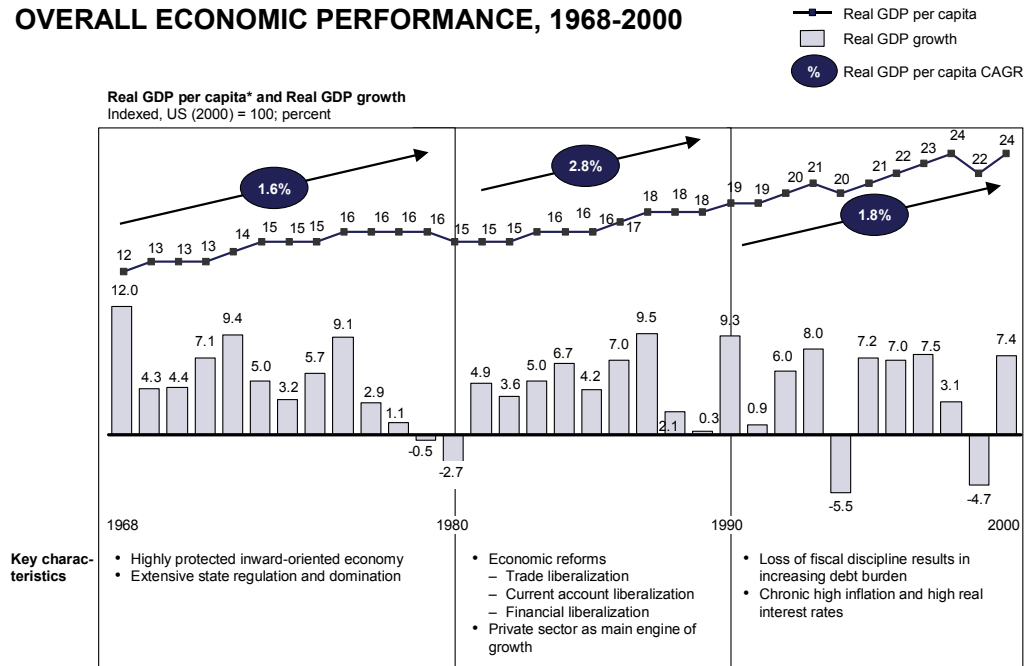
Between 1968 and 2000, Turkey has grown its GDP per capita only 2.1 percent per annum in real terms. However, it is instructive to divide this period into its different eras (Exhibit 4):

- ¶ **Suppressed growth due to inward orientation (1968 to 1980).** With extensive state regulation and domination, the economy was highly protected and inward oriented, yielding low growth rates: real GDP growth of 4.0 percent per annum, real GDP per capita growth of 1.6 percent per annum.
- ¶ **Accelerated growth due to liberalization (1980 to 1990).** With the end of the military coup and the change of political leadership, Turkey entered a new era of liberalization in 1983. Many economic reforms were enacted to liberalize trade, free current account spending, and open up financial markets. In this period, the private sector became the main engine of growth. The economy grew much more quickly: real GDP growth of 5.2 percent per annum, real GDP per capita growth of 2.8 percent per annum.
- ¶ **Erratic growth due to volatility (1990 to 2000).** Rapid development ended early in the 1990s. Beginning then, the Turkish economy has suffered excessive volatility and consistently exhibited adverse macroeconomic indications, such as an increasing budget deficit, high real interest rates, and high inflation. Within the period, the country experienced a severe financial crisis in 1994, as well as contractions due to external shocks, such as the Gulf crisis in 1991, and the Russian crisis and the earthquake in 1999 (of course, this pattern continued with the financial crisis in February 2001). In fact, due to these contractions, the economy achieved low average growth rates: 3.4 percent real GDP growth per annum, and 1.8 percent real GDP per capita growth per annum.

Interpreting these periods and growth rates, we note a high number of sharp economic contractions, especially in 1994 and 1999, as an important factor that contributed significantly to slower GDP per capita growth. The simple mathematics illustrated on Exhibit 4 are compelling. With a real GDP contraction of 5.5 percent in 1994 (coupled with continued population growth of 1.5 percent per year), it took Turkey 3 straight years of real GDP growth in excess of 7.0 percent per annum to surpass significantly the real GDP per capita level achieved in 1993.

Exhibit 4

**OVERALL ECONOMIC PERFORMANCE, 1968-2000**



\* GDP per capita PPP adjusted in year 2000 is discounted back by the real GDP growth rates  
Source: State Institute of Statistics

**TURKEY’S PAST DEVELOPMENT PATH**

To understand the nature of Turkey’s development path in terms of growth in inputs and productivity over the past 20 years, we contrast the 1990s to the 1980s. Three patterns emerge as illustrated in Exhibit 5: slowing TFP growth, stagnant labor inputs followed by decreasing ones, and in contrast, relatively rapid growth in capital inputs.

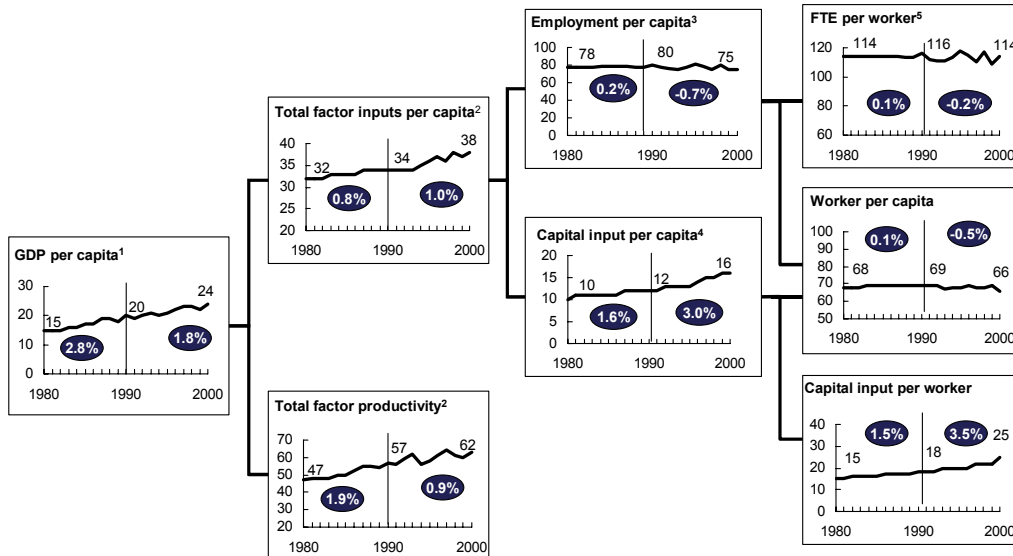
- ¶ **Slowing TFP growth.** While TFP grew significantly from 1980 to 1990 due to increased competition via liberalization and increased exposure to foreign players, it slowed dramatically between 1990 and 2000.
- ¶ **Stagnant then decreasing labor inputs.** TFI growth has been limited principally by stagnant and even negative growth in labor inputs. In fact, labor participation rates for both men and women have decreased steadily in the last 40 years, but the decline is most dramatic for women (Exhibit 6). While the major driver of low overall participation has always been low female participation, the fact that the gap widened in the last decade or so can be explained best by three major changes: migration to urban areas where participation rates are especially low for females, higher enrollment in secondary and tertiary education, and reintroduction of an early retirement scheme between 1992 and 1999 (Exhibit 7).

Exhibit 5

**DEVELOPMENT OF INPUTS AND PRODUCTIVITY IN TURKEY, 1980-2000**

Indexed, US (2000) = 100

CAGR



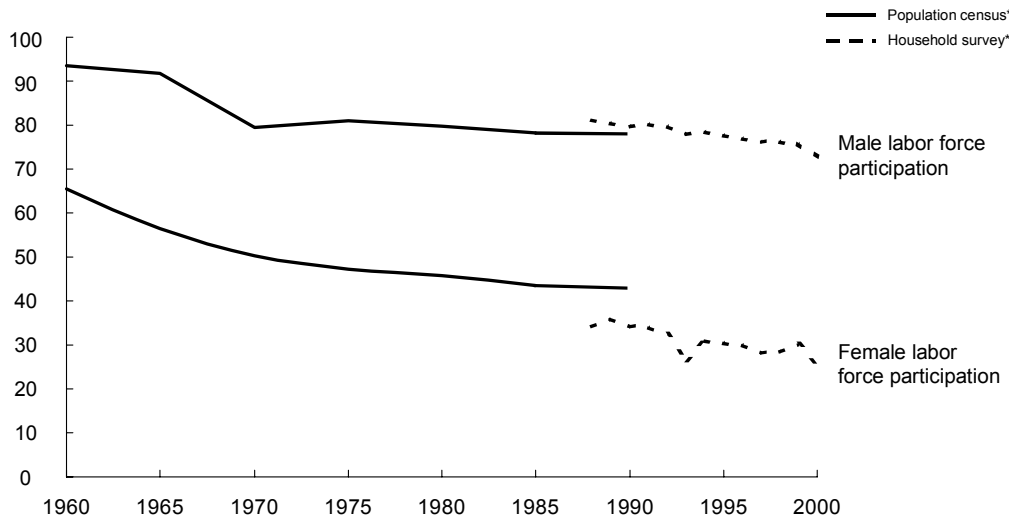
1 Assuming an informal output of 20% GDP, which is not captured in the GDP estimation of State Institute of Statistics, same all through the period  
 2 Based on Cobb-Douglas production function with capital share of 0.45 (geometric averages of  $\alpha_{US} = 0.33$  and  $\alpha_{Turkey} = 0.60$ )  
 3 Total FTE (employment x average hours worked per week per employee/40) / total population  
 4 Excluding residential component in capital stock  
 5 Since data starts from 1988, it is assumed that FTE per worker before 1988 equals that in 1988

Source: State Institute of Statistics; State Planning Organization; Bureau of Economic Analysis

Exhibit 6

**HISTORICAL EVOLUTION OF LABOR FORCE PARTICIPATION RATE IN TURKEY – 1960-2000**

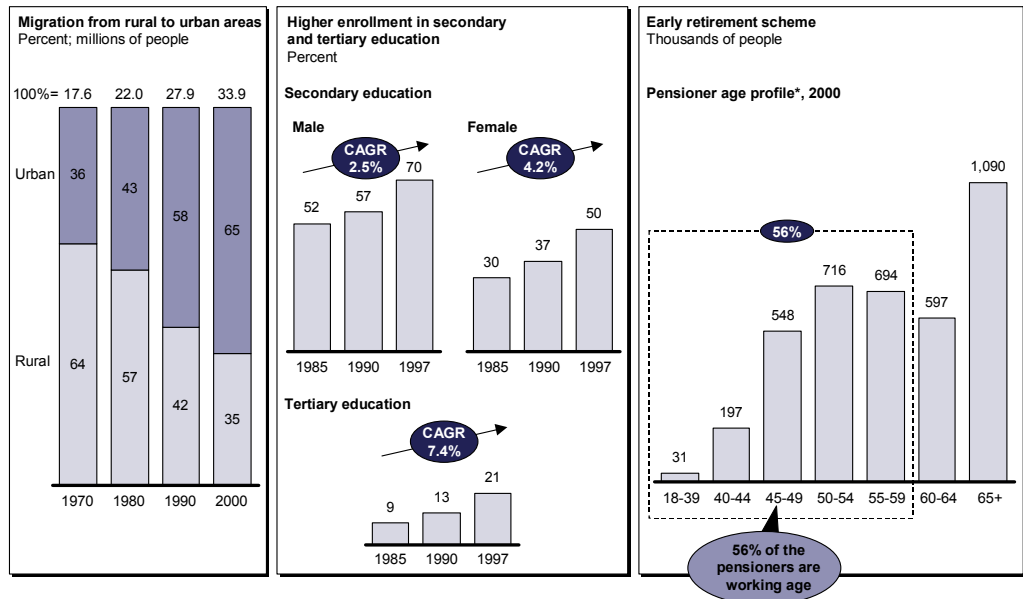
Percent



\* Data from two sources are not totally compatible but still the decreasing trend persists in both of them  
 Source: State Institute of Statistics

Exhibit 7

REASONS FOR THE DECREASE IN LABOR FORCE PARTICIPATION RATE

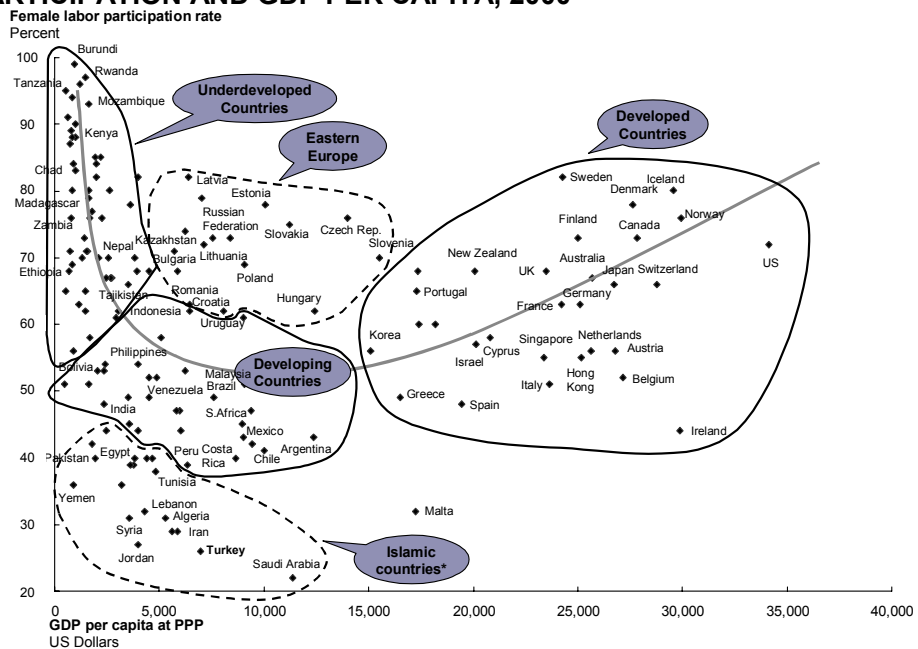


\* Total pensioners in SSK, Bağ-Kur, and Emekli Sandığı  
Source: State Institute of Statistics; Population Census; World Development Indicators; SSK, Bağ-Kur, Emekli Sandığı

Exhibit 8

U-SHAPED RELATIONSHIP BETWEEN FEMALE LABOR PARTICIPATION AND GDP PER CAPITA, 2000

Outliers



Source: World Development Indicators

To further understand the reasons for declining female labor force participation, we looked at a current snapshot of countries with respect to their female labor force participation and economic development and we see a clear distinction between underdeveloped, developing, and developed countries (Exhibit 8).

- While female labor force participation in underdeveloped countries is high, given the employment of women in agriculture, it is significantly lower in the case of developing countries. Also, female labor force participation increases with further economic development, as the experience of developed countries shows.
- In agriculture-oriented economies, the female labor force participation generally follows a U-shaped path that tracks economic development and the decreased share of agriculture in GDP (Exhibit 9). As the female labor force participation rate declines with the share of agriculture in GDP, it reaches a point of inflection after which it increases again, principally with jobs in the service sectors.<sup>6</sup> At the moment Turkey is still on the downward sloping part of the curve. Unless Turkey somehow proves to be an exception to a well-demonstrated rule, the trend will almost certainly reverse as the economy develops, as the share of services in the economy increases and creates more job opportunities for women, and as the educational attainment of women increases. Korea, Spain, Portugal, and Greece all had the same experience after their takeoff points of inflection: as their economies grew the services sector share increased, creating disproportionately more jobs for women (Exhibit 11).

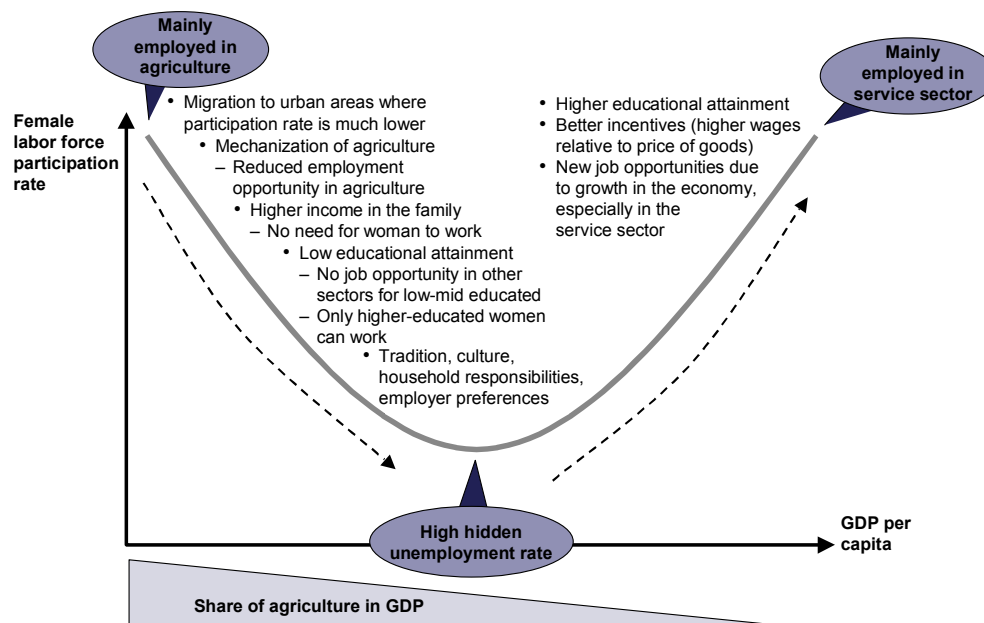
¶ **Relatively rapid growth in capital inputs.** In contrast to its labor inputs, Turkey's rate of investment has been significant in the last decade. Although both the stock and the inflow of FDI have been extremely low, as seen in Exhibit 12, Turkey has been able to attract domestic capital at levels comparable to OECD countries (Exhibit 13). A caveat, however, is that although Turkey invested substantially in the last decade, since the initial level of capital inputs was low, the current absolute level of capital inputs remains relatively low.

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<sup>6</sup> In non-agricultural economies, the typical pattern is an upward trend that follows a path resembling only the right side of the U-shape without a decline period (Exhibit 10).

Exhibit 9

### U-SHAPED RELATIONSHIP BETWEEN FEMALE LABOR FORCE PARTICIPATION RATE AND ECONOMIC DEVELOPMENT



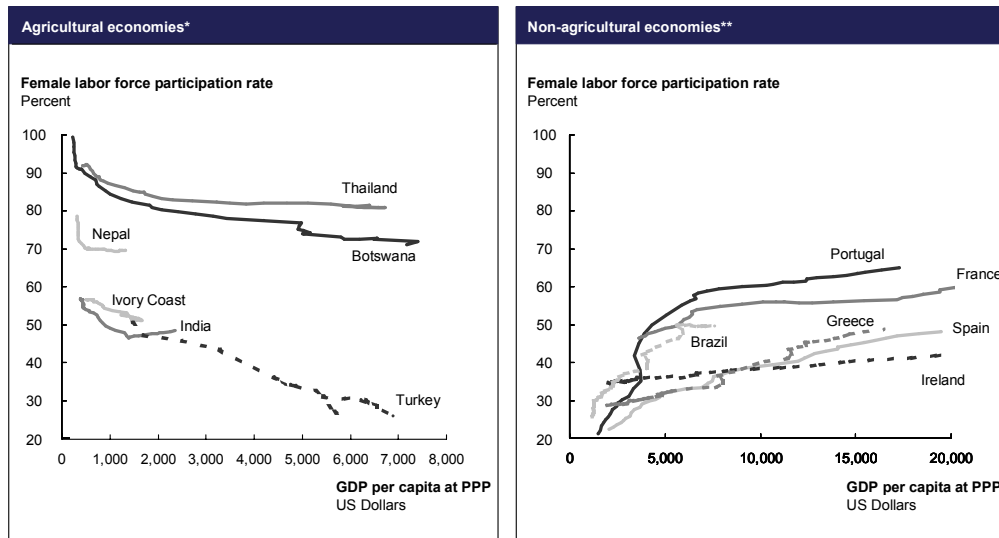
Source: Claudia Goldin, "The U-shaped Female Labor Force Function in Economic Development and Economic History"

We believe that the message from this aggregate analysis is unequivocal: to reverse the mediocre economic performance of the past decade, Turkey must dramatically improve its productivity. Indeed, it must also ensure a sustained growth of capital and labor inputs, since they must work in tandem with productivity growth to achieve significant increases in GDP growth. However, by increasing productivity Turkey will also be doing what it most needs to do to attract more factor inputs. Capital is drawn to a productive economy; a productive economy can create new jobs, and these jobs will encourage a higher female labor participation rate.

One further caveat is appropriate. Today, Turkey faces a very high debt-servicing burden, to the point that the management of the current account balance is a central topic of its ongoing dialogue with the IMF, the World Bank, and others. In the long run, the virtuous cycle between productivity gains and economic growth will contribute greatly to ameliorating that problem. However, in the short run even its prospective dramatic productivity growth will not help Turkey if it does not successfully navigate the debt trap that lurks.

Exhibit 10

**EVOLUTION OF FEMALE LABOR FORCE PARTICIPATION IN AGRICULTURAL AND NON-AGRICULTURAL ECONOMIES, 1960-2000**



\* Where share of agricultural value added in GDP was higher than 40% in 1960

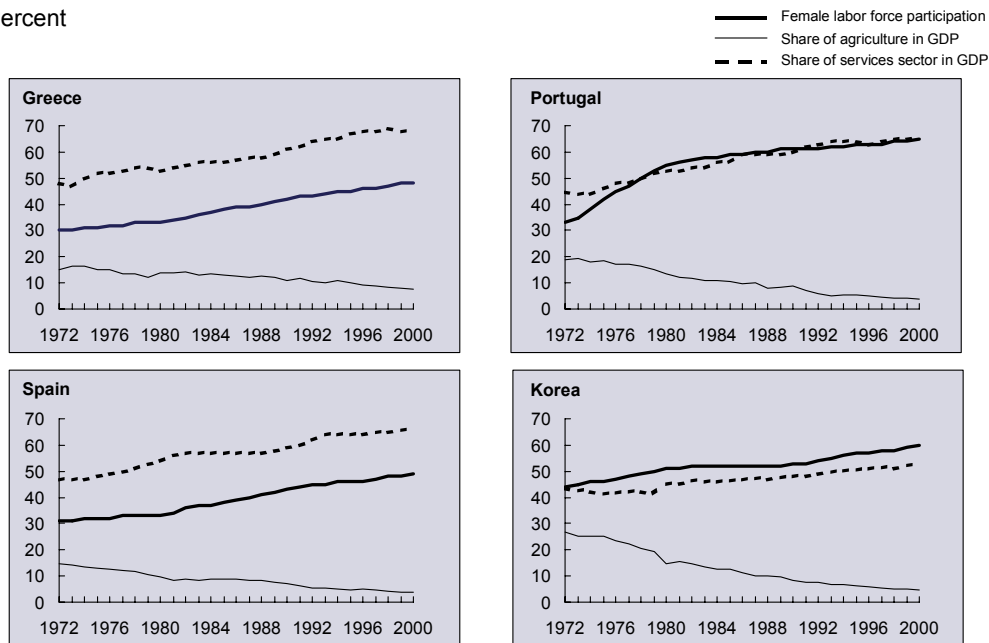
\*\* Where share of agricultural value added in GDP was less than 20% in 1960

Source: *World Development Indicators*, State Institute of Statistics

Exhibit 11

**EVOLUTION OF FEMALE LABOR FORCE PARTICIPATION IN RELATION TO THE DEVELOPMENT OF THE ECONOMY: COUNTRY EXAMPLES**

Percent

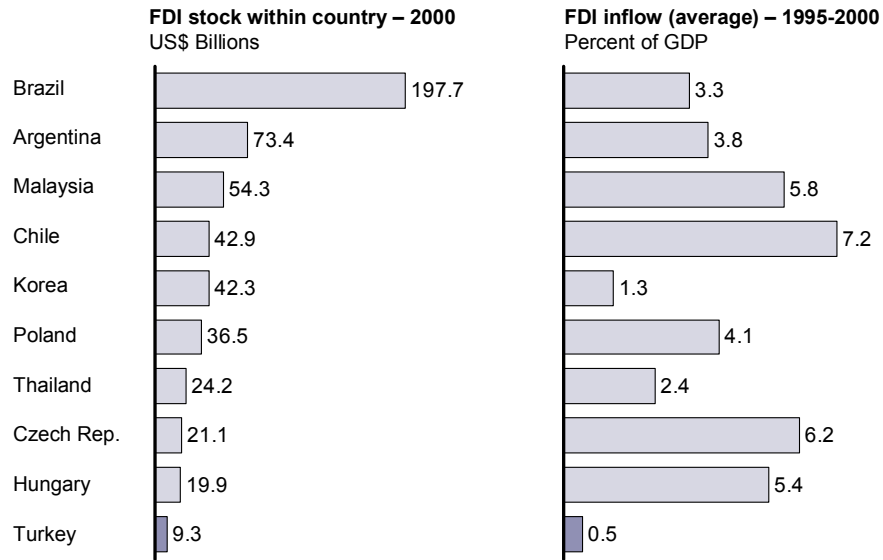


Source: *World Development Indicators*



Exhibit 12

**FOREIGN DIRECT INVESTMENT COMPARISON OF COUNTRIES, 1995-2000**

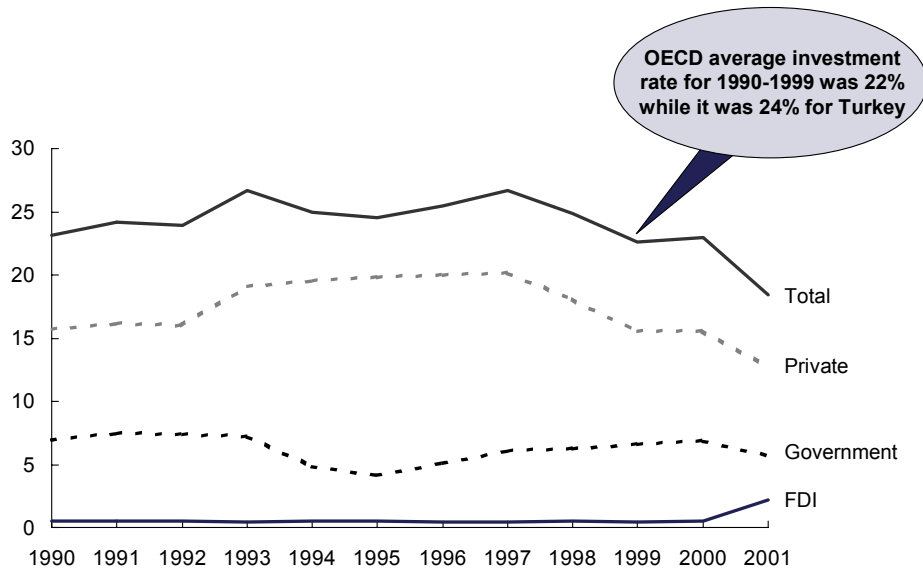


Source: United Nations Conference on Trade and Development

Exhibit 13

**DEVELOPMENT OF INVESTMENT RATES IN TURKEY**

Percent of GDP



Source: Treasury

## **TURKEY AND THE EU**

Turkey and the EU have been locked in an intricate mating ritual for many years. Reasonably, the EU is demanding substantial real performance improvement from Turkey on a number of fronts – human rights, political and legislative structures, and economic performance foremost among them. In this report we are qualified to address only the economic questions and, among those, only the ones that influence the productivity of the Turkish economy; through that window, we look at Turkey’s potential economic attractiveness to the EU. However, we do feel that in as much as Turkey’s performance in increasing its productivity will be central to its overall economic performance, it is important to put possible EU membership into context.

First, looked at in productivity terms, full EU membership would have material benefits to Turkey, even though many benefits have already been achieved via the Customs Union completed in 1996. For example, to the extent that a prerequisite to joining the EU is to establish greater macroeconomic stability, then that stability would both make Turkey more attractive for investment by global best practice players (who then would bring world-class focus on productivity improvement) and would ensure more sustainable and predictable levels of output growth, which in turn would materially improve the conditions for rapid productivity growth. Similarly, to the extent that EU membership should make it easier for Turkey to access technical assistance to complete microeconomic reforms more effectively, productivity would also be boosted greatly. In the same manner, assuming that EU membership would encourage greater flow of labor in both directions across borders, then that too would offer an accelerant to productivity gains. In short, there are many compelling conceptual arguments for why Turkey’s productivity and economic growth would be significantly boosted, beyond what the Customs Union has accomplished, by EU membership.

But how attractive is Turkey in economic terms today, and what is the size of the challenge to put Turkey into the EU “comfort zone”? Exhibits 14 and 15 offer some insights.

First, if the EU were to take in Turkey as is today, Turkey would constitute a very large bite. To put this into perspective, the negative effect on average EU GDP per capita (PPP adjusted) of all 10 countries that have been accepted for membership in 2004 is, in the aggregate, only slightly higher than the impact Turkey alone would have. Second, although the EU will not oblige Turkey to comply fully with the Maastricht (economic) criteria in order to start accession negotiations, today’s deviation from the criteria is extremely high, even compared to the performance of the countries that have recently been accepted.

Exhibit 14

**KEY STATISTICS FOR EUROPEAN UNION AND CANDIDATES, 2000**

	Total population Millions	GDP/capita US Dollars	Agriculture output** - 1998 US\$ Billions	Agricultural employment**- 1998 Millions	GDP US\$ Billions
<b>Current EU members</b>	375.1	24,025	212.7	6.9	9,012
<b>EU members by 2004</b>	74.7*	4,619	17.4	4.1**	1,308
<b>EU members by 2007</b>	30.5	1,472	10.2	5.6**	859
<b>Turkey</b>	65.3	3,134	31.4	7.1	200

1. If Turkey was EU member in 2000, it would have

- Decreased EU GDP/capita by 13.2%
- Increased share of agricultural employment from 4.5% to 8.1%
- Decreased value added per employee by 43%

2. Turkey's negative impact on GDP/capita if it were a member in 2000 would have been equal to the cumulative impact of all 10 countries admitted for 2004

\* Data for Malta not included

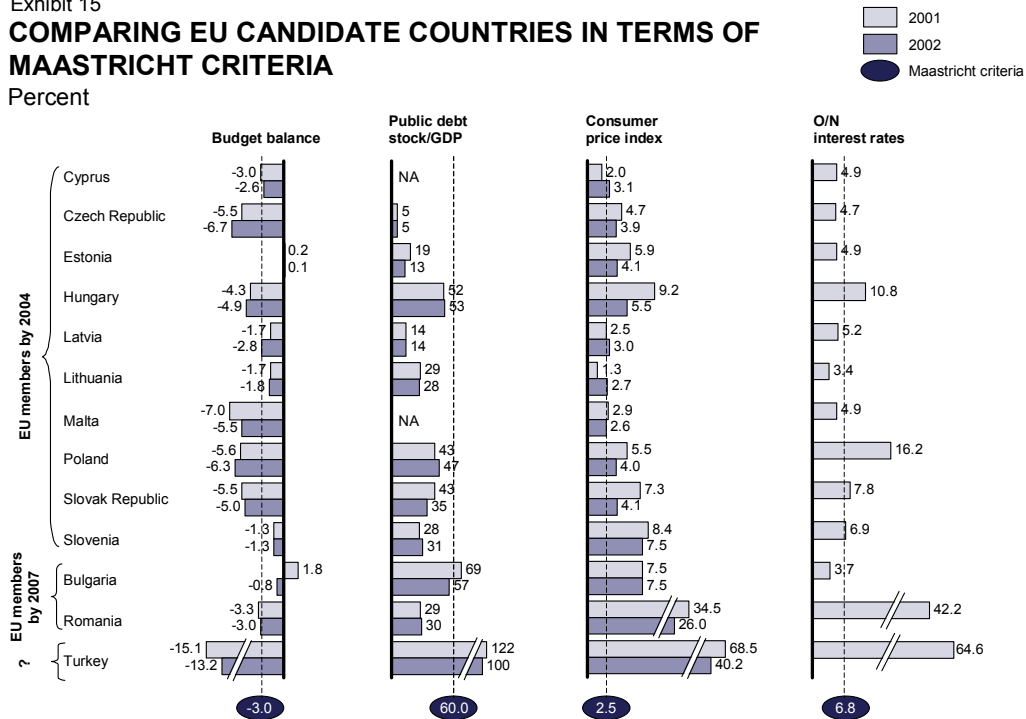
\*\* As of 2000

Source: World Bank; International Monetary Fund

Exhibit 15

**COMPARING EU CANDIDATE COUNTRIES IN TERMS OF MAASTRICHT CRITERIA**

Percent



Source: IMF Yearbook of Statistics 2002; European Union (EU) website

Finally, the Turkish economy is still very heavily dependent on agriculture, which offers a real concern to EU members. About 35 percent of Turkish employment is in agriculture (compared to 4.5 percent for today's EU members and 14.0 percent for countries accepted for membership in 2004), and the value added per agricultural worker in Turkey is less than one-quarter of his/her European counterpart. In fact, in absolute terms, the number of agricultural workers in Turkey alone is slightly more than the total number in the EU today. Therefore, even after intense negotiations, such disparities would represent a major drain on the EU's Common Agricultural Policy funding mechanisms.

It is easy to see why it is economically attractive to Turkey to join the EU, but we also see why the addition of the Turkish economy at its current level of performance might be an uncomfortable proposition for EU decision makers. In this vein, one of the major challenges for Turkey is to demonstrate that it can and will accelerate the growth of productivity in its economy to the point that it becomes an attractive economic fit with the EU.

## **KEY QUESTIONS TO BE ANSWERED IN THE SECTOR STUDIES**

Having analyzed the current status and historical evolution of the economy and its growth levers compared to other countries at the aggregate level, we are pushed to answer several core questions in our microeconomic analysis of sectors:

- ¶ Are the potential productivity gains in the Turkish economy large enough and sufficiently achievable that Turkish policymakers should commit Turkey to an aggressive productivity-led growth path?
  - Turkey's GDP per capita has to grow by 5 percent per annum (3 times the rate of growth between 1990 and 2000) for the next 15 years in order to reach Korea's level in 1995. Can Turkey achieve such growth in productivity and inputs?
  - How much of the TFP gap between the US and Turkey will be impossible to close given Turkey's relatively low consumer income levels? Will this still leave Turkey with significant levels of TFP improvement potential?
- ¶ For such a growth path to be achievable, how important is it to create stable macroeconomic and political conditions? Macroeconomic and political instability has been the major distinguishing characteristic in the 1990s compared to the 1980s. It is an important phenomenon not just in terms of fiscal and monetary balances, but also in terms of its effect on productivity. In light of this, we must answer such questions as these:
  - To what extent are high real interest rates depressing productivity-enhancing investments?

- How much of the decreased capital productivity in the 1990s is explained by the decreased capacity utilization resulting from downturns driven by macroeconomic and political instability?
- Are there any other adverse effects of high real interest rates on productivity at the microeconomic level?
- ¶ What type of regulations should be removed and what new regulations should be put in place for the government to encourage private players to make the investments necessary for productivity growth?
  - Are there any regulations that hinder productivity growth or foreign direct investment (FDI) inflow?
  - What types of regulations are required to attract FDI inflow to the country and productivity growth?
- ¶ Can major initiatives aimed at a small number of problems achieve the required productivity boost, or must a large number of sector-specific regulatory changes be made? In MGI studies such as the one in India, it has been demonstrated that policymakers must deal with problems on many fronts to achieve the required productivity growth. Hence:
  - Are the barriers to productivity in Turkey many-faceted or are they caused by a handful of core phenomena on which policymakers should concentrate?
  - Are the barriers largely common across all players or do they differ by type of industry and company?
  - In any case, what are the priorities?
- ¶ What will be the implications of productivity improvements on a possible EU accession with regards to future economic growth?
  - Can the clear promise of high productivity-led growth in the next 15 years place Turkey within an EU comfort zone?
  - To what extent can productivity-led growth create new employment that pulls workers from agriculture into other, higher value-added jobs?
- ¶ On the contrary, what would be the effect of an EU accession on the desired productivity improvements?
  - To what extent can the accession affect the ability to reform and encourage modernization in the economy?
  - How much will a possible accession affect the availability of capital and FDI?

- ¶ Even if Turkey increases its TFP, TFI must increase as well. Are the necessary levels of capital and labor inputs achievable? This raises corollary questions such as:
- How much FDI will Turkey have to attract to meet the increased capital requirements? FDI levels in Turkey have been dramatically low compared to other countries. Is this level of FDI achievable without EU accession in the short run?
  - What is the risk that the large current budget deficit will decrease government investment to the point that needed overall investment rates cannot be met?
  - Can savings be expected to increase as the economy develops? If savings do increase, will they be injected into the economy as investments? How will this affect overall investment rates?
  - Considering any need for increased labor inputs, will Turkey be able to attract women into the labor force? Will the services sector develop rapidly enough to offer new jobs to the female population?
- ¶ Although education is not seen as a problem for Turkey at its current development level (by comparison, Portugal achieves twice Turkey's GDP per capita with the same level of educational attainment), will the quality of labor inputs be sufficient to sustain the productivity growth?
- What will be the demand for workers with higher educational attainment consistent with any anticipated increase in productivity growth?
  - Will Turkey be able to meet this demand? If not, what can Turkey do to tackle this barrier?

## Synthesis

Since productivity growth is the key engine of economic growth overall, our main objectives in this study have been to assess current levels of productivity in representative sectors against their full potential, as well as to identify the barriers that must be removed for full potential to be achieved. In addition, we have estimated the impact that removal of these barriers could have on the rate of economic growth and on employment creation. Finally, we have further put our findings into context by estimating how a successful outcome might get Turkey closer to economic performance that is attractive to the European Union.

### *Current productivity levels*

Our most important finding is this: Turkish productivity is at only 40 percent of the current US level and is only slightly more than half of its own potential. And yet that statistic, dramatic as it is, disguises the fact that Turkey is actually a bi-modal economy in productivity terms. There is a modern segment – employing about half of total labor across the sectors that we studied – achieving a labor productivity level that indexes at 62 percent of the US level. However, there also is a traditional segment that employs the other half of the workers in the sectors we studied, and that is achieving productivity levels less than one-quarter of comparable levels in the US. Put another way, the modern segment produces almost 2.5 times as much output per unit of input when compared to the traditional segment. This disparity is the single most important factor reducing total productivity levels to less than half of the US. Understanding the dynamics both within these segments and between them is central to understanding the actions that policymakers must take to maximize productivity growth in Turkey.

### *Key segment dynamics*

In many respects the starting point to understanding the dynamics of Turkey's bi-modal economy is to understand the traditional segment. As this work will show, the traditional segment is indeed gradually declining in relative size in the economy; however, it is doing so at a pace well short of what its low productivity levels, vis-à-vis the modern segment, would lead one to expect. Detailed sector-level examination demonstrates that the reason for this counterintuitive turn is that this segment enjoys a substantial unfair advantage: it is able to operate informally, i.e., to evade regulatory obligations that would incur significant cost. In fact, this difference – between the costs that a formal operation would incur and the costs that traditional players incur – is often sufficient to keep a traditional player in business, even if only at a subsistence level. As important, or even more so, it is

this difference in costs that prevents traditional players otherwise capable of making the transition to being modern players from actually making that transition. In turn, the key to reducing the Turkish economy's high level of informality is neither changed regulations nor additional regulations; rather, it is more effective enforcement of existing regulations. In fact, if the traditional segment modernized to the point that it achieved its own productivity horizon, almost one-half of Turkey's total productivity gap would be eliminated.

At 62 percent of US levels, the modern sector of the Turkish economy is performing reasonably well in productivity terms. In most sectors there is both sufficient presence from global best practice players and sufficiently robust competitive dynamics among modern players to provide the groundwork for a strong focus on productivity.

However, there is still much potential for improvement in the modern segment, particularly in terms of better design and execution both along the business system and in capacity utilization. The barriers to improvement along these dimensions in the modern segment are principally two: a) macroeconomic and political instability creates many distortions for business decision makers (instability accounts for almost one-half of the total Turkish productivity gap); and b) the non-level playing field that exists in sectors with a substantial traditional segment retards the natural increase in value-added share that modern, formal operators would enjoy, and that would translate into substantial productivity gains. An additional barrier in the modern segment relates to state-owned monopolies – wireline telecommunications and electricity are the two that we studied – where the combination of government ownership and monopoly position creates some important disincentives to focus on productivity.

### *The FDI paradox*

The barriers briefly described above, upon which we will elaborate in this chapter, also help account for the “FDI paradox” (foreign direct investment) we see in Turkey – i.e., there are no overt regulatory barriers to FDI in Turkey and we see global best practice players in almost all competitive sectors, but total FDI levels as a percentage of GDP are much lower in Turkey than in other emerging markets. Most obviously, the fact of state-owned monopolies in wireline communications and in electricity generation, transmission, and distribution eliminates FDI in two of the most capital-intensive sectors. However, our sector-level assessments also tell us that the barriers imposed by macroeconomic and political instability and by the non-level playing field afforded to traditional players are significant depressants to FDI levels: foreign players are there in most cases, but their presence is less intensive and more cautious than it would otherwise be.



### *Policy needs*

In the context of both the dynamics at work within the bi-modal economy and the barriers to productivity growth we have identified, the imperative for policymakers is clear, though very challenging: **accelerate development of the modern segment**. In practice there are only three key axes along which action must be taken:

- ¶ First, policymakers must develop and apply a combination of “stick and carrot” that will substantially reduce informality by enforcing regulatory obligations.
- ¶ Second, the government must ensure that the impending liberalization of monopoly markets takes place within an unambiguous regulatory and legal framework, one that best creates the basis for maximizing productivity.
- ¶ Third, the government must ensure macroeconomic and political stability. This must be a goal for many reasons, but the potential positive impact on productivity growth is compelling.

By successfully meeting the challenge to accelerate the development of the modern segment, the Turkish government will have created the necessary momentum for rapid productivity growth. Of course, there are other significant policy needs that a sector-driven study such as this one identifies. In this chapter we synthesize those policy recommendations under two headings: removing specific barriers to both product and land markets, and avoiding the establishment of new barriers, including regulations, that would impair competition.

### *Implications*

What would be the result of successfully implementing the policy recommendations made in this study? Obviously our growth modeling is only as good as the assumptions we make and should be regarded principally as a starting point for debate, albeit one that incorporates important new facts. However, our analysis shows that if all policy recommendations were successfully implemented over the next 2 to 3 years, Turkey could double its GDP per capita by 2015, achieving GDP growth rates as high as 8.5 percent from 2005 to 2015 and creating as many as six million additional jobs. The same analysis suggests strongly that performance at this level would position Turkey much better for an accession into the EU.

*Synthesis*

In the balance of this chapter we enlarge upon our findings within four sections:

- A. Significant Potential to Increase Productivity in Turkey's Bi-Modal Economy
- B. The Core Policy Imperative: Accelerate Development of the Modern Segment
- C. Other Significant Policy Recommendations
- D. Growth and Job Creation Potential.

## A. Significant Potential to Increase Productivity in Turkey's Bi-Modal Economy

The sector case studies reveal that Turkey has significant potential to improve productivity across all sectors in its economy. Furthermore, we have also found that behind the low average productivity figures, Turkey accommodates a bi-modal economy with a relatively productive modern segment and an almost equally large traditional segment with very low productivity. In fact, the bi-modal structure of Turkey's economy is both the culprit driving down the average productivity performance as well the enabler providing the basis for potential improvement. Nevertheless, the attractive productivity potential can only be met by improvements in both of the two segments: by modernization of the traditional segment and by productivity improvements of the modern segment.

### **SIGNIFICANT PRODUCTIVITY GROWTH POTENTIAL EXISTS**

Turkish productivity is at only 40 percent of the current US level. This current productivity level is only slightly more than half of Turkey's potential: 70 percent of the US level. The potential for productivity improvement varies from sector to sector; however even the most productive sectors have room for improvement compared to the best-practice countries' sector performance.

#### **Current productivity levels**

The eleven sectors we studied broadly represent Turkey's non-agricultural economy. Notably, we aimed for this representative selection rather than a perfect extrapolation of the economy. The sectors represent all of the three main aggregate sectors of the non-agricultural economy: manufacturing, services, and utilities. For the manufacturing sectors, we studied steel and cement (heavy manufacturing) and automotive parts, dairy processing, confectionery, and apparel (light manufacturing); for the service sectors, we studied fast-moving consumer goods (FMCG) retail, retail banking, and residential construction; for utilities, we studied the two key sectors, telecommunications and electricity (Exhibit 1). These sectors comprise approximately 27 percent of Turkey's non-agricultural GDP and 31 percent of its non-agricultural employment.

Of the two components of total factor productivity – labor productivity and capital productivity – labor productivity is measured in all sectors we have studied. In capital-intensive sectors (e.g., telecommunications and electricity) capital productivity is measured explicitly as well. For other sectors where capital inputs are a sufficiently smaller part of the factor inputs, a qualitative point of view has been developed on capital productivity. Through estimates of minimum efficient scale and capacity utilization, and consistent with previous studies, it has been

Exhibit 1  
SECTORS STUDIED

ESTIMATES

**Key criteria for sector selection**

- Representative sample in terms of economic size (GDP and employment)
- Available and accessible data for productivity analysis
- International benchmarks available from past MGI studies

Non-agricultural aggregate sectors	Sectors	Share of GDP Percent	Share of employment Percent
<b>Utilities</b>	Telecom	~3	<1
	Electricity	~3	<1
<b>Services</b>	Retail banking	~3**	<1
	FMCG* retail	~2	~ 2
	Residential construction	~3	~ 4
<b>Manufacturing</b>	Food processing		
	• Dairy	<1	<1
	• Confectionery	<1	<1
	Apparel	~4	~8
	Automotive parts	~1**	<1
	Steel	~1	<1
	Cement	<1	<1
<b>Total</b>		<b>~23%</b>	<b>~20%</b>

27% of non-agricultural GDP

31% of non-agricultural employment

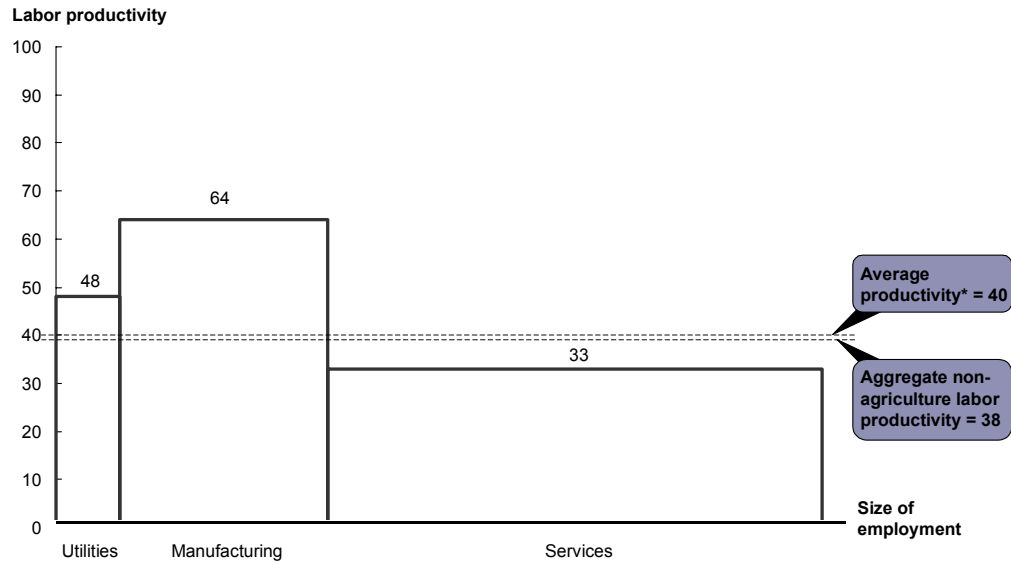
\* Fast-moving consumer goods  
 \*\* Total banking and automotive sector shares  
 Source: State Institute of Statistics; MGI analysis

found that the same factors explaining low-labor productivity explain low-capital productivity as well. The theoretical trade-off between labor and capital productivity has been found to be relatively unimportant. Therefore, since labor productivity is the factor measured in all sectors and is used as a proxy for total factor productivity (TFP) in sectors where TFP has not been measured, we refer to labor productivity in this and the next sections, which aggregate sector productivity findings to the overall economy.

The average labor productivity of sector cases indexes at 40 percent of the US productivity level, confirming the productivity level reflected in aggregate non-agricultural economic data indexing at 38 percent of the US. This suggests that our sample of sectors is appropriately representative for analyzing productivity at greater depth (Exhibit 2). Manufacturing sectors are relatively more productive at 64 percent of the US, but service sectors stand at only 33 percent of the US, and utilities productivity averages 48 percent of the US. While the productivity levels of the different manufacturing and service sectors are close to their means, the average productivity for utilities yields contrasting results. On one hand is wireless communications, the only sector with labor productivity higher than the US; on the other hand is the electricity transmission and distribution (T&D) sub-sector, with 21 percent – the lowest labor productivity among the sectors we studied (Exhibit 3).

Exhibit 2

**LABOR PRODUCTIVITY IN TURKISH NON-AGRICULTURAL ECONOMY**  
Indexed, US = 100

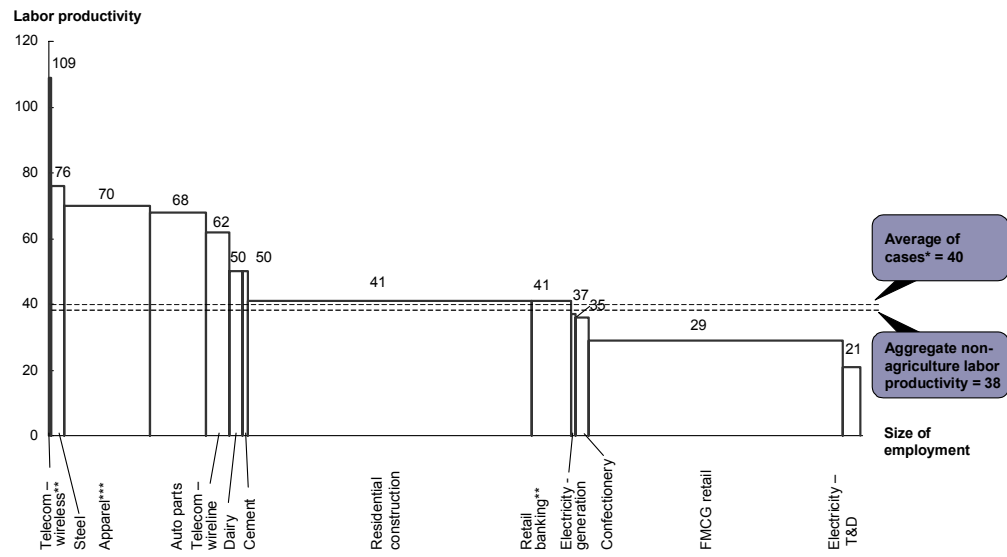


\* Productivities of sectors weighted to generalize to total non-agricultural economy, considering sector shares in three aggregate sectors: utilities, manufacturing, and services

Source: Sector case studies

Exhibit 3

**LABOR PRODUCTIVITY AND EMPLOYMENT BY SECTOR**  
Indexed, US = 100



\* Productivities of sectors weighted to generalize to total non-agricultural economy, considering sector shares in three aggregate sectors: utilities, manufacturing, and services

\*\* Year 2002 data

\*\*\* Year 2002 data; productivity is benchmarked vs. Italian apparel sector

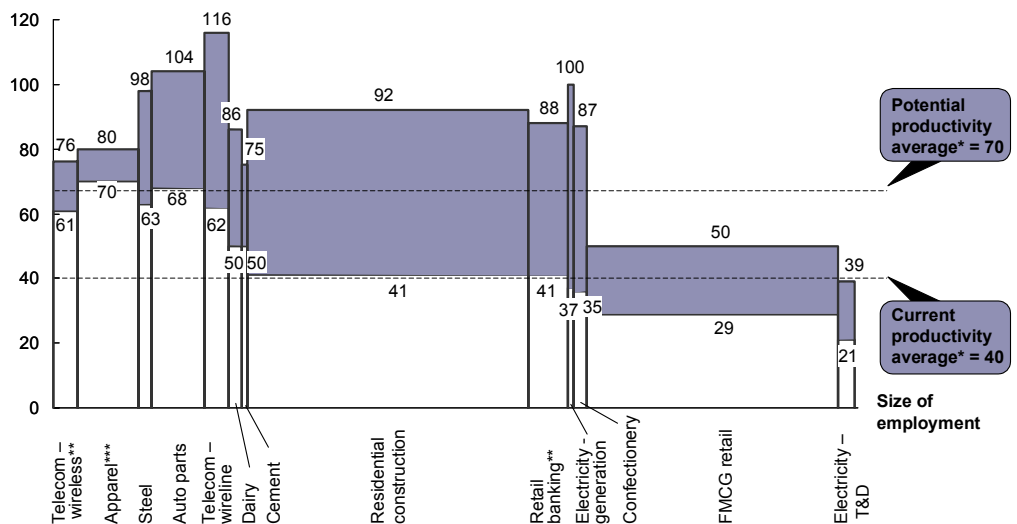
Source: Sector case studies

Exhibit 4

**CURRENT AND POTENTIAL LABOR PRODUCTIVITIES**

Indexed, best practice country in each sector = 100

**Labor productivity**



\* Productivities of sectors weighted to generalize to total non-agricultural economy, considering sector shares in three aggregate sectors: utilities, manufacturing, and services

\*\* Year 2002 data

\*\*\* Year 2002 data; Productivity is benchmarked vs. Italian apparel sector

Source: Sector case studies

**Potential productivity levels**

Low productivity is not a given in the Turkish economy: in fact, the potential for growth is quite encouraging. There is significant productivity growth potential in every sector, and sector cases confirm that aggregate non-agricultural labor productivity has the potential to increase to 70 percent of best practice levels from the current level of 40 percent (Exhibit 4).

Even the highest productivity sectors have significant growth potential versus best practice countries in the world. For example, while the wireless communications sector is indexing at 109 percent of the US, it is indexing at only 70 percent of France, the best practice country in this sector. Similarly, steel is indexing at 76 percent of the US, but at only 63 percent of Japan.

Turkey’s labor productivity potential is 70 percent rather than 100 percent because some productivity improvements seen in benchmark countries are not viable at Turkey’s current consumer income and labor cost levels. For example, in sectors that require capital investment and labor inputs that are basically fixed regardless of the output level, productivity improvements are principally a function of output and are thus driven by consumer income levels. Therefore, some portion of the benchmark countries’ productivity level is not viable for Turkey given the income level and distribution of this country’s population. We see this in telecommunications, where fixed infrastructure put in place for adequate network

coverage requires an amount of labor input for operation and maintenance that is similar to other countries regardless of the lower usage in Turkey.

Similarly, some labor-saving technology investments that are profitable to place in a country with high labor costs would not be cost-effective in Turkey given its labor-to-capital cost structure. One example is the automation of secondary packaging (boxing) and stacking in confectionery; given Turkey's low labor costs, it is not economically desirable to automate these activities.

A full understanding of current and potential productivity performance is best achieved through understanding the deeper structure of the economy.

### **A BI-MODAL STRUCTURE DRIVES DOWN PRODUCTIVITY PERFORMANCE**

In all but the utilities and retail banking sectors, a dual structure must be understood to make clear both the low average sector productivities and what must be done to achieve potential productivity levels. To one degree or another, in all of the sectors we studied we see two fundamentally different segments: a productive modern segment that is broadly comparable to its counterpart in benchmark countries, and a traditional segment with exceptionally poor productivity performance.

Turkey's modern segment includes those players who have introduced important technology and many best practice operations (including productive economies of scale) into their business practices. They include the supermarkets in FMCG retail, modern manufacturers mainly working with OEMs in automotive parts, and large-scale contractors in residential construction.

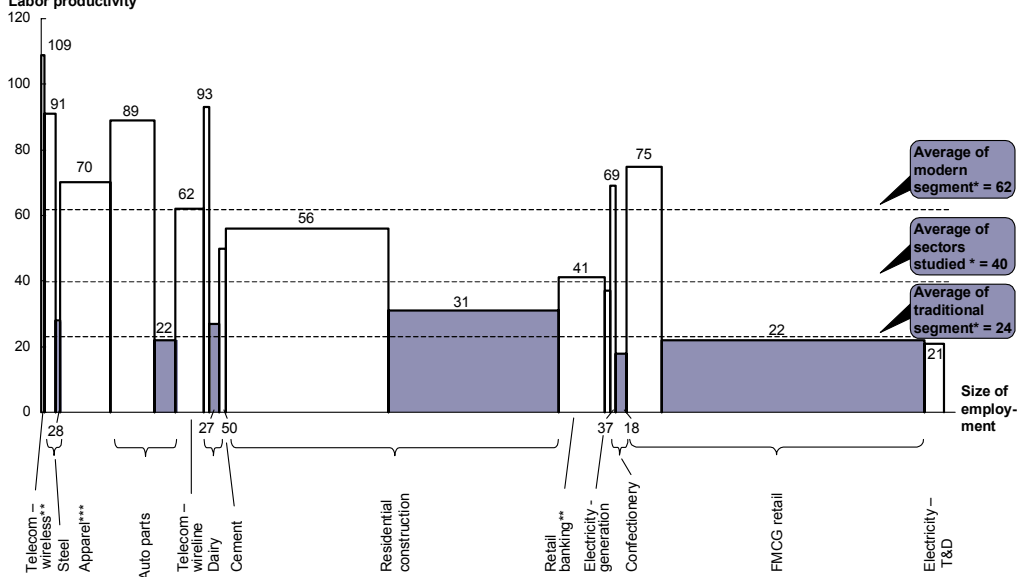
The traditional segment, on the other hand, operates with relatively low technology and little standardization or economies of scale, and it tends to produce lower-quality products and services. In FMCG retail, the traditional players are the groceries and other smaller players who offer FMCG goods with little variety, in small formats, and with very limited use of point-of-sale-based inventory and merchandising management. Similarly, in dairy processing, mandiras are the smaller players operating with almost totally manual processes. In automotive parts, they are the sub-scale producers; and in confectionery, they are relatively larger-size players with significant non-automized processes. In residential construction, traditional players are builders and single-plot contractors using traditional methods of construction, including manual processes and customization.

Exhibit 5

**DUAL ECONOMY OBSERVED IN SECTORS STUDIED**

Indexed, US = 100

Labor productivity



\* Productivities of sectors weighted to generalize to total non-agricultural economy, considering sector shares in three aggregate sectors: utilities, manufacturing, and services  
 \*\* Year 2002 data  
 \*\*\* Year 2002 data; Productivity is benchmarked vs. Italian apparel sector

Source: Sector case studies

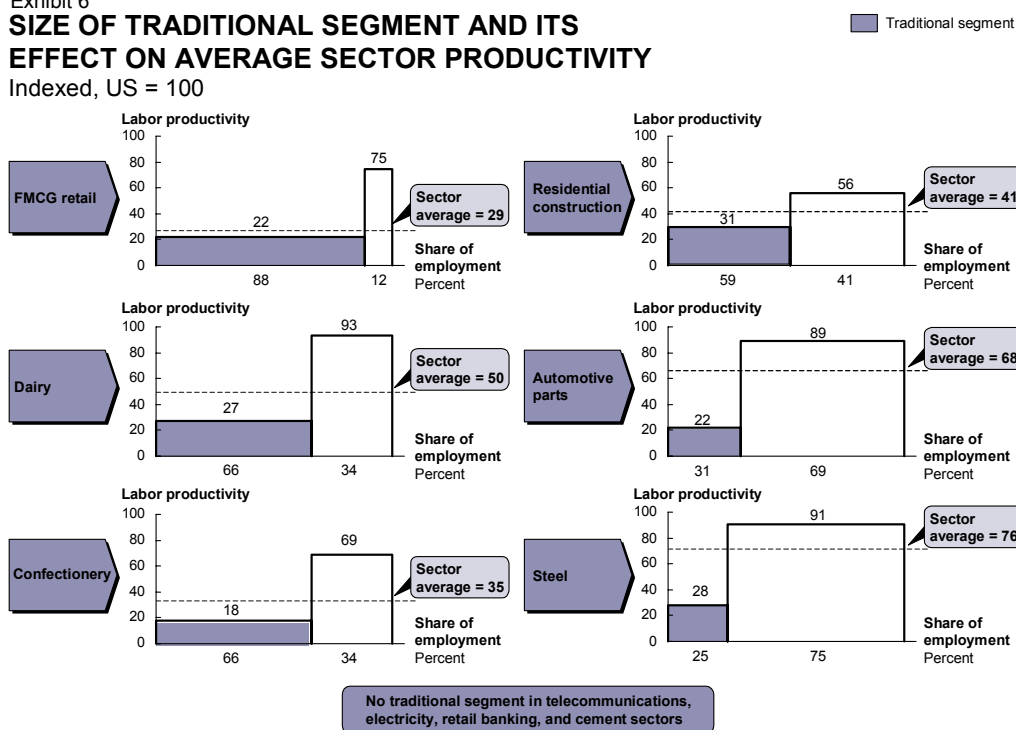
The average labor productivity of the modern segment is 62 percent of the US total (Exhibit 5), but the traditional segment drags down the overall average considerably. Traditional players achieve productivity levels of only 24 percent of the US. Taken together, the fact that the traditional segment employs half of the labor in the sectors studied means that Turkish productivity is reduced to only 40 percent of the US.

The traditional segment is small in some sectors and substantial in others, and the relative size of the traditional segment dictates the sector productivity average. In steel and automotive parts, where the traditional segment constitutes significantly less than half of the sector employment, average sector productivities are relatively high (76 and 68 percent of US, respectively). In all other sectors where employment is dominated by the traditional segment, the sector average productivities are depressed substantially – in dairy processing to 50 percent of US levels, in confectionery to 35 percent, and in FMCG retail to 29 percent (Exhibit 6).

In sectors with very high entry barriers in terms of capital requirements and thus economies of scale, including telecommunications, electricity, and retail banking, it is not possible for traditional players to exist and we do not see a bi-modal structure.



Exhibit 6  
**SIZE OF TRADITIONAL SEGMENT AND ITS  
 EFFECT ON AVERAGE SECTOR PRODUCTIVITY**  
 Indexed, US = 100



Source: Sector case studies

Because the potential for productivity improvement in Turkey is so attractive, and because so much of it is linked to developments in the dynamics between the traditional and modern segments, we first explore below the traditional segment and we then examine the modern segment, showing the nature and significance of the linkages between the two.

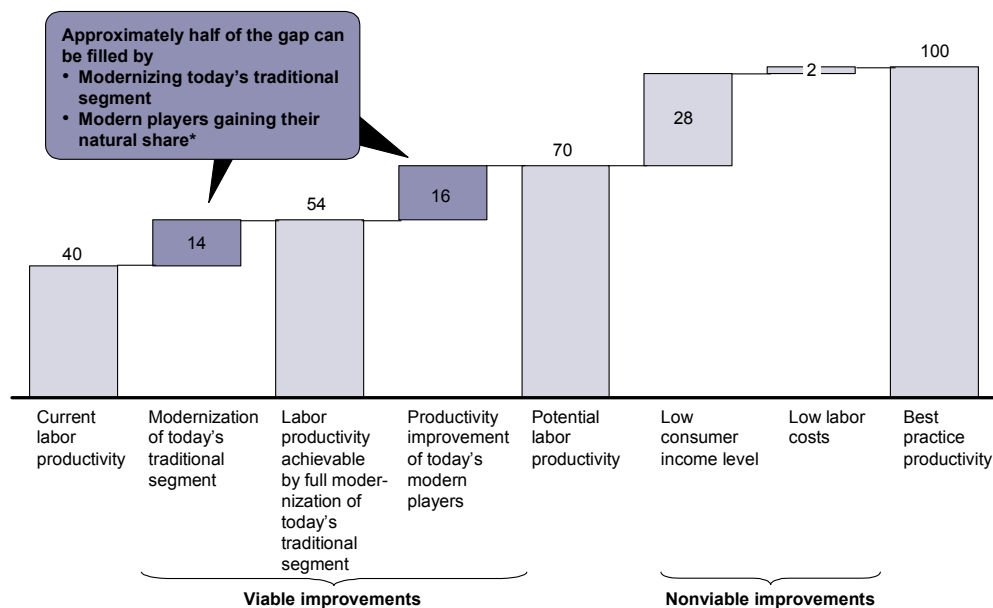
### MODERNIZATION AND PRODUCTIVITY GROWTH NEEDED IN TODAY’S TRADITIONAL SEGMENT

Because the traditional segment depresses overall productivity, modernization is critical. However, the effect of modernization will be realized via two intertwined phenomena: ensuring that traditional players strive to reach their productivity frontiers, and ensuring that the most productive players within a segment are not artificially constrained from achieving their natural market share. In any event, the requirement for ensuring that both phenomena are realized is the same: dramatically reduce the informality practiced by traditional players by both enforcing and encouraging adherence to existing legal obligations.

In this section we elaborate on these findings through discussions of possible modernization paths for traditional players, of the informality phenomenon, and of the causes of informality.

Exhibit 7  
**SOURCES OF LABOR PRODUCTIVITY GAPS**

Indexed, best practice in each sector = 100



\* Based on estimation of potential share of modern players in each sector if barriers to improved productivity did not exist

Source: MGI analysis

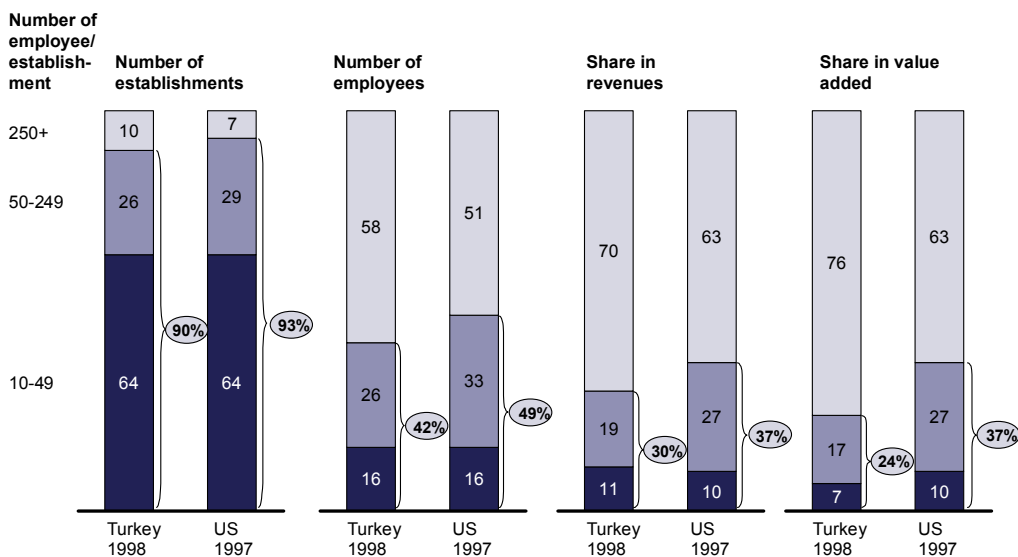
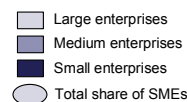
**What it means to modernize the traditional segment**

Almost half of the Turkish productivity gap is attributable to the traditional segment of the economy, either because in some sections they have more than their natural share of the market, as in FMCG retail and dairy processing, or because they show poor productivity performance versus potential (Exhibit 7).

It is important first to address the concern that modernizing traditional players would mean the demise of small-to-medium-sized enterprises (SMEs) in Turkey. We answer that by looking at developed countries that have gone through the same modernization process. In these countries, small players are truly an integral part of the economy. In the US manufacturing sector, for instance, small establishments constitute 64 percent of total establishments, 16 percent of employment, 10 percent of revenues, and 10 percent of the value added (Exhibit 8). These numbers further increase dramatically for total SMEs. Since SMEs in Turkey today are even less well represented than in the US, it seems not only that they will continue to be important in the Turkish economy, but also that they have the potential to become even more significant.

Exhibit 8

**COMPOSITION OF MANUFACTURING SECTOR**  
Percent



Source: State Institute of Statistics; US Census Bureau

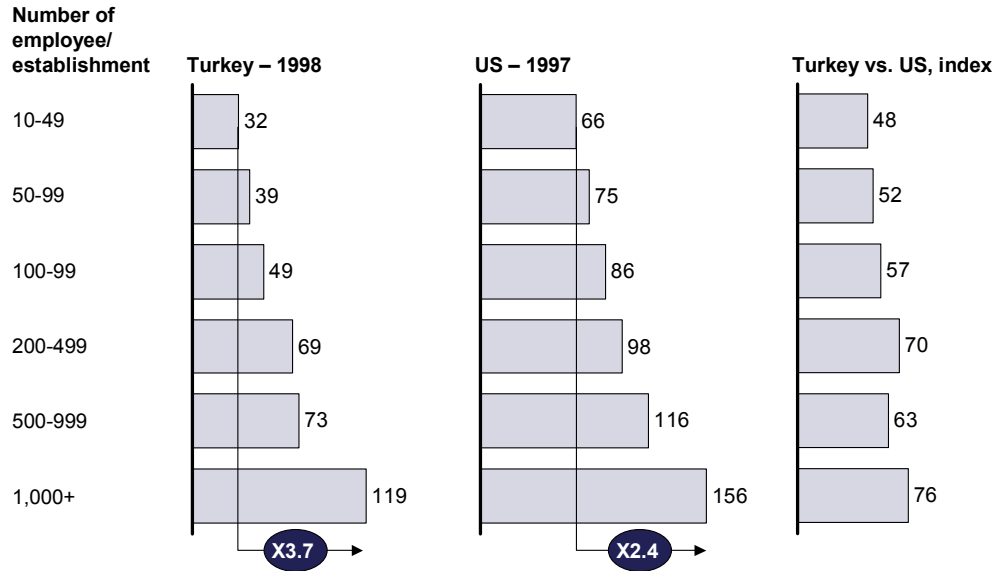
However, the key to the prosperity of SMEs in the US is their ability to achieve high levels of productivity (Exhibit 9). And when we compare the labor productivity of different sizes of SMEs in Turkey to their counterparts in the US, we see both that Turkish SMEs are significantly less productive at every size level and that the productivity shortfall is inversely proportional to size – the smaller the company, the larger the shortfall. The US example, where small players broadly represent the productivity frontier of companies at that scale, suggests that SMEs in Turkey must modernize in order to be more productive and to assume their rightful place in the economy.

How can traditional players modernize? How can they become more productive and earn the right to exist rather than inevitably go out of business over time? Exhibit 10 summarizes two possibilities: become either a modern generalist or a specialist player. The alternative is exit, sooner or later.

**Become a modern generalist player.** Traditional players can link with others to improve scale and/or scope in key functional areas. Individual businesses can remain small and independent if they can join with like businesses to increase capability in functional areas that are key to productivity growth. Examples include consortia and franchising.

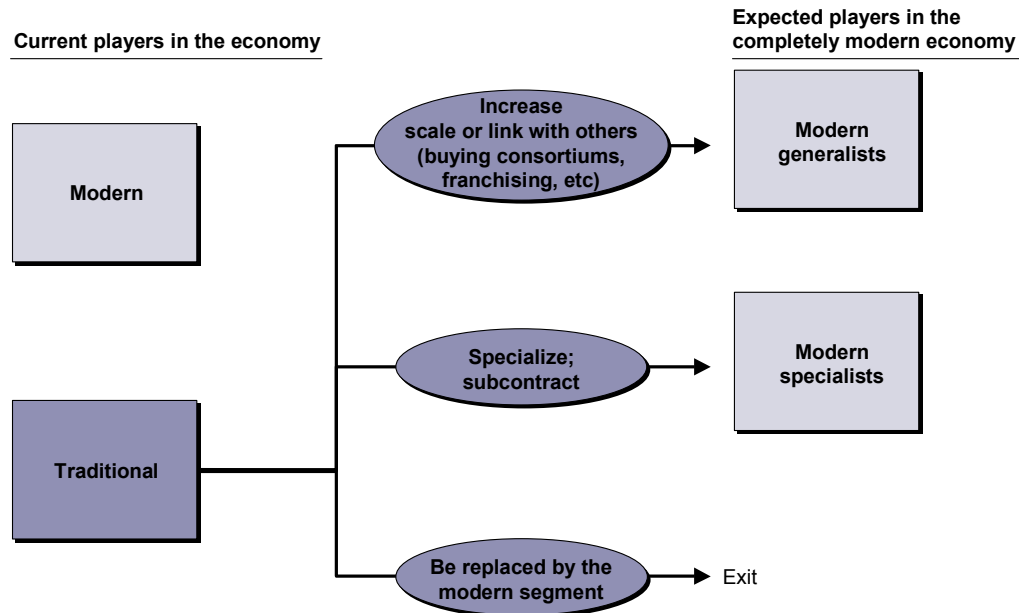
Exhibit 9  
**LABOR PRODUCTIVITY\* COMPARISONS OF DIFFERENT SIZE PLAYERS IN THE MANUFACTURING SECTOR**

Indexed, US sector average = 100



\* Value added per employee (adjusted by GDP PPP)  
 Source: State Institute of Statistics; US Census Bureau

Exhibit 10  
**POSSIBLE MODERNIZATION OUTCOMES FOR SMALL TRADITIONAL PLAYERS**



Source: MGI analysis

- ¶ **Buying consortia.** In FMCG retail, to compensate for smaller scale and the resulting difference in purchasing power, small players in the US often enter into buying consortia (IGA is the leading example in the US). A consortium allows smaller players an expanded product range at prices comparable to those achieved by large integrated players, and often creates transportation and handling efficiencies.
- ¶ **Franchising.** Similarly, franchising allows members to consolidate and leverage both branding and marketing assets and to transfer knowledge and expertise. Independent SMEs get many types of technical expertise and enjoy the benefits of a nationally supported brand name while maintaining their small size and a level of independence. McDonald's fast food restaurants and 7-Eleven retail stores are good examples of franchise organizations that provide branding/marketing support, purchasing power and broader business know-how.

While some players in the traditional segment can use linkages to increase productivity while staying at their current size, some players have to increase their scale and make the viable automation investments required to compete with the modern segment. Players in traditional confectionery or automotive parts production might face this challenge. The traditional segment in both sectors is not dramatically different in nature from the modern segment; the traditional players are simply smaller and less-productive replicas of larger players. By making the right technology improvements, the traditional segment gains the potential to reach the productivity levels of the modern players and to compete with them. Examples of these viable investments include computer numerical control (CNC) machining centers and automatic hydraulic presses in automotive parts,<sup>1</sup> and automation of dough preparation, continuous production technology, and automation of primary packaging in confectionery.

In many cases such investments will materialize only as larger, modern players acquire smaller traditional players and finance the required technology upgrade. However, consolidation does not automatically mean that big fish are swallowing minnows. Again, US and EU cases offer many examples of two or more small operators with compatible customer franchises venturing together to increase their scale and capacity to invest.

**Become a modern specialist player.** Specialization in products and services allows smaller firms to build scale advantages in either a more focused portion of the whole value-added chain or in a discrete part of the total market. Vehicles for specialization include strengthened branding, which can improve pricing, and subcontracting.

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<sup>1</sup> Brake systems manufacturing

- ¶ **Increasing price premium via specialized products/branding.** In the EU, traditional dairy processors thrive via specialization. For example, more than 1,000 different cheese varieties produced in the EU are offered via a concept called Protected Denomination of Origin (PDO). Products stamped with PDO carry qualities exclusive to a geographic area, including human and organic input and production. And once a cheese receives the PDO designation, the producers of that cheese are required to form a consortium to establish quality standards and a process for verifying compliance. This form of specialization also allows umbrella branding and a substantial price premium compared to mass-produced items, thus enabling producers to invest in more productive technologies while remaining small operators.
- ¶ **Functional subcontracting.** Another form of specialization – subcontracting – offers another common approach to modernization. Subcontracting is the most common route by which SMEs prosper. It allows smaller firms to build scale advantages on a smaller portion of the whole manufacturing process. For instance, both Turkey and Italy employ a significant number of subcontractors within apparel production. They perform activities in which small, specialized players can be more productive, such as cutting, different types of sewing, specialty finishing, and ironing. We find a similar system in residential construction, where subcontractors specialize in the production of window frames, kitchen cabinets and ceramic tiling, painting, electrical installation, and plumbing.

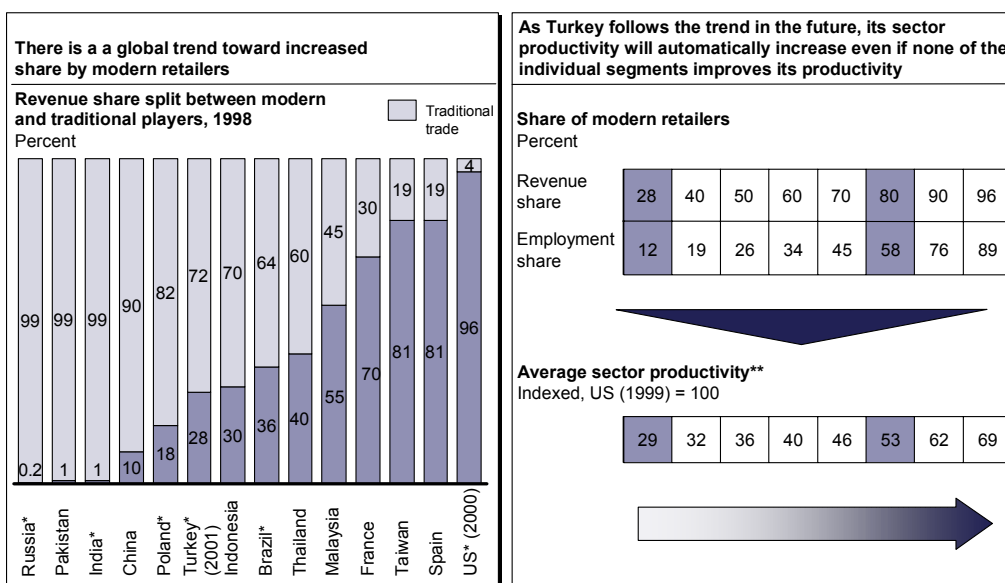
**Exit the sector.** While many of the smaller players can continue their existence with increased productivity through modernization, some of them will exit the sector and be replaced with the modern segment (including both modern players that exist today, and/or some of tomorrow’s newly modern players). In other words, the most productive players will capture their natural share of the market. This will hold true especially in sectors such as FMCG retail and dairy processing, where smaller players currently constitute a substantial majority of the employment.

The FMCG retail sector perhaps best illustrates the point. The trend toward an increased share by modern formats is clearly observable in other countries and Turkey is expected to follow this trend, imitating the pattern. In fact, a sensitivity analysis done to show the impact of increased share by modern retailers reveals that as the revenue share of modern retailers triples, even if neither individual segment improves its productivity the average sector productivity almost doubles as well (Exhibit 11).

Exhibit 11

**THE EFFECT OF MODERN PLAYERS REACHING THEIR NATURAL SHARE**

FMCG RETAIL EXAMPLE



\* FMCG retailing only  
 \*\* Assuming current format productivities  
 Source: Euromonitor; AC Nielsen; Progressive Grocer; MGI analysis

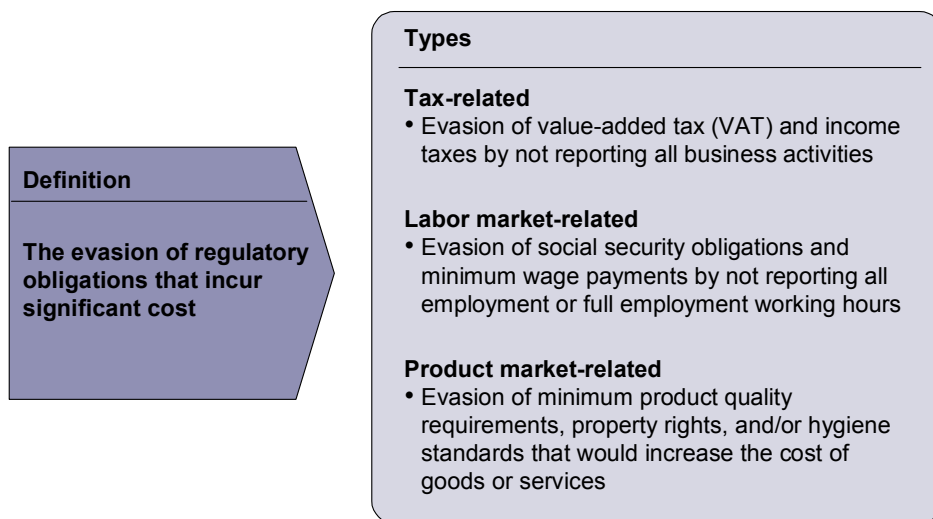
**The barrier to modernization: informality**

In Turkey, the traditional segment enjoys an unfair advantage; the playing field between traditional and modern players is not level. This advantage lies in the ability of traditional players to operate informally. When they can operate informally two things happen to retard modernization: traditional players who do not modernize can exist longer, slowing the growth of other, more modern players; and in many instances, the advantages of informality act as a disincentive for any individual players to launch the sometimes-difficult actions to become modern.

We define informality as the evasion of regulatory obligations that incur significant cost: tax obligations, labor market-related obligations, or product-market related obligations (Exhibit 12). Most of the players in the traditional segment widely leverage informality to offset their current, low productivity levels and to compete with the modern segment. Groceries in FMCG retail, mandıras in dairy processing, traditional players in confectionery, faon producers in apparel, and traditional single-plot contractors in residential construction all use informality to create unearned cost advantages in the absence of strong operating productivity. It is important to note that most of the informal

Exhibit 12

**DEFINITION AND TYPES OF INFORMALITY**



Source: MGI analysis

players are registered businesses<sup>2</sup> that evade obligations in different ways, depending on the nature of their business (Exhibits 13-14). For example, groceries in FMCG retail mostly evade value-added tax (VAT), whereas traditional players in confectionery evade social security obligations.

The actual effect of informality on sector productivities depends both on the nature of the relationship between traditional and modern segments within the sector and on the magnitude of cost savings created by informality relative to other sector dynamics.

¶ **Nature of relationship between formal and informal players.** Informality dampens overall productivity only in those sectors in which formal and informal players compete directly against each other, such as FMCG retail, dairy processing, and to a limited degree, automotive parts, and steel. Informality in these sectors slows down the transition to more productive formats.

On the other hand, in sectors such as apparel, the informality-related cost advantages are enjoyed across the sector through the subcontracting mechanism, all players enjoy the same advantage, and competitive

<sup>2</sup> Unlike in other developing countries where informality is also characterized by the avoidance of registration, in Turkey enforcement on the registration front is actually quite strong (Exhibit 14). Registration provides a better opportunity to control informality compared to other countries such as Brazil and Peru, where the companies are not registered as legal entities upon which obligations are enforced (MGI Brazil study, “Productivity – The Key to an Accelerated Development Path for Brazil,” “The Mystery of Capital” and “The Other Path” by Hernando de Soto).



dynamics are not skewed. In these cases, the negative effect on total sector productivity is a function only of the relatively lower-productivity performance of the informal players themselves.

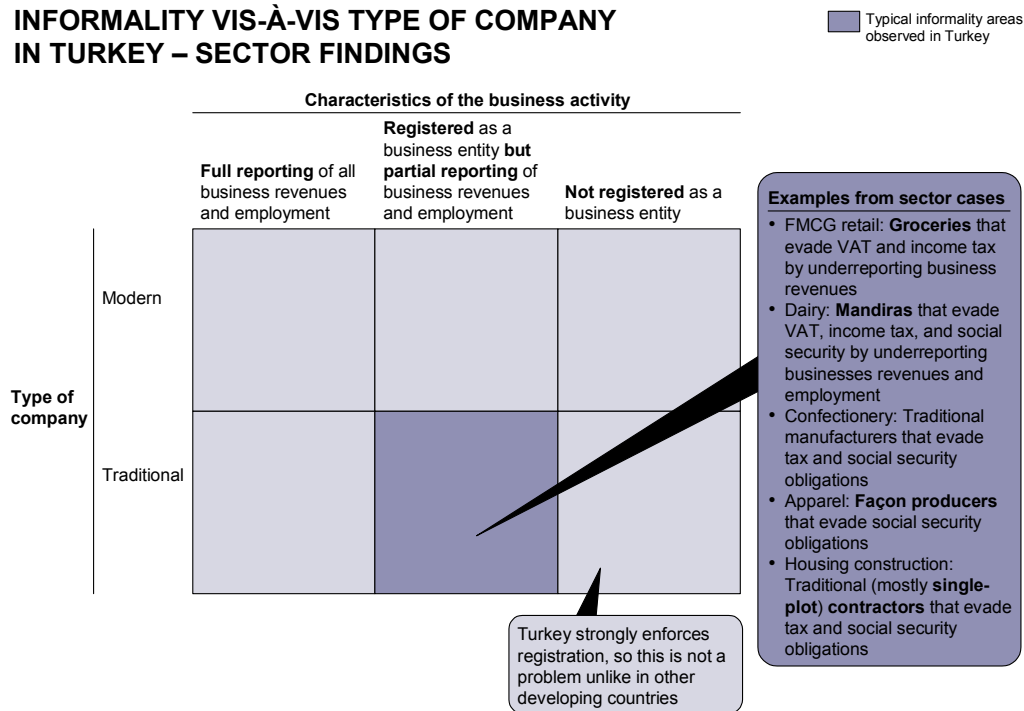
- ¶ **Magnitude of cost savings from informality relative to other competitive dynamics.** The net effect of informality in a sector also depends on the magnitude of the cost savings attributable to informality in relation to the cost structure of modern players, combined with the key buying factors of customers. For example, in FMCG retail, traditional outlets enjoy about a 10 percent cost saving not available to modern retailers; this is sufficient to provide a subsistence income that keeps some operators in business longer than they would otherwise be able to stay. However, given the overall cost advantage of modern retailers and the superior price/product offering they can make to customers, the transition from traditional to modern is underway nevertheless, with 6 percent of traditional players exiting each year. Thus, although informality does not stop the transition it does slow it.

In contrast, in the dairy processing sector, informality-related cost savings add up to almost 20 percent for mandiras. As a result, mandiras are able to keep their current business and continue existing even if the share of modern players is increasing through growth in total market size.

Informality does not only affect productivity because it keeps unproductive traditional players in business longer; it can actually discourage traditional players from pursuing legitimate avenues to modernization that are open to them. No better example exists than Migros' attempt with Bakkalim in the late 1990s. The Bakkalim concept was an effort to organize traditional groceries under an umbrella brand and to provide purchasing, merchandising, and logistics support. To make Bakkalim viable, informality would not be tolerated. Participants had to comply fully with all tax and social security requirements. This compliance requirement was one of the key reasons that Bakkalim failed. Whatever the long-term advantages to participants might have been, the players weighed the proposition against the negative short-term effect on their personal cash flows and opted out of the arrangement.

Exhibit 13

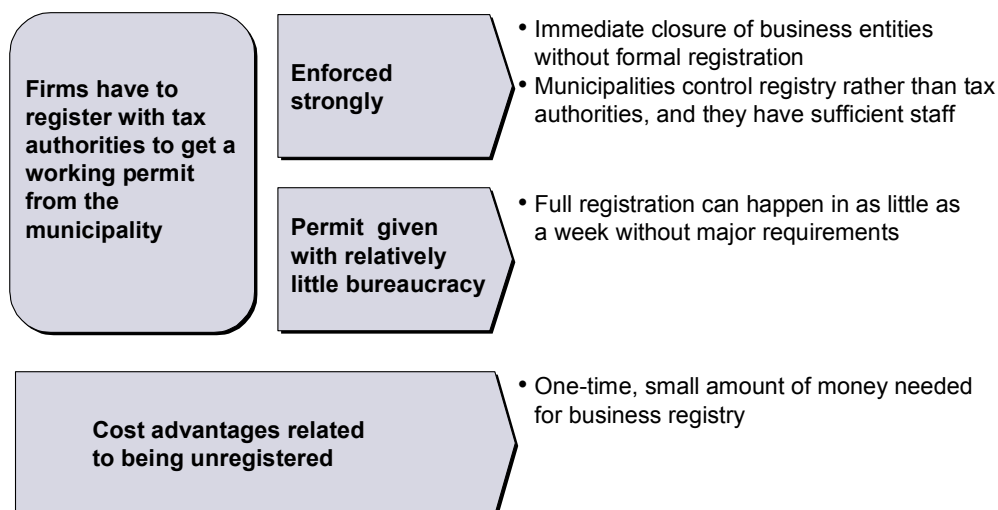
### INFORMALITY VIS-À-VIS TYPE OF COMPANY IN TURKEY – SECTOR FINDINGS



Source: Sector case studies; MGI analysis

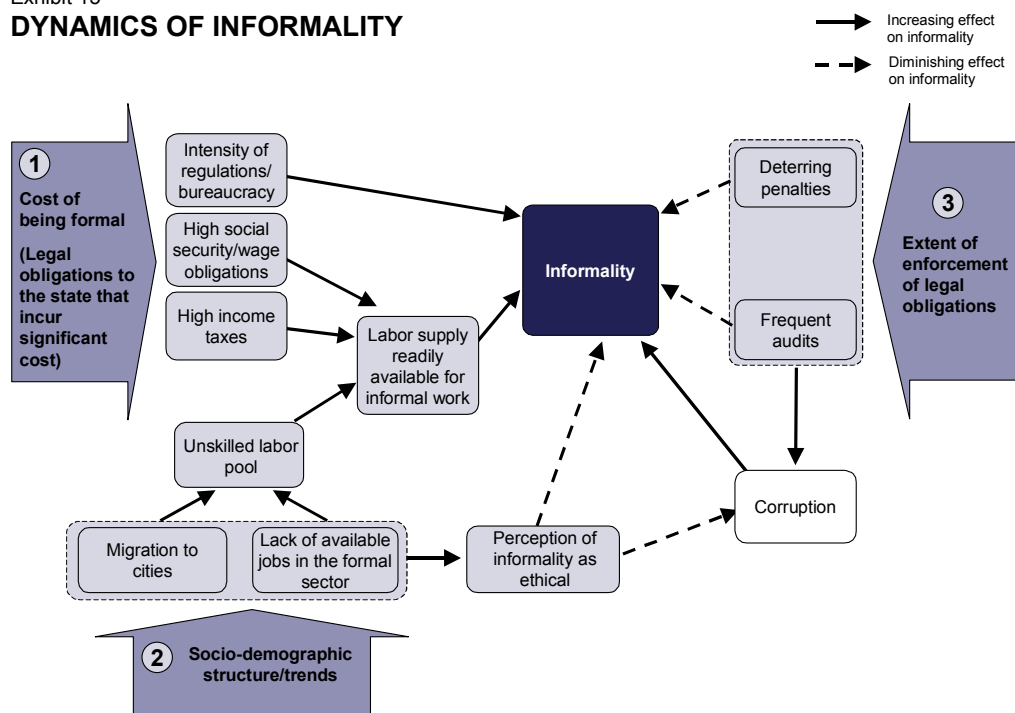
Exhibit 14

### WHY ENTITIES REGISTER THEIR BUSINESSES IN TURKEY



Source: MGI analysis

Exhibit 15

**DYNAMICS OF INFORMALITY**

Source: MGI analysis

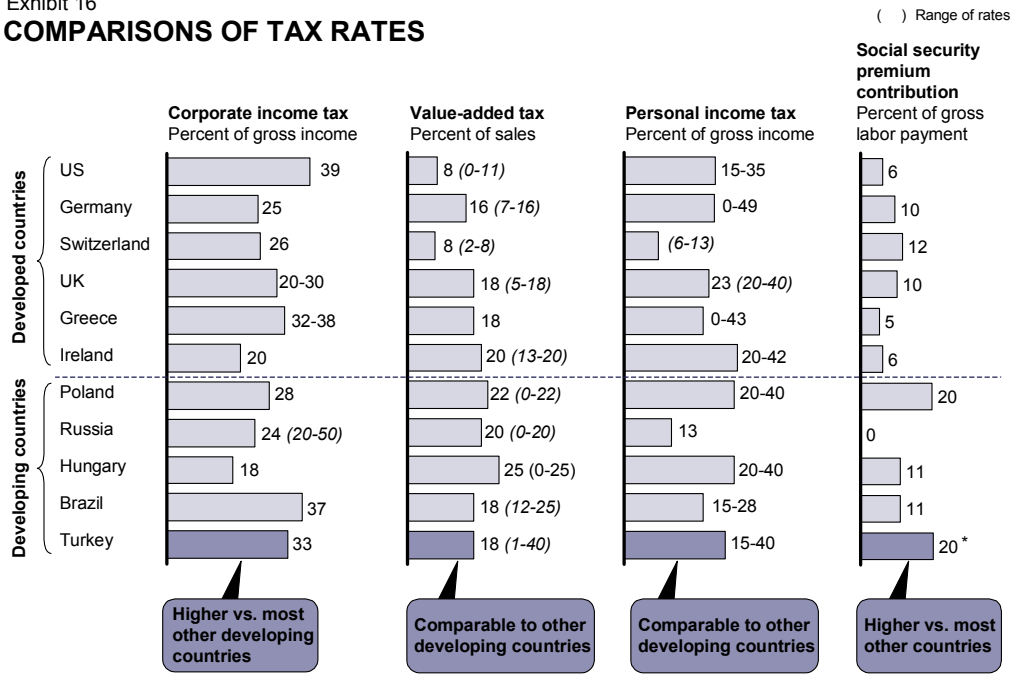
**Cause of informality**

Informality depresses productivity in the ways described. However, addressing informality and the barriers it creates to modernization requires an understanding of the factors that cause and influence it. As summarized in Exhibit 15, we have found three factors to be most significant in Turkey's informality phenomenon: a) the cost of being formal (regulatory obligations that incur significant cost); b) the socio-demographic structure and trends; and c) limited enforcement of legal obligations. Of these, we believe that the most important for policy focus is the limited enforcement of legal obligations, since it is both a significant factor and the most amenable to change.

**The cost of being formal.** The cost of being formal is the cost of adhering to all the legal obligations imposed by the state. The most important of these obligations are tax, social security and product quality and safety management. While some of industry's obligations may be more onerous in Turkey than in developed countries, they may also reflect the country's economic and social demands. Also, formality confers benefits that offset the costs. Still, some businesses may perceive the obligations as excessive or as too significant to meet.

Exhibit 16

**COMPARISONS OF TAX RATES**

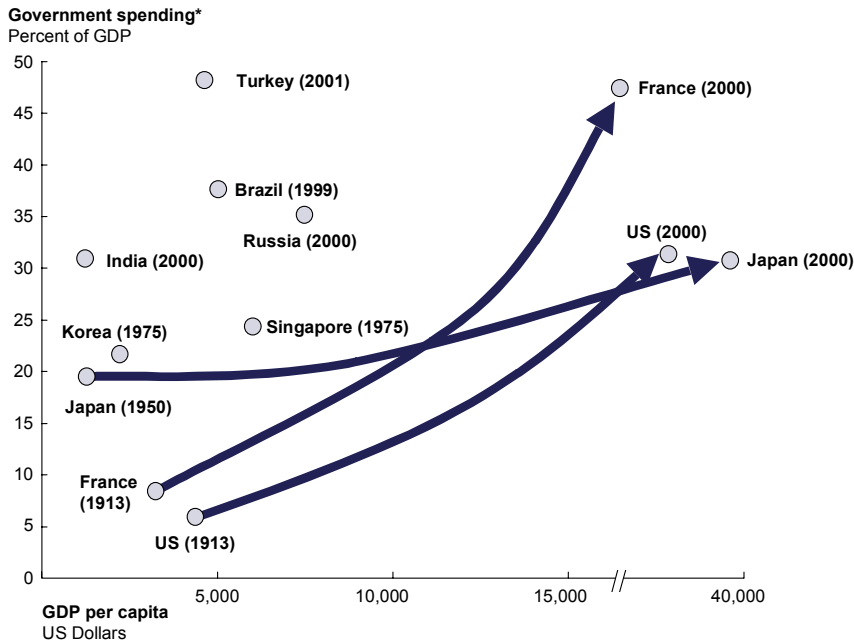


\* 20% social security premium, 2% unemployment risk premium has to be paid by the employer; 14% social security premium, 1% unemployment risk premium has to be paid by the employee. Only the social security premium paid by the employer is used in benchmarking

Source: Economist Intelligence Unit; country commerce guides

Exhibit 17

**GOVERNMENT EXPENDITURE VS. GDP PER CAPITA**



\* Indicator of tax burden, therefore, the cost of being formal  
Source: Angus Maddison; World Bank; MGI analysis

- ¶ **Tax and social security obligations.** The total cost of all tax and social security obligations is relatively high in Turkey (Exhibit 16). Many countries have managed to keep government spending (as a percent of GDP) much lower than Turkey's, as GDP per capita increases (Exhibit 17). However, the economies of developed countries took off in a less-demanding era, and modern states like Turkey are faced with more extensive social obligations. This issue is far too complex to address from a productivity standpoint alone because it requires assessment of the fiscal balances of the country. Furthermore, decreases in the cost burden related to these obligations are not guaranteed to decrease informality in an economy.
- ¶ **Product quality and safety management.** Product regulations must be designed to ensure that minimum safety standards for consumers are met and the correct knowledge regarding product standards is readily accessible for all consumers. The standards, however, should not deter lower-quality products from being sold as long as they are above minimum standards and the low product quality is transparent to all consumers. In this context, the product market obligations in Turkey appear adequate to ensure minimum standards for all players and are not unduly excessive.

**Benefits of formality.** A discussion of the cost of formality would be incomplete without discussion of the benefits. Moving to formality would broaden traditional players' access to larger consumer groups. Mandira products, for instance (currently mainly accessing consumers only through traditional groceries) could be sold through modern retailers when the dairy processors comply with product standards, and could give full invoices for their sales. An even bigger opportunity would be created for residential construction and steel producers. They might be able to receive pre-payment through a well-functioning mortgage system if they fully complied with construction codes and VAT obligations. Formality would also allow today's traditional players easier and cheaper access to capital, which would facilitate the capital investments required to improve productivity.

**Socio-demographic structure/trends.** Informality is commonplace in developing countries. Rapid migration to large urban centers can generate an excess of unskilled labor that is drawn to informal employment when the formal economy does not adjust quickly enough to meet the flow. Certainly, this is a challenge in Turkey.

As important in emerging markets is the perception that informality is an "ethical" system. While in developed economies a sense of fairness usually deters informality, in emerging markets, informal practices are often seen as fair ways to counteract the perceived power and entrenched advantages of large, formal players.

**Insufficient enforcement of existing laws and regulations.** We see no evidence that companies in Turkey are slipping through regulatory loopholes to avoid regulatory obligations. On the contrary, Turkey has borrowed extensively from more established regulatory environments (particularly the EU and its member countries) to create what appears to be a comprehensive mosaic of regulation. However, actual enforcement in Turkey is very weak, with two primary problems: tax management practices and organizational weaknesses.

- ¶ **Tax amnesties and corruption.** In Turkey, frequent amnesties and ongoing corruption often void penalties for non-compliance with regulations. In other words, it is possible for businesses to escape any consequences for not paying their share. Since 1963, there have been 10 tax amnesties, and since 1984 there have been five social security payment amnesties. Almost all of these amnesties included the payment of the past obligations in installments and used historical Turkish lira (TL) values, disregarding the high-inflationary environment of Turkey. In this environment, responsible tax payers who comply with their obligations are severely penalized, contributing to a sort of tax shamelessness that causes even responsible citizens who declare their obligations to opt out of paying them. Finally, penalties can be easily avoided through bribery.
- ¶ **Organizational weaknesses.** Turkey's amnesty and corruption problems are compounded by a poorly organized and poorly staffed tax collection system. Compared to global best practice, the tax system in Turkey lags in organizational capability, levels of fines, specialization, and a methodology for audit selection (Exhibit 18).

Our study indicates that of the three factors contributing to informality, the issue of enforcement most warrants policymakers' attention. First, and most obviously, socio-demographic patterns are a function of a plethora of phenomena, some controllable, some partially controllable, and many not controllable at all. It is impossible to conceive of tackling such issues principally through the lens of productivity.

Second, there are many examples of tax and social obligation collection regimes much more effective than Turkey's, suggesting that with political will, countries can overcome these barriers. One illustration from FMCG retail illustrates the power of improved tax code enforcement alone: we estimate that currently the state collects as little as 64 percent of the VAT revenue it is owed on retail turnover. If the proportion of retail turnover actually taxed were to increase from 64 to 90 percent, the VAT rate could be lowered from 18 to 13 percent (to the benefit of all formal retailers) with no decrease in state revenue (Exhibit 19).

Exhibit 18

## COMPARISON OF THE TURKISH TAX ENFORCEMENT SYSTEM VS. SUCCESSFUL COUNTRIES

EXAMPLES

	Best practice features/examples	Turkish parity/weaknesses
<b>Organization</b>	<ul style="list-style-type: none"> <li>Special departments for audits (e.g., Criminal Investigation Department in US)</li> <li>Special departments for different, risky, special attention-requiring business segments (e.g., separate department for audit of large companies in Austria and UK)</li> </ul>	<ul style="list-style-type: none"> <li>Special departments for audits exist</li> <li>No special departments for different, risky, special attention-requiring business segments</li> </ul>
<b>Organizational capability</b>	<ul style="list-style-type: none"> <li>1.1-1.5 tax persons per thousand population (1.1 in Poland, 1.3 France, 1.5 UK)</li> </ul>	<ul style="list-style-type: none"> <li>0.6 tax person per thousand population</li> </ul>
<b>Penalties</b>	<ul style="list-style-type: none"> <li>2-3 fold of the evaded tax, coupled with imprisonment if persistent or larger than a specified amount (US)</li> <li>In addition to monetary penalties, all rights to work with state are lost (Spain)</li> </ul>	<ul style="list-style-type: none"> <li>Negligible fines for VAT evasion (&lt;US\$20)</li> <li>No imprisonment</li> </ul>
<b>Methodology for audit selection</b>	<ul style="list-style-type: none"> <li>Specialized methodologies                             <ul style="list-style-type: none"> <li>A secret selection system in which the selection rate is correlated with past behavior (US)</li> <li>Selected, high-risk companies are audited on a continuous basis (Spain)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Random or on a complaint basis</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>Special advisory helpline for informal business (UK)</li> <li>Early VAT fraud detection system in which suspected irregularities are resolved with the company before going to courts</li> </ul>	

Frequent tax amnesties further hamper the tax enforcement (there were 10 tax amnesties since 1963 about once in every 4 years)

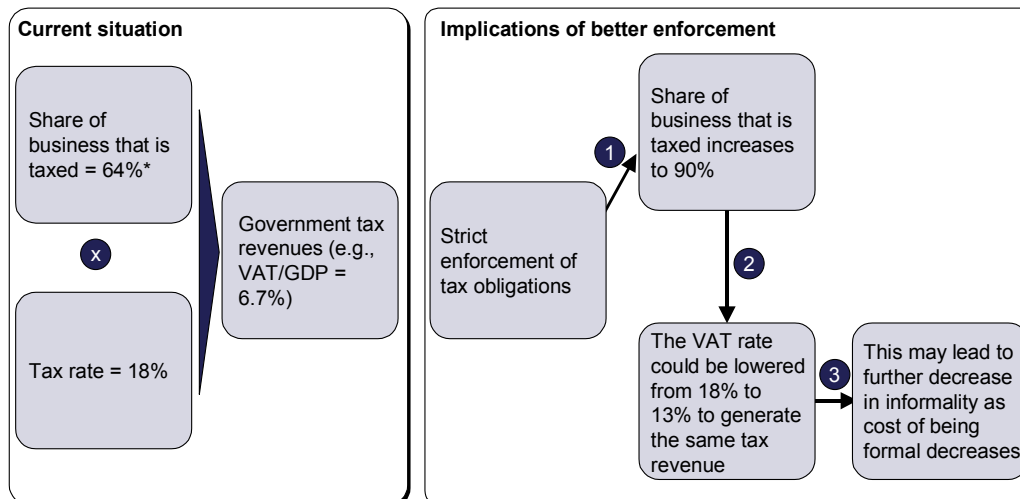
Source: Ministry of Finance; Tax Authorities in other countries; MGI analysis

Exhibit 19

## IMPLICATIONS OF STRONG ENFORCEMENT ON TAX RATE REDUCTION

ILLUSTRATIVE

### Retail sector example



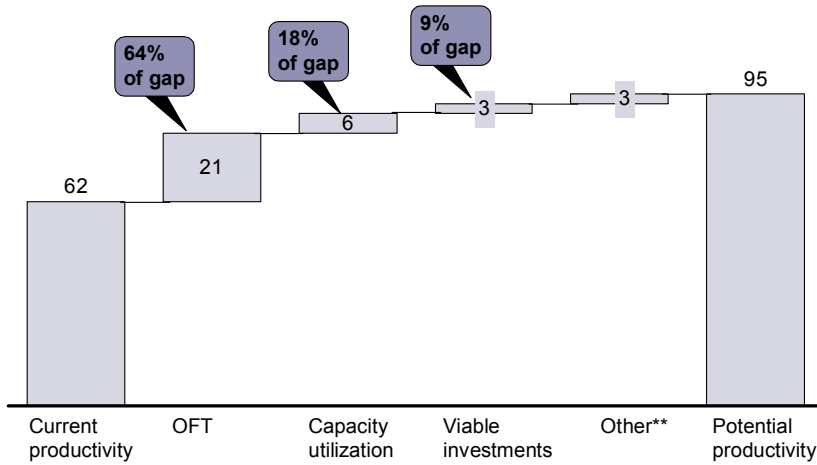
\* Total retail sector estimate. Calculated based on assumptions of share of business taxed for different retailer types: 40% for groceries, 70% for small-medium markets and 100% for hypermarkets. Remaining 36% of the sector revenues are not subject to VAT

Source: MGI analysis

Exhibit 20

**OPERATIONAL REASONS FOR LABOR PRODUCTIVITY GAPS – MODERN SEGMENT\***

Indexed, best practice country in each sector = 100



\* Utilities are considered part of the modern segment of the economy

\*\* Supplier relations, scale, product mix, etc.

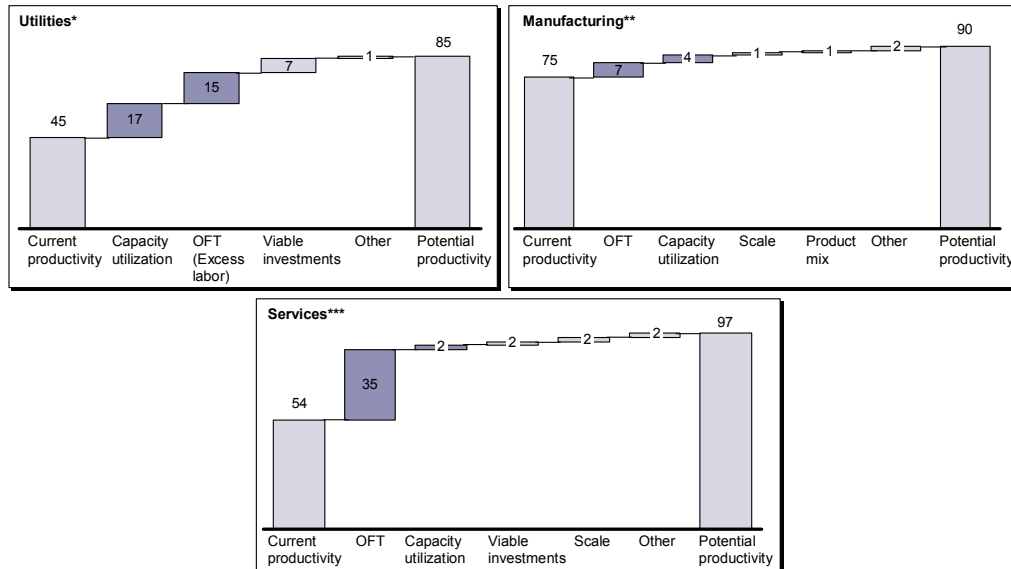
Source: Sector case studies

Exhibit 21

**OPERATIONAL REASONS FOR LABOR PRODUCTIVITY GAPS IN MODERN SEGMENT IN THREE AGGREGATE SECTORS**

■ Greatest potential

Indexed, best practice country in each sector = 100



\* Includes telecommunications and electricity sectors

\*\* Includes apparel, dairy, confectionery, automotive parts, cement, and steel sectors

\*\*\* Includes FMCG retail, retail banking and residential construction sectors

Source: Sector case studies



Last, as we have shown, although the cost of formality may indeed be relatively high, for an economy at Turkey's stage of development there are also many benefits to formality. And at this same stage of development – and fragility – the risks to the Turkish economy of reducing overall tax obligations seem excessive. Furthermore, as the simple retail calculation illustrates, effectively broadening the tax base through better enforcement may in fact be the most effective way to reduce total obligations in any event.

Thus, while we do not minimize the difficulties of putting into effect a solution, we believe that lack of enforcement of existing laws is the primary barrier to resolving the problem of informality.

## **FURTHER PRODUCTIVITY GROWTH POSSIBLE IN TODAY'S MODERN SEGMENT**

Even though the modern segment operates at a productivity level more than 2.5 times the traditional segment across the sectors studied, this segment still has significant productivity improvement potential. In fact, the labor productivity potential, which could have been achieved today in the absence of external barriers, is 95 versus the actual index of 62. In reaching this potential, better organization of functions and tasks (OFT) offers the most potential for improvement; while increasing capacity utilization and realizing viable investments<sup>3</sup> also offer significant potential (Exhibits 20 and 21).

However, as with the traditional segment, significant barriers inhibit the modern segment from achieving that potential. The most important is the impact of macroeconomic and political instability. But, as indicated in the prior section, the non-level playing field created by informality in the traditional segment also represents a critical obstacle. As well, state ownership of monopolies is the central roadblock to productivity growth in the utility sectors.

In this section, we elaborate on these findings through discussions of current productivity gaps and barriers to increased productivity. We also describe how we believe they come together to depress the level of FDI that would otherwise be present and, accordingly, further limit the rate of productivity growth.

### **Current productivity gaps**

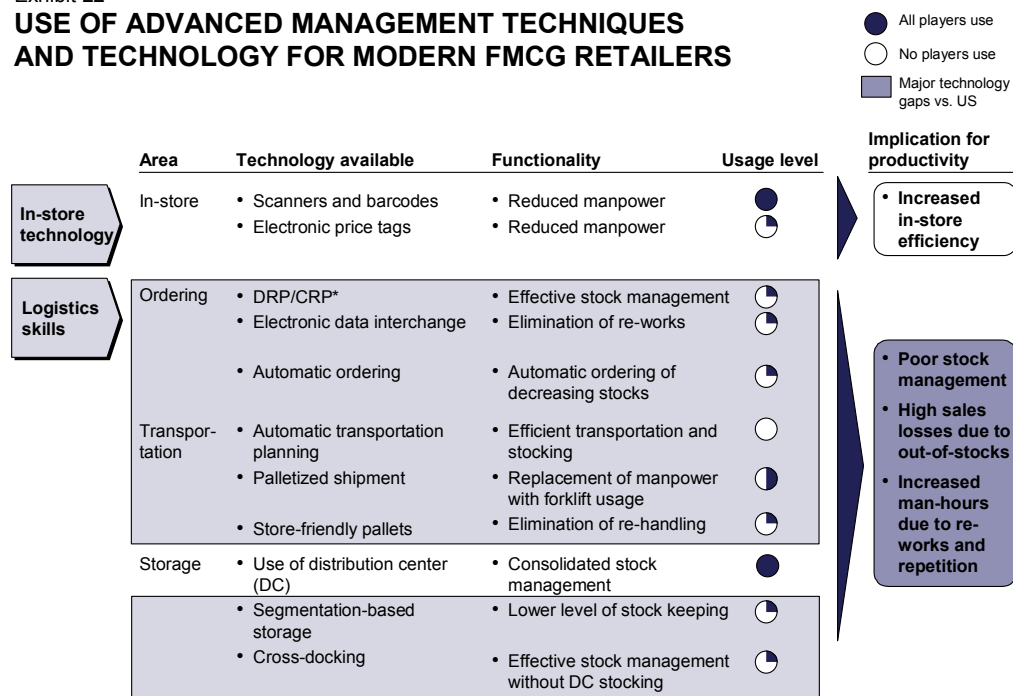
Better organization of functions and tasks (stated more broadly, better design and execution along the business system) represents 64 percent of the total labor productivity gap in today's modern segment; it is the most important productivity improvement opportunity.

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<sup>3</sup> Investments that would have a positive net present value given the current labor/capital cost structure

Exhibit 22

**USE OF ADVANCED MANAGEMENT TECHNIQUES AND TECHNOLOGY FOR MODERN FMCG RETAILERS**



\* Distribution requirements planning (DRP), continuous replenishment planning (CRP)

Source: Interviews; MGI analysis

OFT gaps arise in a range of ways in the different sectors we studied. In some sectors we see a lack of advanced management skills, while in others – particularly monopoly sectors – we see excess labor.

**Inefficient work planning and process management.** A large portion of the OFT gap is attributable to inefficiencies in work flows and processes. For example, in FMCG retail we found limited use of the advanced management techniques and skills available to modern retailers, especially in logistics, compared to retail counterparts in the US. Examples of these modern tools include distribution requirement planning, continuous replenishment planning, automatic transportation planning, cross-docking, and segmentation-based storing. The implications of the limited penetration of these modern tools for productivity are poor stock management, high sales losses due to out-of-stocks, and increased work hours from reworks and repetitions (Exhibit 22).

- ¶ In retail banking, low use of alternative delivery channels (ADC) and significant inefficiencies at branch operations drive most of the OFT gaps in the sector. Banks currently do not focus on migrating customers to ADC, and branch operations suffer from lack of multi-tasking, inflexible teller staffing, and lengthy ID checks of consumers in transaction processing; and at state banks, from poor branch design/format.

- ¶ In apparel, areas of opportunity to improve planning and processes include production planning of work flow; workspace design, production planning, and organizing the upstream; training, continuity, and motivation of the labor force; and performance tracking and supervision.

A similar story exists in dairy processing, automotive parts, and residential construction: insufficient focus and quality in work planning and process management.

**Excess labor.** The government-owned monopolies in particular – electricity and wireline communications – employ a significant amount of labor that would not contribute to output even if managed efficiently. The excess adds up to more than half the employment in electricity and around 20 percent in wireline communications. Until recently, another source of excess labor has been the state banks. Two of those banks – by eliminating almost 40 percent of jobs – confirmed a high level of excess employment in their operations.

Low capacity utilization is the second biggest drag on productivity accounting for 18 percent of the gap. Although capacity utilization is a bigger problem for capital productivity than it is for labor productivity, much overhead and support-function labor is dictated by the level of installed capacity, and so labor is directly affected (Exhibit 23). There appear to be three primary reasons for low capacity utilization where it occurs: overestimating demand, heavy network coverage requirements, and uncompetitive pricing.

**Overestimation of demand.** In some sectors, over-investment in expectation of larger market sizes or faster growth has driven low capacity utilization. For example, capacity utilization in the automotive parts<sup>4</sup> sector in Turkey is currently averaging 60 to 75 percent; this compares to 85 percent in the US. Most of this capacity was installed in the early 1990s, with the expectation of both gaining export volume and seeing a takeoff in local automotive assembly to meet domestic demand. In Turkey's dairy industry, capacity utilization is running at 52 percent compared to 77 percent in the US. Again, most of this capacity was put in place in the early 1990s, with the expectation of boosted demand for modern dairy processing goods.

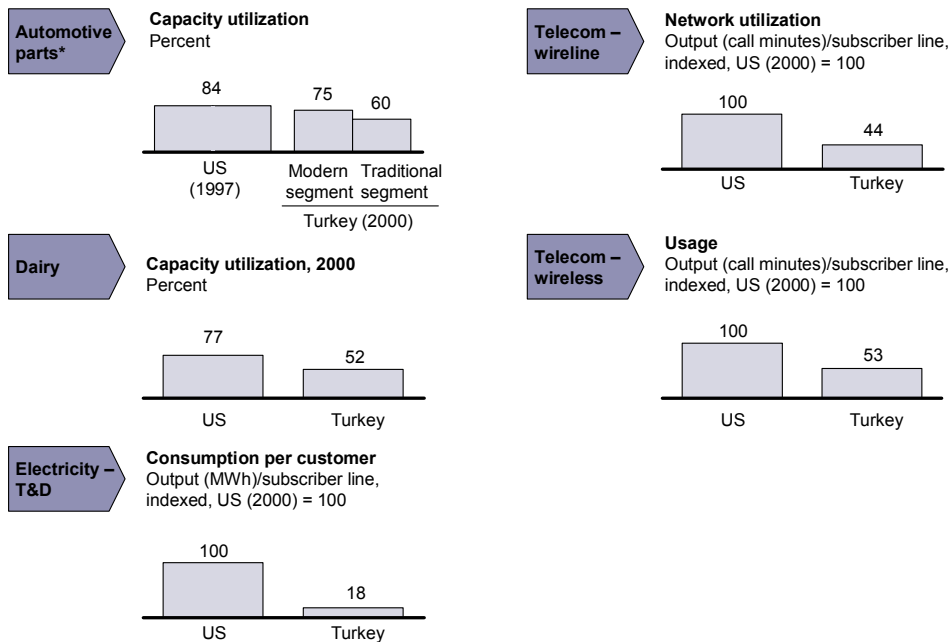
**Network coverage requirements.** In some network-oriented sectors such as telecommunications and electricity (which also happen to be very capital intensive), heavy fixed investments are required from the outset to provide full

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<sup>4</sup> Brake systems manufacturing

Exhibit 23

**LOW CAPACITY UTILIZATION – SELECTED EXAMPLES FROM CASES**



\* Brake systems  
Source: Sector case studies

coverage, and capacity utilization is a function of demand development. Demand development in turn is a direct function of economic development, and thus may lag. For example, in wireline communications, output per subscriber is less than half of the US level and it is barely above half in wireless. Similarly, consumption per customer is almost 20 percent of the US in electricity T&D. This low level of utilization affects capital productivity, but it also affects labor productivity as some of the overhead labor is essential, irrespective of the output.

**Uncompetitive pricing in utilities.** In utilities sectors, again usage tends to be very sensitive to pricing; where monopolies create insufficient pressure to reduce prices, demand, and thus productivity, suffers. An example is the wireline communications sector. Turkish subscribers pay substantially higher prices than US consumers and that contributes to usage levels that are only 45 percent as high in addition to the adverse effect of differences in consumer income levels.

Some technology investments that are important in benchmark countries are simply not viable in Turkey because real interest rates are high and labor costs are relatively low. In some instances, it is not economically feasible to replace labor with capital. However, some investments that would be attractive even at high interest rates are not being realized.

The lack of investment in viable opportunities is most prominent in the state monopoly sectors. For example, opportunities to improve productivity in wireline communications include some infrastructure investments such as digitalization, ADSL, and ISDN; new service offerings over existing infrastructure; and some

automation projects such as network and fault management and on-line transfer of billing. Similarly, establishment of call centers, Internet banking, and automation of deposit account management and loan processing are viable investments that have not materialized at state banks, even though the private banking sector widely leverages them to improve labor productivity.

In total though, lack of investment in viable technology accounts for only 9 percent of the productivity gap versus potential in the modern segment. The small remainder of the gap, 3 percent, is accounted for by a variety of minor factors, including scale, product mix, and supplier relations.

### **Major barriers to improved productivity in the modern segment**

The modern segment also faces significant barriers to further productivity improvements. These barriers are:

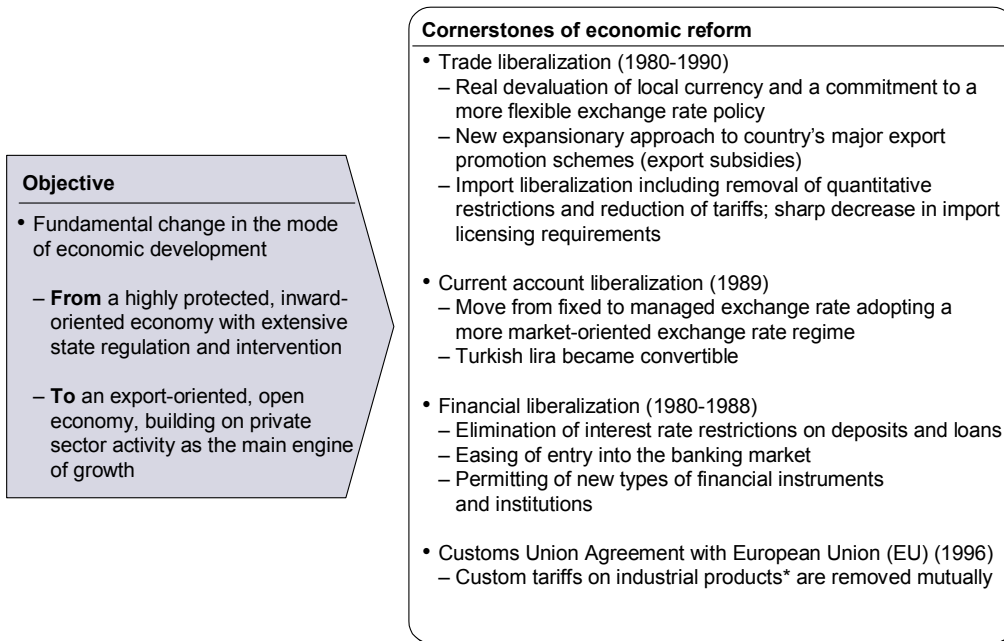
- ¶ Macroeconomic and political instability, which mainly drives OFT and capacity utilization issues
- ¶ The non-level playing field created by informality in the traditional segment, which retards output growth
- ¶ The combination of monopolies and government ownership in utilities, which creates excess labor and which retards output growth that would improve capacity utilization.

Several constraints to productivity that we have found in other economies do not prove significant in Turkey. To that point, Turkey differs from other economies studied by MGI in one important respect: product and land-market barriers specific to individual sectors, while contributing somewhat to slower productivity growth, are not a major impediment. It appears that economic reform launched in the 1980s, combined with the Customs Union Agreement achieved with the EU in the mid-1990s, did much to leave Turkey with relatively few distortions at the product-market level (Exhibit 24). Furthermore, we found that other factors often cited as productivity constraints – labor market dynamics, public infrastructure weaknesses, corporate governance shortfalls, education levels – are not important in explaining Turkey’s low productivity.

**Barrier No. 1: macroeconomic and political instability.** As observers of the Turkish economy well know, and as we document further in the chapter “Turkey’s Aggregate Economic Performance,” during the past decade Turkey has experienced a debilitating succession of sharp economic contractions. In some combination of cause and effect, the same period has been characterized by a succession of weak or short-lived governments, resulting in a lack of strong political leadership.

Exhibit 24

**LIBERALIZATION IN THE 1980s AND 1990s**



\* Custom tariffs on processed food items remain based on the weight and ingredient of the products  
 Source: Atiyas, MGI analysis

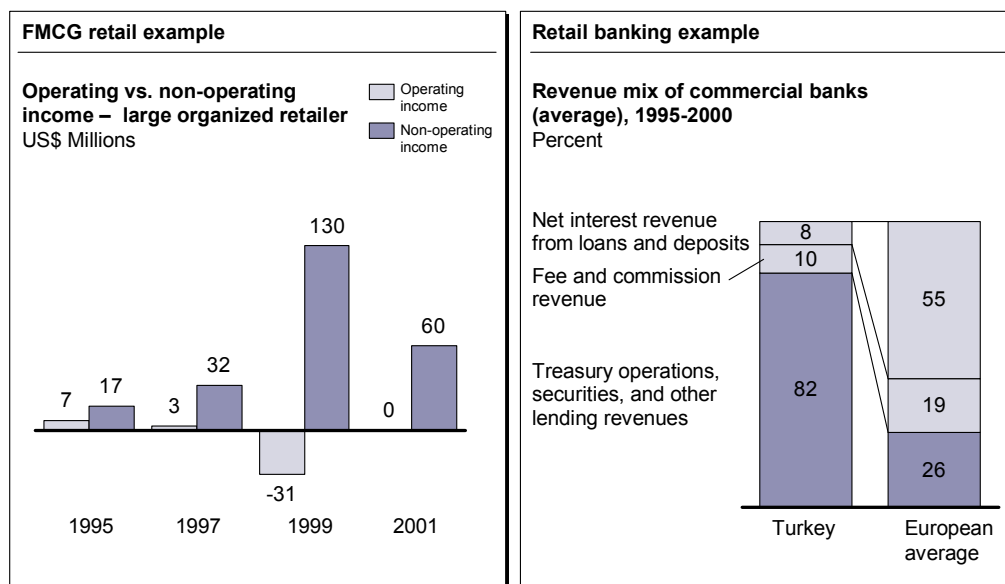
Many analysts have demonstrated the effect of this economic and political instability in terms of macroeconomic variables such as inflation rates, real interest rates, government debt, and the like. We demonstrate its effect on productivity; based on our study, macroeconomic and political instability account for almost one-half of the gap between Turkey's current and potential productivity levels.

In our sector studies, we have noted three main effects of instability on productivity: diverted focus, distorted planning processes, and limited investment opportunities.

¶ **High real interest rates divert focus from productivity improvements.** High real interest rates offer significant opportunities for “unearned” financial gains. While it is economically rational for managers to pursue these gains, doing so can detract significantly from productivity. We see this phenomenon particularly in retail banking and FMCG retail, where asset-liability management and cash cycle management offer attractive potential (Exhibit 25).

Exhibit 25

## ATTRACTIVENESS OF “UNEARNED” INCOME



Source: Sector case studies

- In the FMCG retail sector, negotiations of the payment terms and treasury operations tend to dominate relations between manufacturers and retailers. The problem in a productivity sense is that this focus on maximizing unearned income can seriously distract management’s attention from the operational improvements required to become more productive. We believe that this, and not the absence of know-how, is the most significant reason for the limited use of advanced retailing practices.
- In retail banking, high real interest rates have made treasury operations the major source of bank profits. In the presence of this profit potential, most retail banks have not felt the need or the pressure to become efficient in their core operations.
- ¶ **Large demand swings distort capacity planning and utilization.** The transition from the steady growth and high expectations of the 1980s to the succession of steep demand contractions in the 1990s has been the equivalent of a cold shower for corporate managers.
- First, much of the capacity put in place in the late 1980s and early 1990s in anticipation of strong demand growth is underutilized, as that total demand has not materialized. Prime examples of this are the cement and automotive parts sectors, in which much of the capacity expansion was intended to meet domestic consumption and in which

domestic demand-growth levels in the 1990s have been almost one-half of those achieved in the second half of the 1980s.

- Second, adjusting both labor and plant capacity levels to conform to demand becomes difficult as the amplitude and frequency of demand swings tend to paralyze planners. In economies with more predictable cycles, managers can make adjustments to plant and labor levels with a reasonable certainty as to the extent and duration of that economic cycle. In Turkey of the 1990s, managers might make a decision one day only to be severely wrong-footed the next. The result seems often to be inaction, particularly with respect to skilled labor.

For example, in retail banking after the financial crisis in February 2001 few layoffs of loan processing personnel took place in the balance of the year, despite the fact that loan activity virtually disappeared. It was impossible for bank managers to know how long and deep the crisis would be, and they resisted eliminating staff they would have to replace later.

An even more extreme example may be residential construction. In the second half of the 1990s, total demand/output declined by 7 percent average per annum versus the 1990 to 1994 period, even though GDP increased by 4 percent per annum, as home buyers reacted to economic uncertainty by becoming very conservative. And yet, the total labor force size has remained relatively constant despite this decrease in output. In order to keep skilled labor in the industry and available for an eventual upswing in demand, contractors have paid subcontractors higher hourly wages for shorter employment intervals. This has deterred the shift of employment to other sectors and pushed aggregate productivity for the sector down from 63 percent of US levels in 1995 to 41 percent in 2000.

- ¶ **High cost and restricted availability of long-term capital limit viable investments.** Real interest rates in Turkey have averaged around 20 percent in the 1990s, and have been higher than 40 percent. Apart from affordability to borrowers, one consequence of this interest rate uncertainty is that long-term credit has been virtually nonexistent.

One obvious implication is that some companies in some sectors have not made investments in technology and automation that would otherwise be viable. Confectionery companies, for instance, have not been able to invest in useful technology for dough preparation or in equipment to automate primary packaging.

A second, equally important consequence has been the absence of a mortgage market in Turkey, which in turn has been a major contributor



to productivity gaps in the large residential construction sector. Lack of mortgage financing has artificially slowed construction projects, and this has limited the effectiveness of a variety of productivity-enhancing work methods.

**Barrier No. 2: non-level playing field (informality in the traditional segment).** In our discussion of the traditional segment we discussed the dynamics of informality’s effect on productivity: informal players have little incentive to improve their own productivity and join the modern segment; informality allows low-productivity players to stay in business longer, thus reducing output through more productive modern players. The net result is that productivity growth is retarded. In an earlier exhibit we demonstrated that close to one-half of the total productivity gap in the Turkish economy would be eliminated if all of today’s traditional players became modernized and competitive dynamics played out on a level field.

In today’s setting, the barrier to productivity posed by the non-level playing field in the modern segment is felt in an additional way. Because pervasive informality substantially reduces the state’s tax receipts, the tax rates imposed on formal players are higher than they would otherwise need to be. Beyond exaggerating the size of the unearned cost advantage enjoyed by informal players, these higher tax rates also reduce the after-tax earnings available to formal players to invest in productivity-enhancing methods and technologies.

**Barrier No. 3: monopoly and government ownership.** Monopolies are not automatically detrimental to high productivity. Monopolies that are subject to capital market disciplines and effective regulation (e.g., electricity and natural gas distributors in many developed markets) may be quite productive. However, the odds are stacked heavily against high productivity in government-owned monopolies. Where government ownership exists, it is much less likely that a monopoly will be stringently regulated in a manner that demands focus on productivity. Also, whether in a monopoly setting or in a competitive environment, the existence of government ownership introduces incentives that are very likely to run counter to a drive toward maximum productivity.

Since the questions of monopoly and government ownership are often intertwined, we need to address the impact on productivity of both.

¶ **Non-liberalization/unregulated monopoly.** As we see in this report’s chapters on electricity and wireline communications, there are monopoly situations in Turkey where we cannot yet know whether and at what stage the preferred outcome would be full liberalization versus, in fact, targeted and effective regulation in a monopoly setting. We refer to this element as “non-liberalization/unregulated monopoly” without attempting to differentiate.

In any event, if productivity can be maximized only in fair and fierce competitive conditions, then today's monopolies effectively prevent that. For example, the effect of monopoly in the wireline communications sector is most evident in the absence of such marketing programs as wireline voice mail (virtual answering machine), centrex (interoffice network services over standard lines), and caller-ID services – all basic offerings seen in other countries.

The wireless communications sector is more liberalized than wireline communications, but that liberalization is not complete. Lack of national roaming and high-interconnection prices are two remaining issues that limit competitive intensity in the sector.

- ¶ **Government ownership.** In MGI's work in different countries, we found that with a limited number of exceptions, state-owned enterprises tend to have much lower productivity than their private counterparts. This is mainly because in state-owned enterprises restructuring is usually more difficult, since layoff regulations are tougher and there are rarely any incentives linked to higher company profits and value. Similarly, in Turkey government ownership affects productivity primarily through excess labor, as the electricity and retail banking cases show. However, the retail banking sector also demonstrates how government ownership has reduced the pressure to introduce and grow value-added services that also improve productivity.

In wireline communications we estimate that the right combination of liberalization/regulation and privatization could almost double labor productivity, using benchmarks from other privatization experiences. Like the wireline communications sector, electricity generation is also dominated by the state, and we estimate that liberalization/regulation could, at a minimum, almost triple labor productivity. In retail banking, the state-owned part of the industry is approximately 70 percent as productive as the large private banks.

The Turkish cement industry offers a good example of the positive effects of successful privatization on productivity. Prior to the 1980s, Turkey's cement industry was under government control and most of the built-in capacity was government-owned. Privatization began in the late 1980s, and by the year 2000, labor productivity has doubled compared to 1990 levels (~8 percent growth per annum).

### **Other barriers to productivity improvement**

There are a few sector-specific product/market barriers that account for a small part of the total labor productivity gap. While they have limited impact on the

productivity of the overall economy, they represent barriers to healthy competition in certain sectors and therefore warrant attention.

- ¶ **Inadequate attention to legal and regulatory framework in retail banking.** In retail banking, current laws and regulations do not enable banks to get the full benefits of recent restructuring and rehabilitation. Three factors impede productivity. First, current banking laws do not make adequate provisions for alternative delivery channels, specifically for telephone and Internet banking. Second, despite the recent introduction of unique citizen identification numbers by the government, their daily use is still low. Third, the Credit Registration Bureau does not supply enough information to meet banks' needs for loan processing.
- ¶ **Land-market barriers in residential construction.** Further barriers that affect productivity in the residential construction sector include both lack of serviceable land and strong tenant rights. Lack of incentives for municipalities to build infrastructure inhibits the shift from single-plot construction to more productive, large-scale projects. In addition, strong tenant rights lower productivity in the sector by diminishing incentives for builders and contractors to build faster. Builders prefer to complete projects only after they have received all payment installments rather than risk default on payment, which leads to dealing with lengthy processes to evict tenants and limited legal means to recover their investment.
- ¶ **Misguided government incentives.** Government incentives, if not granted according to highly advanced sector development considerations, create distortions. This can happen in two ways: either excess capacity is created or the advantages of incentives for new investments hinder healthy consolidation. We can see the effects of this phenomenon in both the steel and cement sectors, where incentives have substantially contributed to decreased capacity utilization rates and lack of consolidation.
- ¶ **High consumption taxes in wireless communications.** These special taxes suppress use of wireless communications, while productivity is heavily dependent on usage levels in this sector. Increasing consumption leads to increasing productivity.
- ¶ **Inconsistent enforcement of competition rules in confectionery.** In the confectionery sector, contrary to Competition Act rules, the leading player has been allowed to print retail prices on chocolate packages, thereby dictating prices to retailers and distorting how the market determines price.

- ¶ **Import barriers affecting confectionery.** With the Customs Union Agreement in place, there are no direct barriers to imports, especially from the EU. However, in the confectionery sector, “hidden” barriers in the form of weight tariffs and customs bureaucracy can add as much as 30 to 40 percent to the cost of an imported product, limiting the ability of global best practice players to enter the market.

Among all the factors we considered, labor market conditions, infrastructure, corporate governance, and education-related factors were found to create no significant barriers to productivity.

- ¶ **Labor market conditions.** Despite their prominence generally in economic policy discussions, we found little evidence that labor market barriers such as unionization, employee layoff, and part-time employment rules limit productivity in the sectors studied. However, as Parliament debates, the job security law to be put into effect by March 2003 creates the potential to compromise labor flexibility and thus productivity.
- ¶ **Infrastructure.** In general, we found no significant evidence that problems with Turkey’s physical public infrastructure, such as railways, highways, and ports, limit scale or in any other way significantly impair productivity in any of the sectors studied.
- ¶ **Corporate governance.** We have not identified weaknesses in corporate governance as a barrier to improved productivity in any of the sectors studied. Because there is significant competitive intensity in the modern segment of each relevant sector, we conclude that corporate governance mechanisms are adequately putting pressure on management to improve productivity performance. Furthermore, we did not treat the tendency to focus on non-operating income in a high real interest-rate environment as a corporate governance problem, but rather as a rational profit-maximizing behavior.
- ¶ **Education of the labor force.** Our sector case studies have also verified our hypothesis from the Aggregate Economic Performance analysis that education levels of Turkey’s labor force do not create a significant barrier to productivity. Our sector findings show that on-the-job training is considered a more important factor in creating human capital than is a labor force with more years of schooling, especially for employees working in the factory or on the shop floor.

We are aware of the empirical evidence across the globe indicating that improvements in education would greatly help in achieving output growth and ameliorating differences in income distribution. Beyond productivity growth in the Turkish setting, we do not wish to dispute the importance of education in strengthening civil society, and our findings should therefore not be interpreted as suggesting that education is not important.

Furthermore, we see a significant difference in the educational attainment of employees in modern and traditional segments. While the educational level of workers employed by modern players is already high, in traditional players the level is typically low. In the future, as the output mix continues to shift toward modern players and the modernization of traditional players takes place, the need for a better-educated labor force will increase. We will answer the question, “Can the need for better-educated workers form a barrier to achieving Turkey’s potential productivity growth rate?” in the final section.

### **The relevance of FDI in Turkey**

From the perspective of productivity, the relevance of FDI is twofold: as a source of capital inputs directly to Turkey, and as a source of global best practice players that thereby increases competition in a sector and thus obliges all players to maximize productivity. We deal with the adequacy of FDI as a future source of capital inputs in the final section of this chapter. We complete this section on Turkey’s bi-modal economy by discussing the adequacy of FDI as a spur to competitive intensity and using our sector study findings to offer some perspective on the prevailing debate about why Turkey’s FDI levels are so low relative to other emerging markets.

Our findings in Turkey suggest that within the modern segment competitive intensity generally is quite high, driven by the presence of both global players and strong domestic players. The monopoly sectors studied – wireline and electricity – are, of course, exceptions (Exhibit 26).

However, although overall competitive intensity is satisfactorily high across all non-monopoly sectors, the contribution from FDI to the level of intensity varies substantially by sector. For example, in four of the sectors studied – FMCG retail, automotive parts, cement, and dairy processing – although the level is significantly lower than in a comparable sample of emerging markets (Exhibit 27), our assessment of sector dynamics tells us that it is sufficient to ensure a high level of competitive intensity, especially within the modern segments of the sectors. In other sectors such as residential construction, steel, and apparel, exposure to global best practice exists not through FDI but through the need to compete in export markets for goods and services. Retail banking offers a different view. There the presence of foreign players is low; however, the existence of fierce domestic

Exhibit 26

### SUMMARY OF INDUSTRY DYNAMICS IN SECTOR CASES

✓✓ Strong presence    ● Severe issues  
 ✓ Limited presence    ○ Some issues  
 - No presence        ✕ No issues

	Telecom – wireline	Telecom – wireless	Electricity – generation	Electricity T&D	Steel	Cement	Automotive parts	Dairy	Confectionery	Residential construction	Apparel	Retail banking	FMCG retail
Exposure to global best practice													
• Existence of meaningful foreign direct investment (FDI)*	-	✓✓	-	-	-	✓✓	✓✓	✓✓	✓	-	-	✓**	✓✓
• Exposure to imports	-	-	-	-	✓✓	-	✓✓	-	-	-	✓	-	-
• Exposure to exports	-	-	-	-	✓✓	✓	✓✓	-	-	✓	✓	-	-
① Resulting degree of exposure to global best practice	●	✕	●	●	✕	✕	✕	✕	○	✕	✕	○	✕
Fierce domestic competition													
• Existence of several strong players	-	✓	-	-	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓✓	✓✓	✓✓
• No distortions that lead to the unfair dominance of the market leader	-	-	-	-	✓✓	✓✓	✓✓	✓✓	-	✓✓	✓✓	✓✓	✓✓
② Resulting fierce domestic competition	●	●	●	●	✕	✕	✕	✕	○	✕	✕	✕	✕
① + ② Competitive intensity	●	○	●	●	✕	✕	✕	✕	○	✕	✕	✕	✕
Nature of the competition – existence of unfair competition due to informality	✕	✕	✕	✕	○	✕	○	●	○	○	○	✕	○

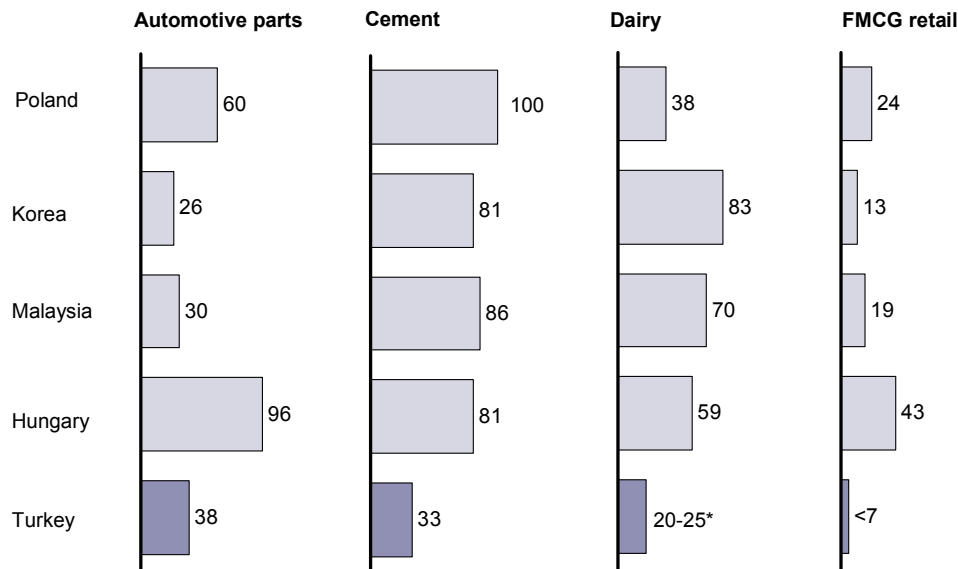
\* At least one leading player  
 \*\* Since HSBC's entrance is very recent, the sector is assumed to have limited FDI

Source: Sector case studies

Exhibit 27

### SHARE OF FDI IN NON-MONOPOLY SECTORS

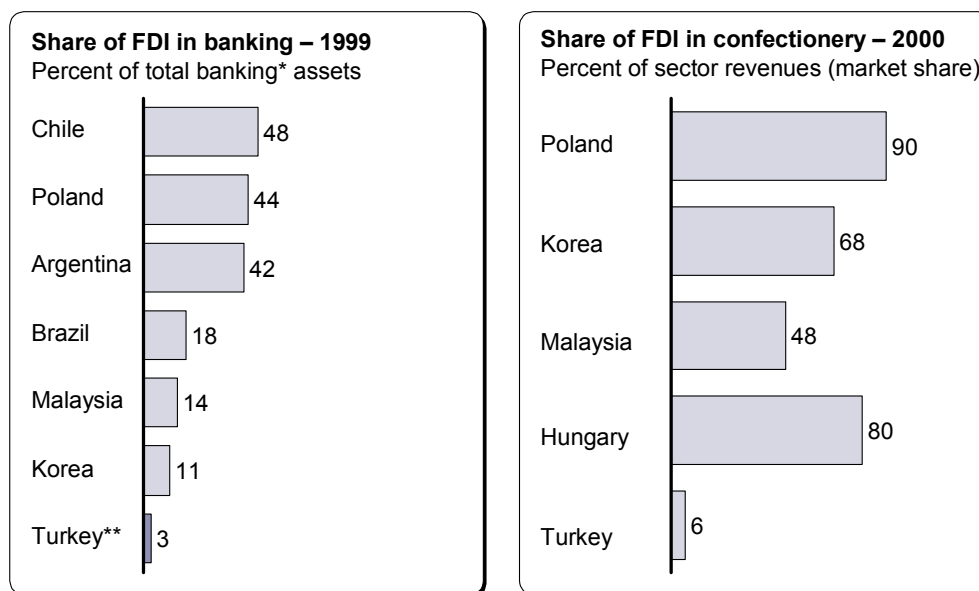
Percent of sector revenues (market share)



\* Percent of raw milk processed in the sector  
 Source: Sector case studies

Exhibit 28

## SHARE OF FDI IN RETAIL BANKING AND CONFECTIONERY SECTORS



\* Assumed to be indicative of retail banking

\*\* 2000 data

Source: Sector case studies, MGI analysis

competition largely compensates for this and results in high competitive intensity in that sector as well.

Confectionery is the sole exception to the competitive intensity pattern in non-monopoly sectors in Turkey (Exhibit 28). In that sector, several factors serve to keep FDI low (in contrast to the presence that global best practice players have established in other emerging markets) and substantially reduce domestic competition as well.

And so the pattern emerges fairly clearly: the potential for FDI is unfettered in almost all sectors where it is relevant; in fact it exists to a significant degree in almost all sectors, sufficient to help ensure reasonable levels of competitive intensity, but it exists at levels substantially lower than in other emerging markets and much lower than Turkey's market size and importance would suggest. Our sector analyses offer some compelling insight into why this paradox exists. As examples, we offer retail banking, dairy processing, and wireless communications.

¶ **Retail banking.** The retail banking case is instructive. By any normative standards, the level of FDI is very low in banking (again, see Exhibit 28) and the arrival of multiple foreign players in a significant way has long been awaited. Their absence is best attributable to the fact that only after the 2001 financial crisis have they had the opportunity to acquire banks with meaningful scale at reasonable cost. Historical valuations have been dramatically inflated by treasury profits attributable to high real interest rates, which potential acquirers in

general and especially foreign banks have viewed as unlikely to be sustainable and, in any event, create a premium too high for an acquirer to earn back via operational excellence.

- ¶ **Dairy processing.** The dairy processing case also provides a useful window into the FDI paradox. Global best practice players such as Nestle and Danone started operations in dairy processing in Turkey in the early 1990s, in anticipation of a rapid takeoff in demand following the liberalization of raw milk sourcing. Today capacity utilization of modern processors stands at 56 percent compared to a US average of 77 percent. While the share of modern processors has grown steadily, it has done so at a rate much slower than anticipated as mandiras, surviving on the unearned benefits from operating informally, have clung tenaciously to a major portion of the market. Thus, while global players remain very committed to long-term market development in Turkey, they are far short of investing in the next units of capacity.
- ¶ **Wireless communications.** Even in one competitive sector where FDI is relatively high – wireless communications – the impact of the foreign investment on competitive intensity has been muted because of market distortions. In that sector a strong global player exists in the form of Telecom Italia Mobile’s (TIM) participation in Aria, the third licensed operator. However, as discussed in the telecommunications sector chapter, a weak regulatory and judicial framework has allowed the sector’s incumbents to effectively neutralize much of the impact of TIM’s know-how. Global investors absorb such lessons.

And so we believe that the answer to the FDI paradox lies at least to a significant degree in the same factors that represent the major barriers to rapid productivity growth. Macroeconomic and political uncertainty distorts the investment environment for rational decision makers, either because it makes interest rates too high (and in some cases inflates acquisition prices), or because it creates demand uncertainty or it pushes perceived sovereign risk higher than investors with global alternatives are comfortable with. Informality in the large traditional sector slows down the transition of consumption to modern players, dampening output for potential investors, and making them more cautious about commitments to Turkey. And of course the fact of state-owned monopolies in such capital-intensive sectors as telecommunications and electricity eliminates one major potential source of FDI, as it has been in other developing economies, which have undertaken liberalization in relative utilities sectors (Exhibit 29).



Exhibit 29

**SHARE OF UTILITIES IN FDI FLOW**

Percent

Telecom  
Electricity, gas and water



Source: MGI analysis

We recognize that others<sup>5</sup> have identified excessive bureaucracy as a major limiter of foreign investment. While we do not argue the fact that regulatory procedures and “red tape” may be substantially more cumbersome than desirable, we draw on our broad and intensive industry interviews to set these concerns aside as a fundamental barrier to productivity. First, they do not create a non-level playing field, in the sense that formal players, both foreign and domestic, face many of the same demands. Second, many foreign investors have readily ventured with domestic partners, whom they believe fully capable of managing the constraints. Third, managers of foreign-owned entities observe that some of the bureaucratic procedures – e.g. securing municipal approvals for major plant or retail outlet investments – are as onerous in other countries, developed and developing alike, as they are in Turkey. Finally, there are sectors, such as automotive parts, in which foreign investment is in fact a hallmark of the domestic structure; whatever the red tape problems, they are not decisive when other, more important, factors influencing FDI are in line.

<sup>5</sup> “Turkey – Administrative Barriers to Investment”, FIAS, June 2001

## B. The Core Policy Imperative: Accelerate Development of the Modern Segment

We believe that the picture painted by our assessment of productivity in the Turkish economy should be compelling to Turkish policymakers. Productivity lags not because of “death from a thousand cuts” as we have seen in other developing markets, but because of a small number of specific phenomena retarding the natural development of the Turkish economy’s modern segment. By removing these barriers, Turkey can unleash the power of the modern segment to be the engine for productivity growth, and thus for overall economic development.

In FMCG retail this means ensuring that traditional players who can modernize have the incentive and knowledge to do so, while also ensuring that modern players capture their fair market share as quickly as their capabilities permit. In dairy processing it means creating an environment that invites intense competition among modern processors who are unconstrained in their efforts to create productive and profitable new markets with high-quality products at attractive prices. In retail banking it means ensuring that domestic players do not have the artificial luxury of being unproductive in their core operations, while creating the conditions that invite much greater foreign participation to further intensify competition. In sectors that are being liberalized it means ensuring that they are liberalized into a setting that demands productive competitive behavior.

We have identified the relative importance of barriers to productivity through a detailed and comprehensive review and quantification of factors leading to productivity gaps in each of the sectors studied (Exhibit 30). When these sector-level findings are aggregated to the overall non-agricultural economy using relative shares of sectors in the economy, three barriers emerge to cut across multiple sectors and account for 93 percent of the difference between current and potential labor productivity (Exhibit 31).

In this section we first elaborate upon three principal recommendations for successfully meeting the imperative to accelerate development of the modern segment:

- ¶ Reduce informality, applying both stick and carrot
- ¶ Liberalize monopoly markets within an unambiguous regulatory and judicial framework
- ¶ Ensure macroeconomic and political stability.

Exhibit 30

**SUMMARY OF BARRIERS AFFECTING LABOR PRODUCTIVITY**

● More important  
○ Less important  
x Least important

	Telecom - Wireline	Telecom - wireless	Electricity Generation	Electricity T&D	Steel	Cement	Automotive parts	Dairy	Confectionery	Residential construction	Apparel	Retail banking	FMCG retail
<b>Macroeconomic and political instability</b>													
• Large demand swings distorting capacity planning and utilization	x	x	x	x	x	○	○	x	○ <sup>2</sup>	●	x	○	x
• Diverting focus on productivity improvements	x	x	x	x	x	x	x	x	x	x	x	●	○
• High cost and restricted availability of long-term capital <sup>1</sup>	x	x	x	x	○	x	x	x	○	● <sup>3</sup>	x	x	x
<b>Product/land market barriers</b>													
• Monopoly/liberalization	●	●	●	●	○	x	x	x	x	x	x	x	x
• Other sector/product specific regulations	x	x	x	x	x	○	○	x	x	x	x	○	x
• Trade/FDI barriers	x	x	x	x	x	x	x	x	○	x	x	x	x
• Land market issues	x	x	x	x	x	x	x	x	x	○	x	x	x
• Bureaucracy	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Lack of enforcement of regulatory obligations leading to informality</b>													
• In the sector	x	x	x	x	○	x	○	●	○	○	○	x	○ <sup>4</sup>
• In the upstream/downstream sector	x	x	x	x	○	x	x	●	●	x	x	x	x
<b>Capital market barriers</b>													
• Corporate governance	x	x	x	x	x	x	x	x	x	x	x	x	x
• Government ownership	●	x	●	●	●	x	x	x	x	x	x	●	x
<b>Labor market barriers</b>													
• Labor laws and unionism	x	x	x	x	x	x	x	x	x	x	x	x	x
• Education	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Other barriers</b>													
• Consumer preference	x	x	x	x	x	x	x	○	x	x	x	○	x
• Infrastructure	x	x	x	x	x	x	x	x	x	x	x	○	x
<b>Barriers to nonviable improvements</b>													
• Consumer income level	●	●	x	●	x	x	x	○	x	x	x	○	●
• Structurally low labor costs	x	x	x	x	x	○	x	x	○	○	x	x	x

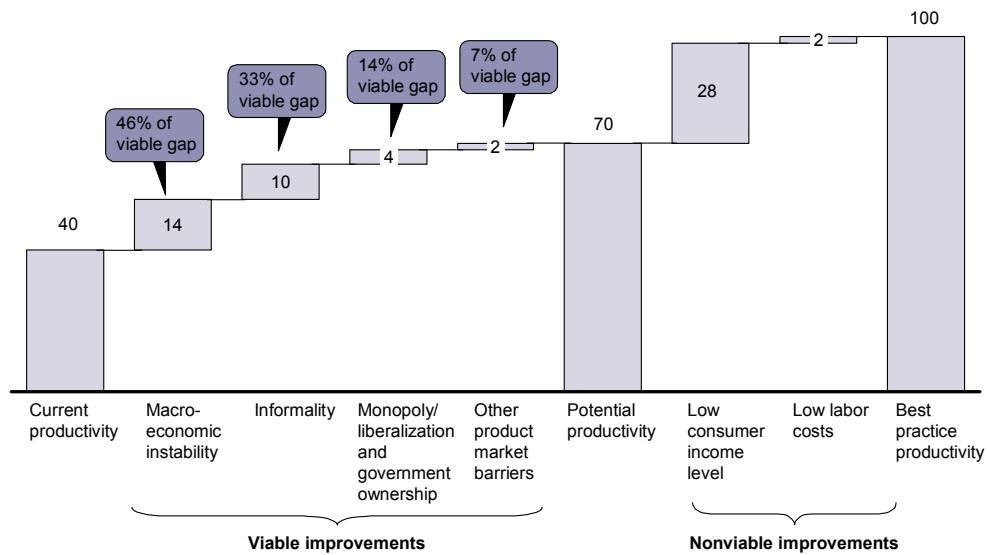
1 Resulting in viable investments not being made  
2 Russian crisis  
3 Due to underdeveloped mortgage market  
4 Would turn into a major factor in the absence of high real interest rates

Source: MGI analysis

Exhibit 31

**EXTERNAL FACTORS\* EXPLAINING LABOR PRODUCTIVITY GAP**

Indexed, best practice country in each sector = 100



## **REDUCE INFORMALITY**

As we have noted throughout this chapter, Turkey must substantially reduce informality to increase the pace of modernization, and thus productivity, in its economy. And again, informality is a complex and multi-faceted phenomenon. In that context, we recommend that policymakers apply both stick and carrot to achieve a solution.

### **The stick: stronger enforcement**

We recommend stricter and more effective enforcement, beginning with the VAT and using FMCG retail as the focus for the first wave of the initiative. We know of no success stories in any emerging markets in which policymakers tightened enforcement across all relevant legal obligations and across all segments simultaneously. Informal systems are too pervasive and complex to be amenable to blanket solutions. Instead, history and good judgment suggest that policymakers need to select both a focused area of evasion to tackle, and then a sector in which to launch the program.

We believe that VAT is the best starting point, because improvements in VAT collection will serve as a self-enforcing trigger to improvements in upstream and downstream sectors. In addition, VAT is one of the largest sources of informality advantage overall, because it is ubiquitous across sectors, and because it is also relatively homogeneous in its nature across sectors. Plus, the law and its intended application are largely unambiguous.

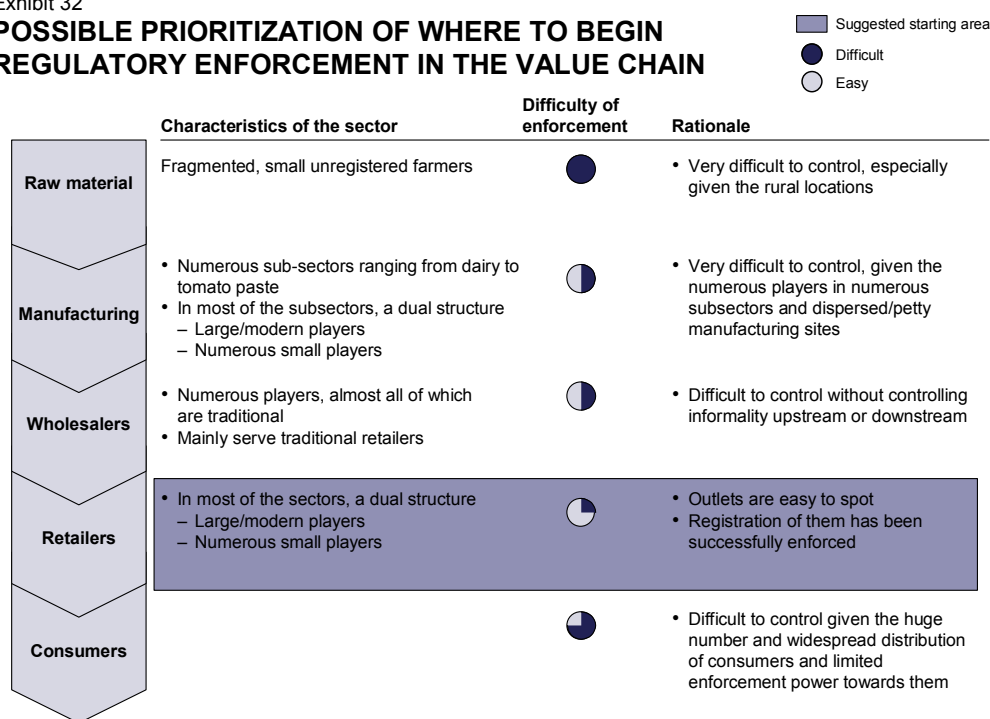
We recommend that the program of VAT enforcement start in FMCG retail for three reasons. First, retail is one of the largest components of the economy and FMCG retail is the largest element of retail overall. Second, retail outlets are readily identifiable and registration of outlets has already been successfully enforced (Exhibit 32). Third, successful enforcement at the retail outlet level creates the wedge into successful enforcement in all of the upstream food processing sectors that feed FMCG retail – as much as 20 percent<sup>6</sup> of total economic activity in Turkey (Exhibit 33).

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<sup>6</sup> Refer to the FMCG Retail Case chapter.

Exhibit 32

**POSSIBLE PRIORITIZATION OF WHERE TO BEGIN REGULATORY ENFORCEMENT IN THE VALUE CHAIN**



Source: MGI analysis

Turkey can learn from a successful precedent. In Poland, the government began tackling informality in the retail sector in 1993; this drive to fight informality was prompted by strong pressure from the EU. In Poland the combination of comprehensive audits, substantial monetary penalties, and particularly, a change in the cash register system requirements in groceries has had what authorities believe is significant impact.<sup>7</sup>

**The carrot: access to information and know-how**

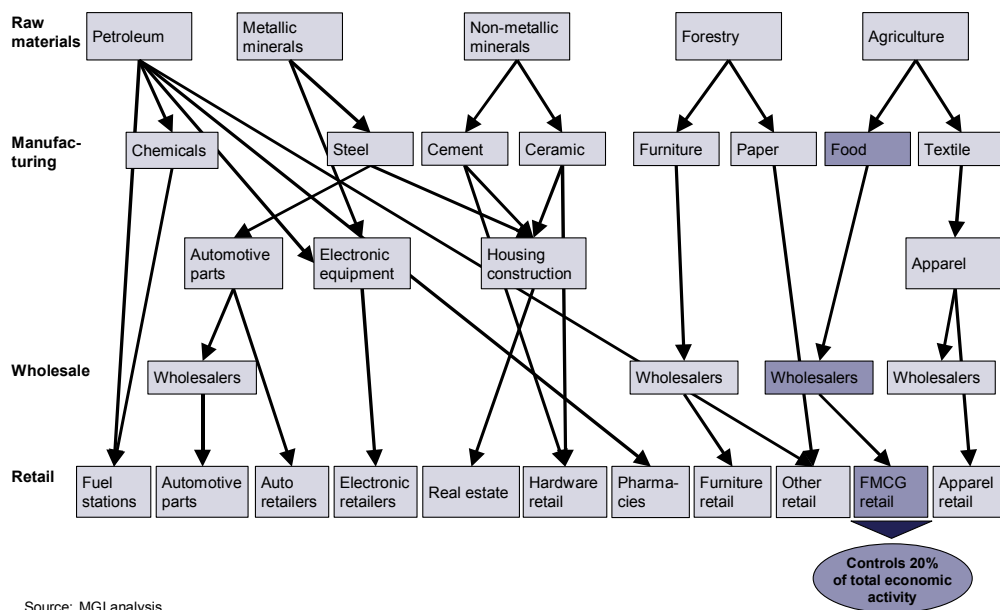
To encourage more formality, we recommend that Turkey develop a multi-faceted program involving both government and the private sector to improve access to information that specifically will ease the path to modernization for SMEs. Interviews with traditional players across sectors and discussions with experts make it clear that many SMEs do not sufficiently understand the levers available to them to modernize. We believe that both government and private enterprise associations can and must play a role in improving this know-how, drawing on models practiced in developed markets. For example, industry organizations could provide access to technology and technology transfer through technological assessment and advisory programs. SME support programs offered by the EU provide a useful starting point from which Turkish efforts could proceed. The EU offerings include these five programs:

<sup>7</sup> Polish and Russian MGI studies and interviews with Polish Tax Authorities

Exhibit 33

**A PRIORITIZED ENFORCEMENT PLAN – MAJOR SECTORS**

■ Severe informality



Source: MGI analysis

¶ **Access to market programs.** As the barriers across countries diminish, creating export capabilities becomes critical for SMEs. The *Euromarketing* program in this respect aims to equip SMEs with strategies to serve to the broader EU market. The program includes education on product development, pricing policy, and distribution channels for SMEs.

¶ **Training and advisory programs.** It is also crucial to educate the owners (and managers if relevant) of SMEs to improve their productivity to be competitive versus larger corporations. To make this happen, a network of consultants and training institutions is created to facilitate the dissemination of the education support given to SMEs.

In this context, there are also technical training programs to educate SMEs on product standardization, documentation, and product quality, which also support the access to markets.

¶ **Inter-SME cooperation programs.** The EU recognizes subcontracting – especially specialized subcontracting – as a desirable medium for increasing competitiveness. In this respect, the EU tries to create a favorable environment for subcontracting, incentivizing subcontracting relations, and facilitating the communication and information flow among the parties involved in this relation. It has developed many written how-to guides including information on technical, legal, and administrative fronts. Also, the Subcontracting Assistance Network

(SCAN) is an information network including all subcontracting companies.

- ¶ **Access to technology programs.** There is a special 5-day audit program to analyze SMEs' technology levels, research capabilities, managerial capabilities, and openness to cooperation on technology with third parties that aims to incentivize technology use in SMEs. These programs are also supported by financial programs to facilitate acquisition of advanced technology.
- ¶ **Access to capital programs.** SMEs have to rely on owners' equity much more than large corporations, which structurally limits their access to capital. In the EU, the problem is tackled through different mechanisms depending on the nature of the SME, including support from the European Investment Fund, credits from the European Investment Bank, help from SME capital markets, and factoring and credit insurance, as well as support from a venture capital network for SMEs investing in high technology.

## **LIBERALIZE MONOPOLY MARKETS WITHIN AN UNAMBIGUOUS REGULATORY AND JUDICIAL FRAMEWORK**

The fact that Turkey needs to liberalize its monopoly sectors – particularly wireline communications and electricity generation, transmission, and distribution – is not news, although the potential impact on productivity, and thus on economic growth, should be a spur to policymakers. The focus of this recommendation is an unambiguous regulatory and judicial framework that ensures multiple objectives are achieved, including the creation of sustainable competitive intensity.

With respect to regulatory demands, our studies of telecommunications and electricity are highly instructive. In both sectors we recommend that the policy debate should be made sufficiently clear with respect to objectives and be strictly robust in terms of fact-based assessments of trade-offs and options. In addition, an effective regulatory authority as well as continuous productivity improvement focus in privatization of government-owned enterprises should be established to achieve the identified potential productivity improvements.

### **Telecommunications**

The key to success in the telecommunications sector is an effective regulator with the resources to develop robust regulations and the power to enforce them.

In wireline communications we propose a three-step approach to developing the regulatory framework that must underpin sector liberalization.

1. **Confirm “maximizing benefits to consumers” as the ultimate reform objective.** Different and sometimes conflicting objectives surface during the current reform debate, including “increasing benefits to consumers,” “increasing industry efficiency,” “maximizing proceeds for government,” “enhancing universal service,” and “attracting private investments.” In-depth assessment of the alternatives and their implications points to maximizing benefits to consumers by creating sustainable and efficient competition as the ultimate reform objective for Turkey. Competition will increase consumer benefits by reducing prices, therefore stimulating usage and increasing service variety. An average consumer will be “talking” more and will still have a reduced monthly bill. Given the end-of-monopoly target date of 2004 and given that the incumbent operator is still state-owned, maximizing proceeds for government is a secondary reform objective that should only influence the reform path. In any case, clarity of and consensus on the reform objective are essential to developing an effective regulatory framework.
2. **Understand value shifts and dynamics among stakeholders.** Our modeling of the sector tells us that all the relevant trade-offs among the incumbent, consumers, and new entrants can be explicitly quantified. This robust quantification must underpin the regulatory framework that drives liberalization.
3. **Set specific regulatory levers, using a value shift model.** We have identified six main categories of regulatory levers as discussed in the Telecommunications Chapter; policymakers and the regulator should decide on each lever based on the reform objective. To achieve the ultimate objective of maximizing benefits to consumers, the levers should be structured so as to eliminate any entry or survival barriers to competition. We recommend using a regulatory impact model that assesses the value shifts between stakeholders to determine the implications of alternatives for each of the most critical levers.

In wireless communications, we recommend national roaming, interconnection, and number portability levers be considered to enable higher-intensity competition and boost productivity.

- ¶ **National roaming**, that is, sharing the established wireless network infrastructure, should be available to new-entrant operators.
- ¶ **Interconnection rates** among operators should be much lower compared to today to enable price-based competition.
- ¶ **Number portability**, changing operators without changing personal numbers, should be available to reduce consumers’ switching costs.



## Electricity

In the electricity sector, the path to successful liberalization is even more perilous and complex than it is in wireline communications. The Brazilian precedent suggests that substantial failure is a real possibility. Even in the UK, widely viewed as among the most successful examples of liberalization of electricity markets, it has taken almost 15 years to get the balance more or less correct. Turkey's starting point in electricity is particularly challenging, given the developments that have characterized the evolution of the sector to date. However, as with wireline communications, we recommend a strong starting point: confirm the primary driver(s) of liberalization, trading off the need to generate privatization proceeds from existing assets, the need to attract large amounts of private investment, and the need to reduce high end-user prices. These trade-offs must be made in the context of robust economic analysis that also takes into consideration security of supply, the establishment of rules that ensure fair competition among all players, and clarity on long-term investment risk.

Given a clear starting point, the highlights of a successful process must include at least the following:

- ¶ **Establish a clear process for securing consensus across all relevant constituencies involved in setting direction for Turkey.** There are many entities – private, state, and international – with legitimate claims to a voice in setting Turkey's regulatory framework. A specific process for airing their views and achieving applicable consensus must be established.
- ¶ **Define the process for monitoring security of supply.** Historically, Turkey has paid a high price for allowing demand/supply imbalances – typically in the form of high end-user prices for electricity supplied by private providers. Significant imbalances must be avoided to prevent distortions that will undermine the liberalization process.
- ¶ **Understand value shifts and dynamics among stakeholders.** As with telecommunications, all of the big trade-offs can be quantified, and such robust analysis must be at the core of the regulatory framework.
- ¶ **Set the first-step program elements and ensure the capability to continually monitor and revise.** Only a subset of decisions can be made at the outset of liberalization. Experience in other markets shows that the dynamics of liberalization will be fluid and unpredictable. The first-step program must set the vector for change, but the fact-finding and analytical components must stay in place to adjust and adapt over time.

## **Effective regulatory authority**

Turkey must also ensure that independent regulatory authorities are empowered by the judicial system to make binding decisions.

Even unambiguous regulatory frameworks applied by independent regulatory authorities are insufficient if the judicial system enables sector players to thwart the intention of the regulator. Developments in wireless communications are instructive as to the challenges in this regard. In wireless communications, national roaming is still not a fait accompli, in spite of the regulators' intent; more than 2 years after the roaming right was legislated, the court system has been unable to enforce it.

Our study does not equip us with the legal expertise to recommend how to accomplish this goal, and so we hand it on to others, having demonstrated the importance not only of conceiving but also implementing effective regulatory reform as monopoly markets are liberalized.

## **Enshrine a focus on continuous productivity improvement in the privatization of government-owned enterprises**

As with the liberalization of monopoly markets, the case for privatization of government-owned enterprises is scarcely news in Turkey. At that level, what we have added to the debate is simply a quantification of the impact that privatization in such sectors as retail banking, wireline communications, and electricity can have on productivity, and thus on economic growth.

However, as we see in retail banking particularly, it is important to ensure that productivity-related performance measures are explicitly built in at key stages of the privatization process itself. For example, a fully privatized bank in a stable economic setting can be expected to focus properly on productivity. However, a bank that is in the process of privatization, but is at a stage in which it is still effectively controlled by the state, may not yet be able to focus adequately on its potential for productivity gains. In these instances, extraordinary focus on ensuring that there are sufficient incentives to improve productivity must be built into interim ownership structures.

## **ENSURE MACROECONOMIC AND POLITICAL STABILITY**

This study of productivity gives us no basis for recommending specific or detailed approaches that can be taken in Turkey to increase macroeconomic and political stability. It does, however, offer a compelling basis for quantification of the impact that such stability can have on productivity growth and thus on overall economic growth: half the total productivity gap will be closed if economic volatility is reduced to levels experienced in more developed economies.

Thus, while we lack the professional competence to advise how to make this happen, we underscore that it is the sine qua non for rapid growth in productivity and thus, for overall economic development in Turkey.

## C. Other Significant Policy Recommendations

The three principal policy actions that we outlined in the prior section are the core of a successful program, and the effects particularly of reducing informality and ensuring macroeconomic and political stability will be felt across all sectors. However, policymakers must complement them with actions on two fronts:

- ¶ Remove sector-specific product and land-market barriers, especially for retail banking, residential construction, confectionery, and wireless communications sectors
- ¶ Avoid the establishment of regulations and other barriers that would impair competition and productivity.

### REMOVE PRODUCT AND LAND-MARKET BARRIERS

Cross-sectoral reforms must be complemented with changes that would enhance sector-specific productivity levels. The recommendations below are applicable to specific sectors.

- ¶ **Kick-start a residential mortgage market.** Residential mortgages are virtually nonexistent today in Turkey. Macroeconomic instability is the primary reason: the average maturity of financial instruments is less than 1 year, and the products offered in these circumstances are not affordable or attractive to customers. However, we have developed an approach that could remove the barriers to supply of long-term mortgage financing and make it possible to offer attractive products for prospective homeowners.

The concept is built on the formation of a National Mortgage Institution (NMI) that would raise long-term financing from international investors, manage and hedge currency risk associated with asset liability mismatch, and regulate and supervise the mortgage market and its players. Government needs to explicitly back up NMI to secure long-term financing at relatively attractive terms.<sup>8</sup> With this in place, originators, mainly banks, can create products that will be attractive to customers, define terms and conditions (payment terms, loan size terms), and manage associated customer and real estate risks.

- ¶ **In retail banking, create enabling legislation that simplifies the promotion of alternative delivery channels.** Banking law needs to be revised to address and support new technologies in banking. Updating the law, to include new technologies, such as call centers and the use of the Internet, and to bring them under a legal umbrella, will help the banks fully leverage these productivity-enhancing tools.

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<sup>8</sup> Please refer to Residential Construction chapter Appendix for further details on this subject.

- ¶ **In retail banking, create a common infrastructure for credit ratings that improves the efficiency of the loan application process.** This means allowing the Credit Registration Bureau to establish an integrated linkage to state databases, which would considerably speed up the process and eliminate inefficiencies in the credit rating system. In this same regard, rapid development of the single unique identification number will also create increased efficiency.
- ¶ **Decrease high tax rates in wireless communications.** The special taxes for wireless communications should be eliminated to reduce prices for the consumer, which in turn will increase use and benefit productivity. The effect of increased use and the respective increase in other taxes should offset revenue losses from the decrease in the special communication tax.
- ¶ **Provide land development incentives to municipalities.** The absence of incentives for municipalities to build infrastructure limits availability of large, serviceable tracts of land. As a result, large-scale contractors have to make these investments themselves, significantly increasing their costs. Incentives to municipalities for land development could be provided through assignment of increased revenue/profit generation responsibility to municipalities from the state. An increase in the availability of large areas for development will likely facilitate a shift from single-plot segments to more productive, large-scale segments, which will benefit the overall productivity in the sector.
- ¶ **Shift the balance of tenant and owner/investor rights in case of default.** Housing conflicts between the tenants and owners/investors can readily take more than 2 years to resolve because tenants' rights are so strong. In a more developed mortgage market, the problem will shift to the banks but will still be relevant. By shifting the balance of power and giving owners and mortgagors stronger recourse in the event of non-payment, the problem will diminish considerably.
- ¶ **Enforce competition laws in confectionery.** To create the competitive intensity necessary for stimulating productivity increases in the sector, the Competition Board needs to strictly enforce existing competition laws with respect to on-package pricing.
- ¶ **Eliminate indirect import barriers in confectionery.** Reducing indirect import barriers such as weight tariffs and bureaucracy-related costs will make it more likely that global best practice players will introduce new items to Turkey, increasing the level of competitive intensity.

## **AVOID THE CREATION OF NEW BARRIERS THAT WOULD LIMIT COMPETITION AND PRODUCTIVITY**

Turkey is unusual among the economies that MGI has studied. The impact on productivity of product and land-market barriers and such common phenomena as labor market rigidities is relatively small. However, as the economy develops there will inevitably be pressures from one constituency or another to enact legislation that is perceived to meet that constituency's special needs. As they react to these pressures, policymakers must vigilantly assess the productivity trade-offs and avoid introducing laws that create additional, undue barriers to productivity growth. We found three areas most relevant to this recommendation: job security laws, zoning restrictions, and investment incentives.

¶ **Adapting Job Security Law.** Since August 2002 a debate has been underway on the law that would adapt ILO regulations on job security to Turkey in a way that would also conform to EU norms. Legislators want to foster greater job security, while employers argue that the law will introduce counterproductive labor rigidity. In fact, in terms of the law's effect on productivity, the case can be argued either way: it will be harder to lay off redundant employees in the short term, but companies may become more careful about staffing levels in the long term. In addition, while the long-term effect may help productivity in one regard, it may also hinder economically valid job creation (argued by many to be the case in Spain, where strict dismissal laws have contributed to high unemployment rates).

Though the law does not include restrictions beyond the basic ILO regulations, it should be further adapted in Turkey in at least one key respect: it should more fully differentiate regulations for large companies (e.g.,  $\geq 1,000$  employees) and small companies (e.g.,  $\leq 20$  employees), making it easier for the former to effect layoffs that may be greater than the minimum threshold covered by the law (currently 10), but are still small in proportion to the workforce (Exhibit 34).

¶ **Avoiding restrictions on the emplacement of large-scale retailers.** Zoning laws that are designed to contain the growth of large-scale retailers in city centers would hurt sector productivity by creating an artificial barrier to natural growth of more productive formats. Policymakers should strictly avoid introducing any version of the draft zoning law that creates such risk.

¶ **Continuing to eliminate or to carefully manage investment incentives in relevant sectors.** Our case studies highlight several instances where government incentives for capital investment have distorted market forces (cement, steel, confectionery) in the past. Although incentives have been dramatically reduced in recent years, it is still possible to see the effects in

Exhibit 34

## THE NEW JOB SECURITY LAW IN TURKEY

<b>Purpose</b>	<ul style="list-style-type: none"> <li>To prevent employers from dismissing workers without reason and to provide job security to employees</li> </ul>
<b>Scope</b>	<ul style="list-style-type: none"> <li>Covers companies with 10 or more employees (this law mainly focuses on medium- to large-size companies)</li> <li>Covers employees who have worked in that company for at least 6 months</li> <li>Excludes employees who are                             <ul style="list-style-type: none"> <li>Engaged under a contract of employment for a specified period of time</li> <li>Serving a period of probation or a qualifying period of employment</li> <li>Engaged on a casual basis for a short period</li> </ul> </li> </ul>
<b>General dismissal conditions</b>	<ul style="list-style-type: none"> <li>Defines the following as "not valid" reasons for termination of employment                             <ul style="list-style-type: none"> <li>Union membership</li> <li>Seeking office as, or acting in the capacity of, workers' representative</li> <li>The filing of a complaint or the participation in proceedings against an employer</li> <li>Race, color, sex, marital status, family responsibilities, pregnancy, religion, or political opinion</li> <li>Absence from work during maternity leave</li> </ul> </li> <li>Defines "valid" reasons for layoff as reasons related to workers' conduct or performance or economic, technological, and structural reasons</li> <li>Requires employers to                             <ul style="list-style-type: none"> <li>Inform employees about termination of employment and the underlying reason in written form</li> <li>Prove that the underlying reason is valid</li> </ul> </li> <li>Gives employees the right to appeal to a court at no cost to them</li> <li>Requires employer to rehire an employee if court decides that layoff reason was not valid, or to pay 6 to 12 months' salary to the employee</li> </ul>
<b>Specific collective dismissal conditions</b>	<ul style="list-style-type: none"> <li>Obliges employers when <b>laying off 10 or more employees within a month</b> to                             <ul style="list-style-type: none"> <li>Inform in writing the related union, worker representatives, related regional management, and Turkish Employment Organization at least 30 days before layoff</li> <li>Include their reasons for layoff, the number of employees to be laid off, and the time period for the process</li> <li>Discuss with these representatives ways to prevent layoff or to decrease the number of employees laid off</li> </ul> </li> </ul>

Collective dismissal should be defined as percent of the total number of employees in the company as in ILO regulations

Source: Press clippings

terms of excess capacity buildup and restricted consolidation. The government should continue to reduce granting of incentives in all sectors and carefully manage the scope of those that are granted.

## D. Growth and Job-Creation Potential

Since productivity is the principal engine of economic growth, productivity improvements can be translated into GDP growth rates both conceptually and mathematically. In this section we explain both the conceptual rationale for how productivity growth leads to output growth, and estimate how much economic growth could be achieved with the forecast productivity improvements and reasonable levels of labor/capital inputs.

Overall, we have concluded from our study that significant levels of output growth, 8.5 percent per annum from 2005 to 2015, can be achieved based on our total factor productivity gain and input mix, and that as many as six million new jobs can be created. That same rate of development would move Turkey from 30 percent of the European Union's GDP per capita levels (at PPP) today, to as much as 55 percent in 2015, and would bring Turkey's GDP per capita to a level that surpasses the average of the 10 countries accepted for membership in 2004.

### **PRODUCTIVITY IS THE KEY ENGINE OF ECONOMIC GROWTH**

Productivity growth (or at least the mechanisms that make it happen) is often feared because it can result in lower employment in the specific plant or industry where it occurs. How then does productivity growth potential translate into output and employment growth in the overall economy?

To shed some light on this question, we review a virtuous cycle, which is the mechanism whereby economies grow and provide empirical support against this.

#### **A virtuous cycle**

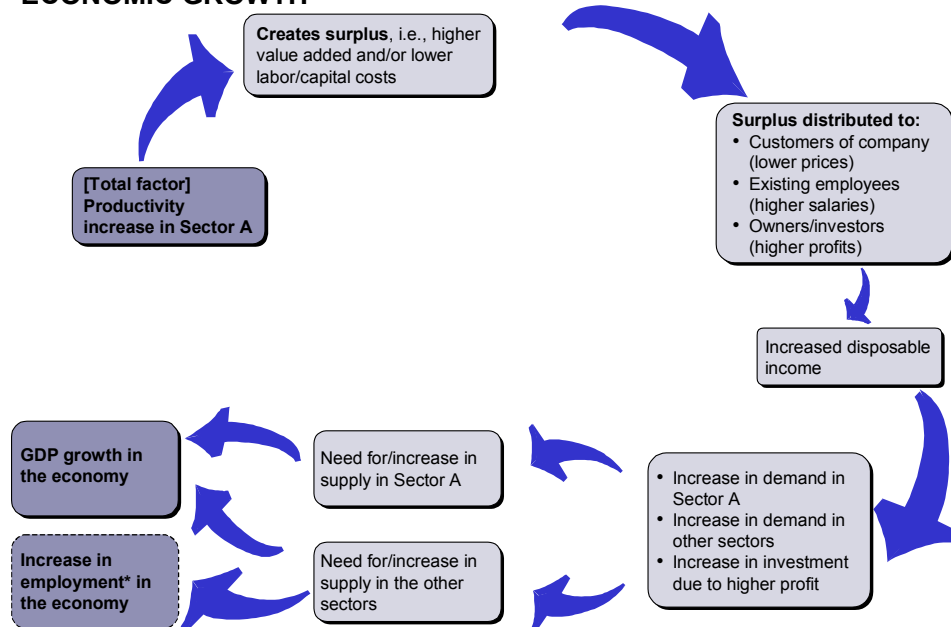
Productivity improvements should trigger a virtuous cycle that, under the right competitive conditions, will result in economic growth (Exhibit 35). Assume that productivity increases in a specific sector in the form of more efficient use of resources and more product and service innovations. These enable either creation of higher value added and/or of lower costs, thus creating a surplus for the companies involved. This surplus is distributed as lower prices to consumers if the right competitive intensity exists in the sector. In addition, the surplus may also be distributed as higher profits to owners or higher salaries to employees, all of which will be recycled into either investment or consumption.

Productivity improvements in one sector decrease prices, thus increasing output through stimulation of demand. The lower prices increase disposable income and demand elsewhere, thus increasing employment in the total economy. Whether the employment increases in the originating sector is ambiguous, since it can increase or decrease depending on the price elasticity in that sector.



Exhibit 35

## VIRTUOUS CYCLE: PRODUCTIVITY GROWTH LEADING TO ECONOMIC GROWTH



\* Increases either in the specific sector and/or in other sectors

Source: MGI

On the supply side, once better capacity utilization is exhausted as a source of output growth, further increase in output within the existing capacity will be accommodated by the same measures that result in improved productivity. For example, OFT measures in our report's manufacturing sectors will produce both labor productivity increases and output growth within existing capacity. However, at some point accommodating further growth will require new capacity. The same increase in purchasing power noted above is also a source for the increased savings necessary for financing this new capacity, since individuals in the economy will have more real income at their disposal to save or spend. All of these factors will increase resources set aside (savings) and made available for the maintenance and upgrading of existing capacity as well as the installation of new capacity (investment), which is the supply-side requirement of output growth. Fair and intense competition in all sectors of the economy will ensure that the retained earnings available for reinvestment occur in the most productive companies.

As for the effect of these on employment, in some sectors the growth in output due to lower prices more than compensates for the increase in labor productivity, and sector employment increases. (We believe this can occur, for example, in the Turkish telecommunications sector). Of course in other instances, output does not grow as quickly as productivity increases and sector employment decreases (experienced in the Turkish cement sector in the 1990s). Nevertheless, as discussed above, positive spillover effects among sectors from higher process efficiency and product and service innovations help provide redeployment opportunities to displaced workers. The growth in output in mature industries will

also create growth and employment in related industries (e.g., upstream and downstream sectors). In either case, however, the increased disposable income results in higher economy-wide output, and this means higher GDP and employment growth in the economy.

For a tradable goods/services sector, competitiveness could be interpreted as the share of that sector a country captures in worldwide export markets. For a specific good/service of a given quality, there are two key determinants of its price and thus its competitiveness: costs of factor inputs used to produce the good, and efficiency with which those inputs are used – the productivity with which that good/service is produced. As a country develops, the advantages it has regarding factor inputs costs will diminish, especially with stronger currency values, but also with increasing wage levels converging with other developed countries. Therefore, competitiveness based on the level of factor inputs is not sustainable. Then the only way a sector can achieve sustained competitiveness in the longer run is through rapid and sustained productivity growth.

### **Empirical support**

The empirical evidence that these mechanics work in fact comes from comparing countries' labor productivities and GDP per capita levels (Exhibit 36). Although it is not possible to prove the causality in any one time frame, the very strong correlation between GDP per capita and labor productivity reinforces the presence of the virtuous cycle in which productivity growth leads to GDP growth. Turkish economic history also demonstrates the link since the high GDP per capita growth period from 1980 to 1990 coincides with a period of higher productivity growth.

The empirical data not only reinforces the fundamental link between productivity growth and output, but also the link between productivity and employment, dispelling fears of unemployment. Both in the experience of Turkey and other countries, we see the high-productivity growth during their takeoff years coupled with employment growth (Exhibit 37). With this direct link between productivity growth and GDP per capita growth, and making assumptions regarding factor inputs, we can mathematically translate the potential productivity improvements to the aggregate GDP growth level that can be achieved.

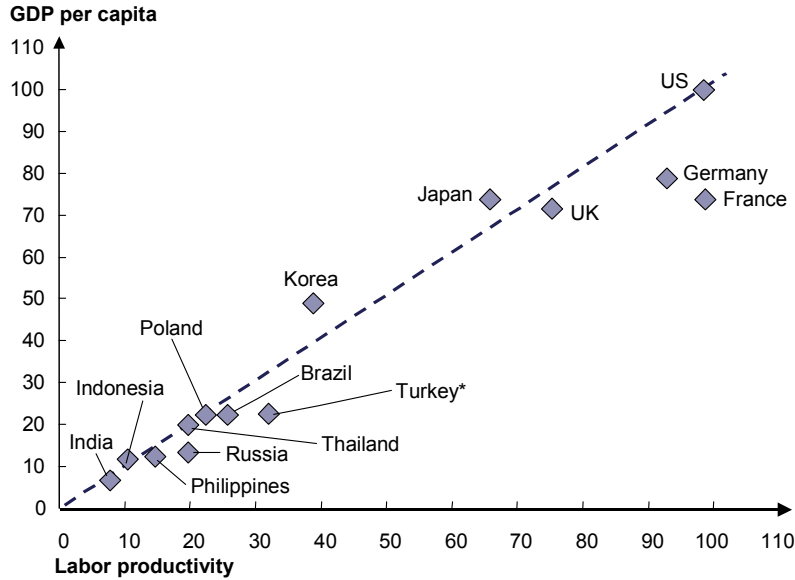
### **TURKEY CAN DOUBLE ITS GDP PER CAPITA BY 2015**

Our main goal is to understand Turkey's structural economic growth potential. By structural potential, we mean the growth that the country could achieve given the resources at its disposal. Theoretically, GDP growth is constrained only by the rates at which TFP and TFI grow in an economy. Therefore, to calculate Turkey's GDP per capita growth potential we have derived and generalized the TFP growth

Exhibit 36

**EMPIRICAL EVIDENCE: HIGHER PRODUCTIVITY CORRELATES STRONGLY WITH HIGHER GDP**

Indexed, US = 100 (at PPP in 1999)



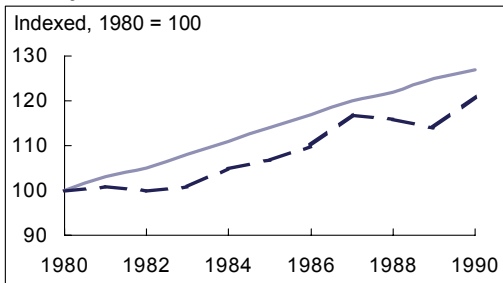
\* Year 2000 data  
Source: MGI analysis

Exhibit 37

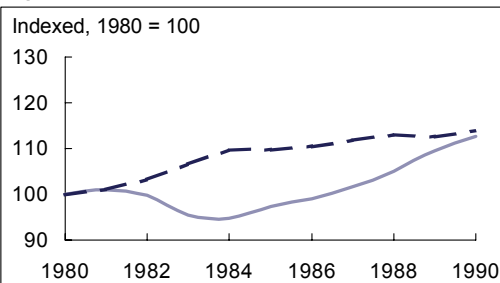
**LABOR PRODUCTIVITY vs. EMPLOYMENT GROWTH IN A COUNTRY**

— Employment  
- - - Labor productivity

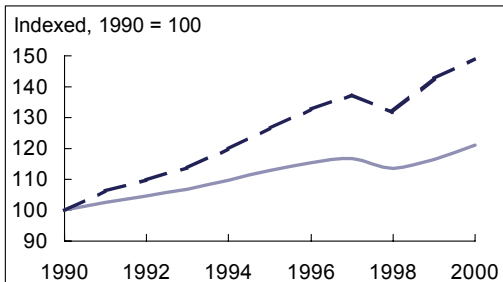
Turkey



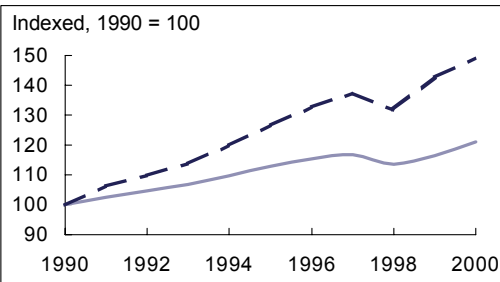
Spain



Korea



Ireland



Source: Penn World Tables; World Development Indicators; State Institute of Statistics; MGI analysis

from the sector case findings, and we have assumed reasonable levels of capital and conservative levels of labor inputs based on aggregate data from the experiences of other countries and the data's alignment with Turkey's experience.

We have concluded that Turkey can double its GDP per capita level by 2015 by reaching its productivity growth potential and through a growth rate in inputs that is well within reach (Exhibit 38). This doubled GDP per capita level can be achieved by growing at an average rate of around 5 percent from 2002 through 2004 (arguably, the time it will take to launch necessary reforms) and then averaging 8.5 percent GDP growth for a period of 10 years between 2005 and 2015 (Exhibit 39). While 8.5 percent GDP growth over a 10-year period seems high, the performance would not be unique for a country at this stage of development – Korea, Chile, and others have achieved it (Exhibit 40).

In the following sections we disaggregate the GDP per capita growth into its drivers to understand how realistic the assumptions are on each front.

### **TFP growth can be more than 5 percent per annum**

Assuming that favorable macroeconomic conditions are achieved and all the policy recommendations stated are implemented, Turkey has the potential to grow its TFP by around 5 percent a year<sup>9</sup>. This growth rate is derived from the sector case findings and extrapolated to the overall economy. The key assumption is that all sectors will reach their productivity potential by 2015 (Exhibit 41). Specific sector TFP growth rates are used to extrapolate to potential growth rates of the three aggregate sectors: utilities, manufacturing, and services. We estimate similar levels of TFP growth in all the aggregate sectors, except agriculture, which is assumed to have a lower TFP growth, in line with levels of the last 10 years, because it serves the sector of residual employment. Finally, the TFP growth rate for the overall economy has been calculated using the TFP growth rates of the three aggregate sectors and their respective shares in total factor inputs in the economy.

The analysis of past productivity growth in the sectors, examples of how successful companies have managed to grow productivity, and accumulated knowledge from within MGI all support these assumptions.

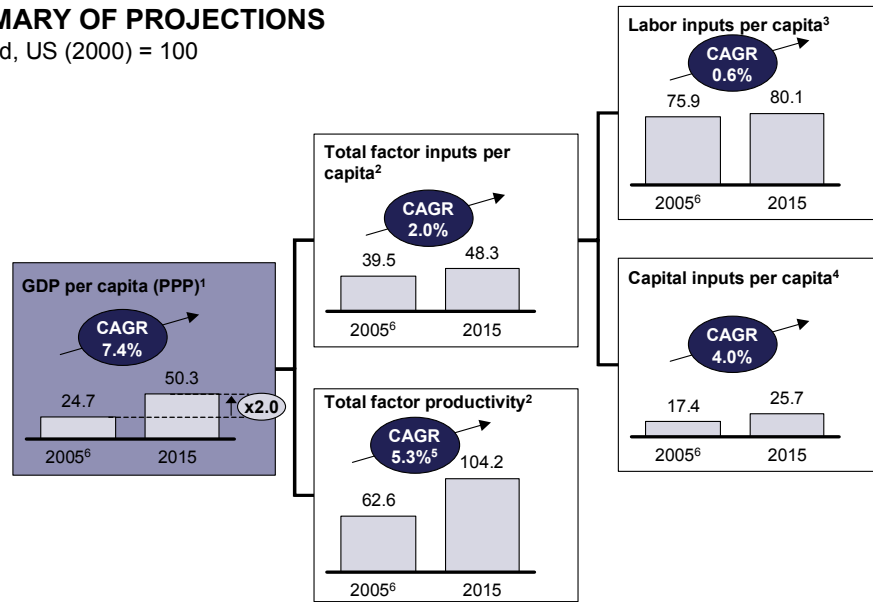
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<sup>9</sup> By 2015 Turkey's TFP would reach 104 percent of the US TFP level for the year 2000. This should not be interpreted as Turkey having a level higher than the US, since US TFP will continue to improve and still be much higher than Turkey's in the year 2015.

Şekil 38

### SUMMARY OF PROJECTIONS

Indexed, US (2000) = 100

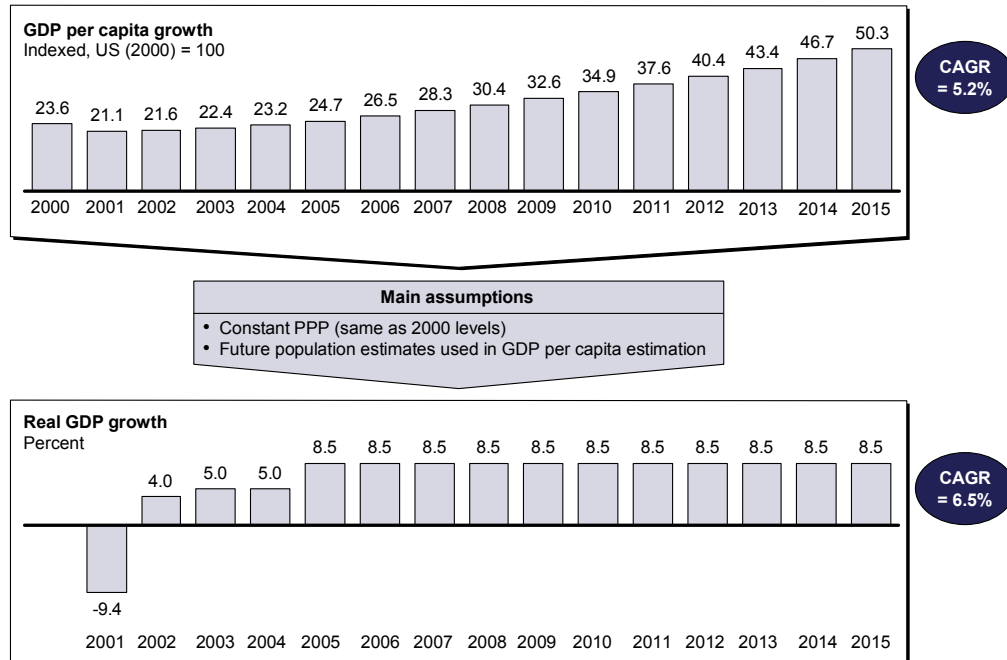


1 Assuming an informal output of 20% GDP  
 2 Based on Cobb-Douglas production function with capital share of 0.45 (geometric averages of  $\alpha_{US} = 0.33$  and  $\alpha_{Turkey} = 0.60$ )  
 3 FTE per capita, including the effect of different average hours worked/employee  
 4 Excluding residential component in capital stock  
 5 TFP growth is calculated based on growth in physical productivities which is assumed to be the same in value added terms  
 6 For 2000-2005, we have estimated labor and capital inputs based on past experience and we have used the GDP growth rates of -9.4%, 4%, 5%, 5%

Source: State Institute of Statistics; State Planning Organization; World Development Indicators; MGI analysis

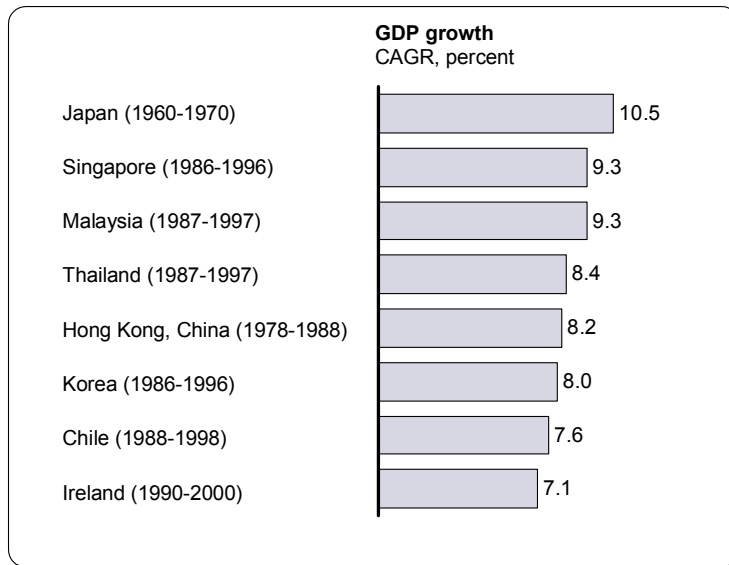
Exhibit 39

### GDP GROWTH PROJECTIONS



Source: IMF, State Institute of Statistics, MGI analysis

Exhibit 40  
**HIGH-GROWTH COUNTRY EXAMPLES**



Source: World Development Indicators; MGI analysis

Exhibit 41  
**TFP GROWTH RATE CALCULATIONS**  
 Percent

Aggregate sectors	Sectors studied	TFP growth <sup>1</sup> CAGR	Aggregate sector		Overall economy TFP growth CAGR
			TFP growth <sup>3</sup> CAGR	TFI share <sup>5</sup>	
Utilities	Telecom				
	• Wireline	12.8			
	• Wireless	9.8	6.5	11.4	
	Electricity				
	• Generation	1.0			
	• T&D	2.5			
Services	Residential construction	8.2 <sup>2</sup>	8.9	34.3	
	Retail banking	7.9 <sup>2</sup>			
	FMCG retail	10.6 <sup>2</sup>			
Manufacturing	Steel	2.8			
	Cement	3.3			
	Automotive parts	3.2			
	Apparel	2.5 <sup>2</sup>	4.6	16.4	
	Food processing				
	• Dairy processing	6.4 <sup>2</sup>			
	• Confectionery	9.5 <sup>2</sup>			
Agriculture	n/a		2.0 <sup>4</sup>	38.0	5.3

1 TFP growth CAGR for a 10-year period, 2005-2015

2 Labor productivity growth CAGR, used as an indicator of TFP CAGR

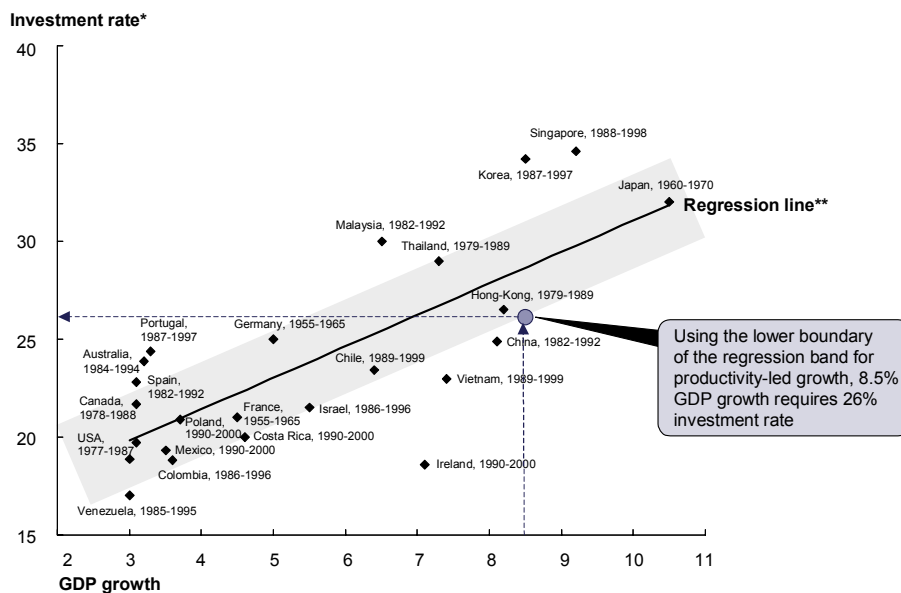
3 Arithmetic average of the studied sectors' TFP CAGRs

4 Last 10 years' TFP growth rate, which is assumed to last for the next 15 years

5 Calculated from aggregate sectors' capital share; labor share in 2000 and aggregate sectoral capital intensity (alpha) is calculated by arithmetic average of the studied sectors' alphas by using Cobb-Douglas production function

Source: MGI analysis

Exhibit 42  
**GDP GROWTH AND INVESTMENT RATE RELATIONSHIP**  
 CAGR, percent



\* Gross investments including residential construction investments as a percent of GDP

\*\* Least square regression with  $r^2 = 0.57$

Source: *World Development Indicators*; MGI analysis

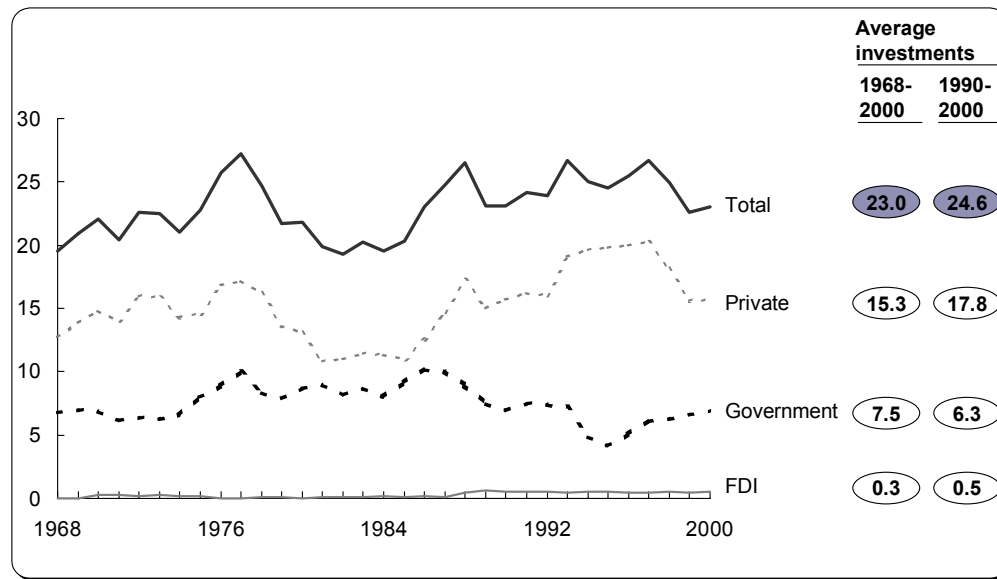
### TFI: The investment requirement is within reach

Potential GDP growth levels also assume some growth in TFIs. On the capital side, the 3.1 percent increase in capital per capita per annum corresponds to an average 26 percent investment rate over the next 10 years.<sup>10</sup> We believe this rate reasonable for three reasons.

First, it is comparable to what other countries have been able to invest when they were at similar development levels and growing at similar rates. In fact, projected investment requirements are slightly lower than in other countries that have experienced rapid growth, since the implied development path for Turkey would reflect more effective use of investment than achieved by other countries at a similar stage in development (Exhibit 42). For example, Korea had to invest approximately 33 percent of GDP to achieve 8.5 percent growth, a path quite similar to that adopted by Japan. Chile, however, which implemented policies similar to the ones suggested by our case studies, achieved 6.7 percent annual GDP growth between 1989 and 1999 with a 23 percent investment rate. Korea needed a 33 percent investment rate because it has invested inefficiently. The Korean economy was directed by government policy to apply large amounts of

<sup>10</sup> We have used a 5 percent depreciation rate in our calculations, which is consistent with the rates used by the State Planning Organization to calculate current accumulated capital stock.

Exhibit 43  
**DEVELOPMENT OF INVESTMENT RATES FOR TURKEY – 1968-2000**  
 Percent of GDP



Source: Treasury; MGI analysis

capital in selected sectors, and the ensuing capital productivity was often low, particularly in high capital-intensity sectors.<sup>11</sup>

Second, the investment rates foreseen are only slightly higher than what Turkey has been achieving, especially in the past decade (Exhibit 43). And third, we disaggregated the investment levels into four main investment sources (Exhibit 44) and have verified that our estimates of investment rates from each of these sources are reasonable.

- ¶ **Private domestic investments (non-residential).** We foresee a minor increase in private domestic investment rates. A significant portion of this increase is expected through an increase in savings rates and in the saving-to-investment ratio in the country (Exhibit 45). The saving-to-investment ratio is expected to recover to the levels achieved in earlier years when domestic borrowing needs were lower (Exhibit 46).
- ¶ **Residential housing investments.** The need for housing in Turkey is estimated to increase to approximately 800,000 units per annum by 2015, driven primarily by population growth, decreasing household size, urbanization, and replacement needs.<sup>12</sup> If the potential GDP growth of 8.5 percent per annum materializes, this housing need will

<sup>11</sup> Please refer to the MGI Korea study, “Productivity-led Growth for Korea” for further details on this subject.

<sup>12</sup> See Exhibit 14 in Residential Construction case chapter.



Exhibit 44  
**FORECASTED INVESTMENT RATES**

Investment rate Percent of GDP	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2005-2015 Average	1990-2000 Average
<b>Non-residential public</b>	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.1
<b>Non-residential private</b>	6.6	11.4	11.4	11.1	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	10.6
<b>Non-residential FDI</b>	0.8	1.6	1.6	1.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	0.5
<b>Total</b>	11.3	16.9	16.9	16.9	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	17.2
<b>Non-residential capital stock/capita*</b> Indexed, US (2000) = 100	16.3	16.1	16.3	16.6	16.9	17.4	18.0	18.6	19.3	20.0	20.8	21.7	22.6	23.5	24.6	25.7		
<b>Residential capital investment rate**</b> Percent of GDP	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.3
<b>Total capital investment rate</b> Percent of GDP	18.4	24.0	24.0	24.0	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	24.5

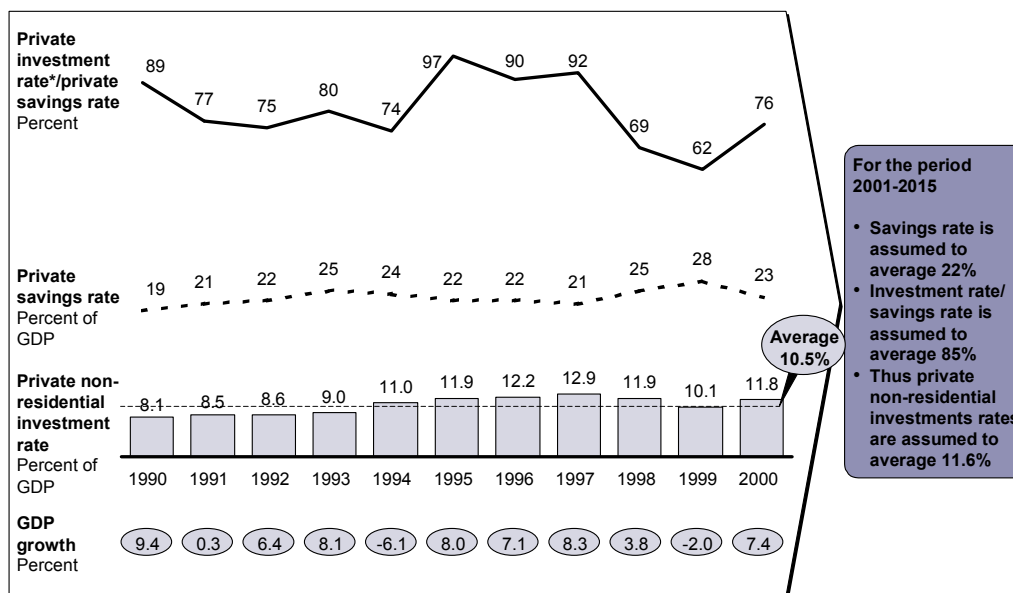
\* Non-residential depreciation is assumed 5% per annum  
 \*\* FDI average of 1.2% of GDP is assumed to fund the gap with the launch of mortgage market  
 Source: *World Development Indicators*; MGI analysis

most likely be converted into housing demand, which will require about 6 percent of GDP to be invested in residential construction annually.<sup>12</sup> This residential investment rate is similar to a historical average of 7 percent (Exhibit 47).

- ¶ **FDI.** The rest of the increase in private investment rates is expected to be generated through increased FDI, on average around 2.5 percent of GDP in the next 10 years, which is believed to be achievable, conditional upon substantially improved macroeconomic and political stability and reduced informality. These levels correlate well with experiences of other countries (Exhibit 48). We also recognize that assured EU candidacy would greatly influence the timing of increased FDI flows to Turkey, as other countries like Spain and Portugal have experienced (Exhibit 49). However, we still assume a more conservative increase in FDI, which reflects a gradual increase in macroeconomic and political stability over the next 2 to 3 years.
- ¶ **Public investments.** Public investments constitute an important part of a country’s capital inputs, especially for countries at earlier stages of economic development. We have estimated public investment rates to stay at an average of 4 percent of GDP in the 2005 to 2015 period –

12 Assuming that cost of residential construction per square meter stays at a level equal to the historical average over the past 15 years.

Exhibit 45  
**PRIVATE DOMESTIC INVESTMENT RATES**



\* Including residential construction investments  
 Source: State Institute of Statistics; State Planning Organization

slightly lower than historical rates and in line with international benchmarks.

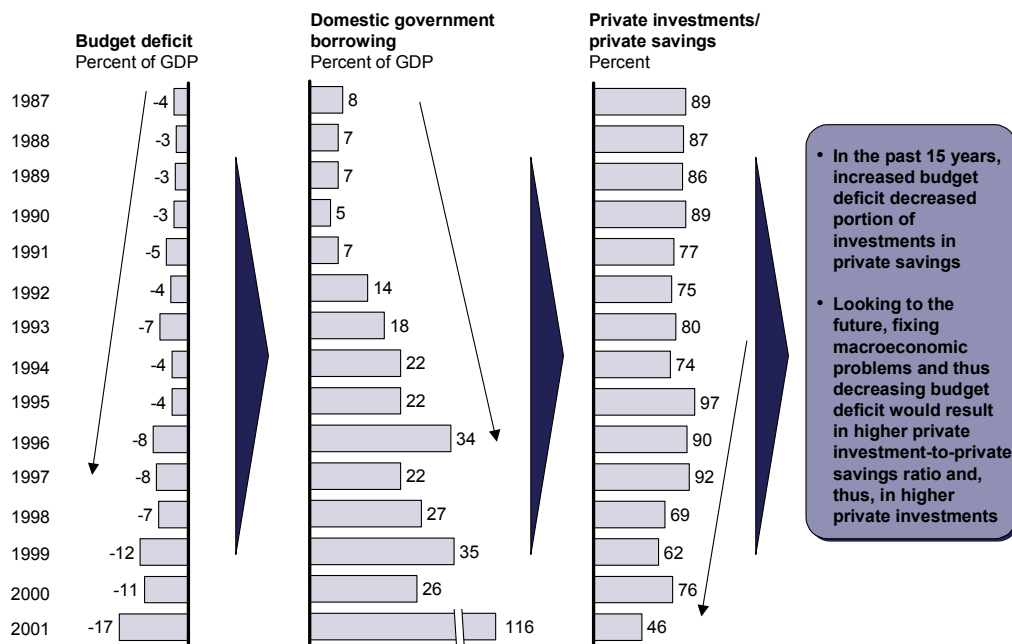
### No labor market constraints

Even more than is perhaps the case with capital inputs, we see no significant barriers to achieving the level of labor inputs required to match productivity growth and to yield attractive growth rates. First, labor markets in Turkey operate flexibly and there is no evidence that employment has been constrained by weak labor supply. As demonstrated in the chapter “Turkey’s Aggregate Economic Performance,” low labor force participation is a fact in Turkey. However, as Exhibit 50 illustrates, this in turn is primarily a function of women opting out of the labor force, even when they have job opportunities.

Further driving declining labor force participation is an increase in school enrollment, at both secondary school and university levels. This increase in school enrollment should increase employment per capita in the near future since better educated individuals are more likely to seek employment, and the share of the working age population that is better educated will have increased (Exhibit 51). Also, given the low level of participation by women and increased education, employment growth can be increased quite easily, if other factors such as investments are in place.

Exhibit 46

### EFFECT OF BUDGET DEFICIT ON PRIVATE INVESTMENTS

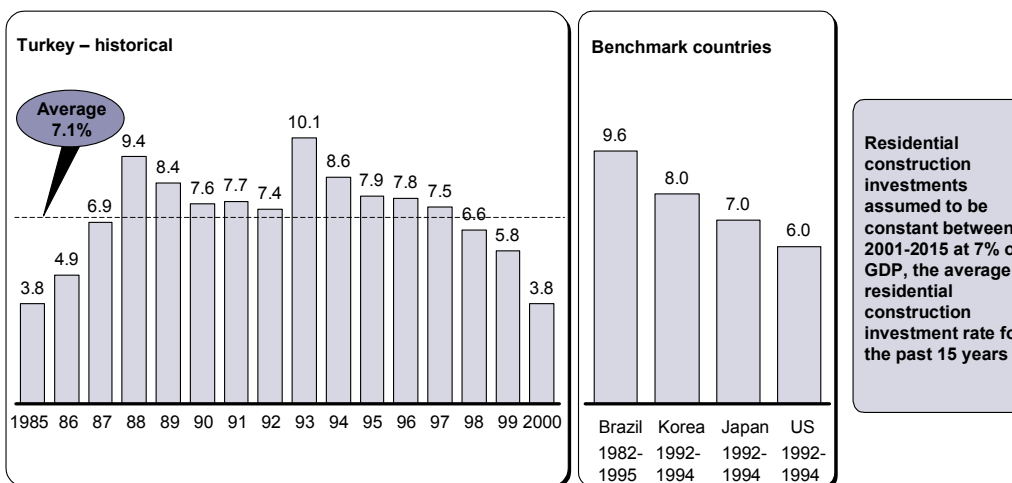


Source: Undersecretariat of Treasury

Exhibit 47

### RESIDENTIAL HOUSING INVESTMENT RATES

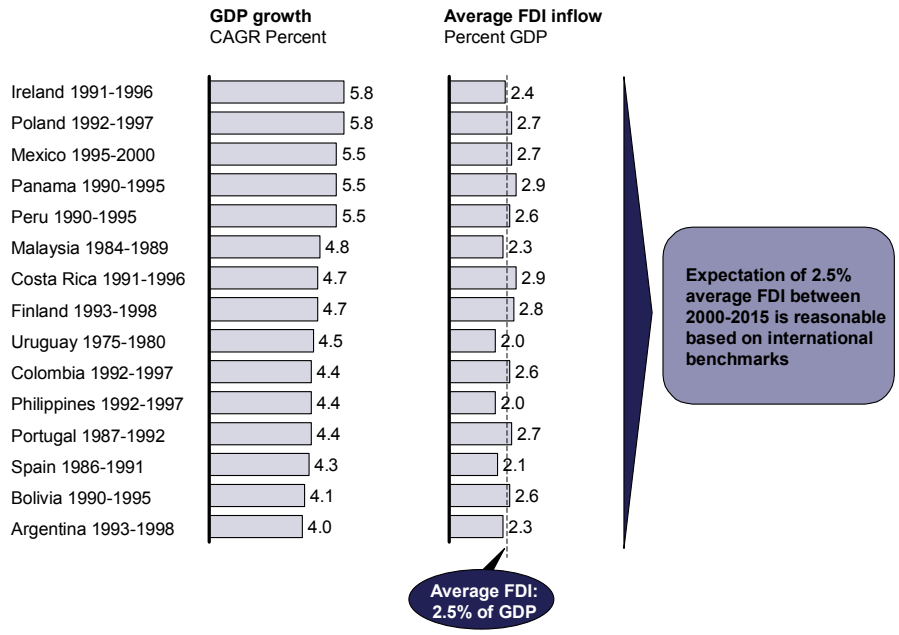
Percent of GDP



Source: State Institute of Statistics; MGI analysis

Exhibit 48

**LEVEL OF FDI ATTRACTION EXPERIENCED IN OTHER COUNTRIES**

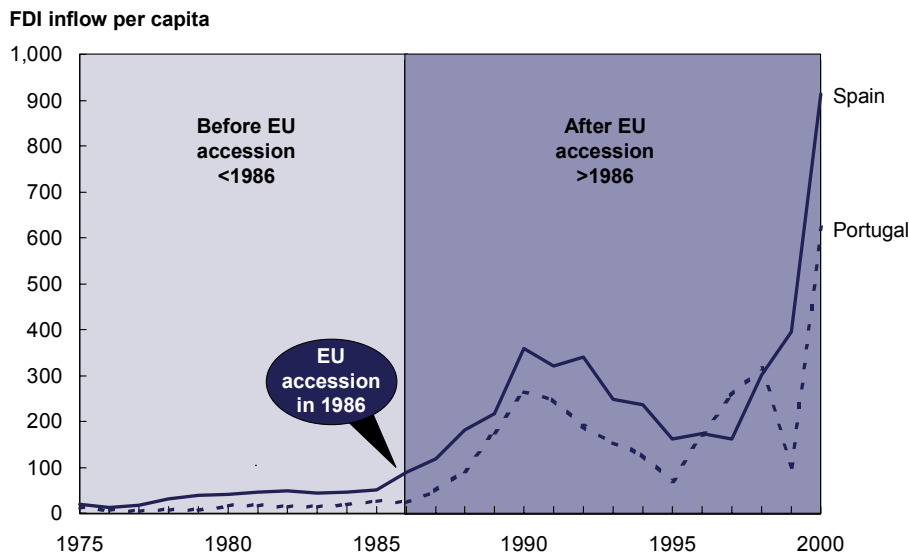


Source: World Development Indicators

Exhibit 49

**EFFECT OF EU MEMBERSHIP ON FDI INFLOW TO SPAIN AND PORTUGAL**

US Dollars

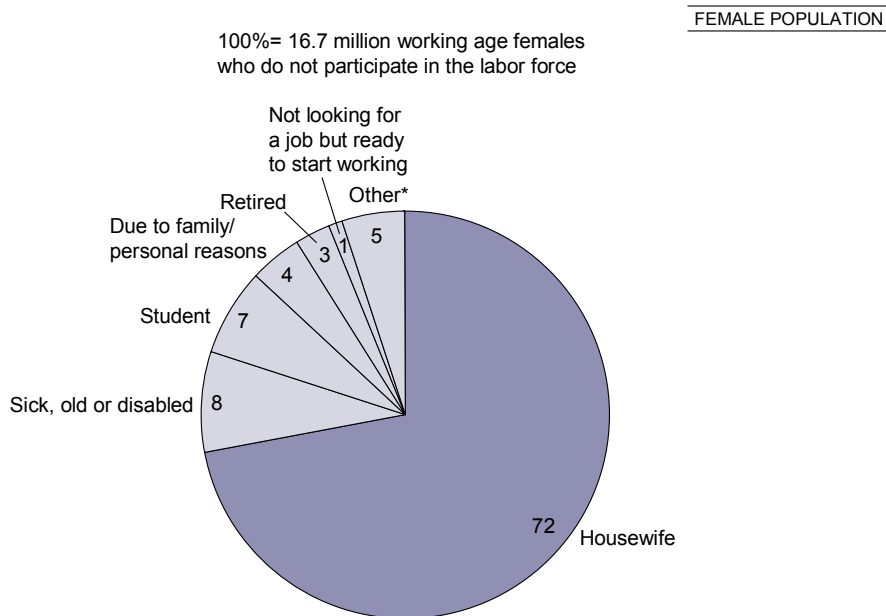


Source: World Development Indicators

Exhibit 50

**REASONS FOR NOT PARTICIPATING IN THE LABOR FORCE – 2000**

Percent



\* Includes seasonal workers, not employed since they have a fixed income and not hopeful about finding a job  
Source: State Institute of Statistics

Second, employment creation expectations are close to what comparable countries achieved during their rapid growth phases. As with capital, labor input requirements are slightly lower than other countries' experiences since the implied development path for Turkey would reflect more productive use of inputs than most countries have achieved (Exhibit 52). Moreover, the 1.6 percent growth in employment is conservative and also similar to what Turkey has achieved historically (Exhibit 53).

### **Job creation will likely be driven by the services sector**

If these productivity gains are achieved and if factor input levels are attained, six million more people will be employed in the Turkish economy by 2015 (Exhibit 54). The question remains, however, "In which main sectors will these new jobs be created?" To answer this, we have compared output and employment allocation among aggregate sectors of the economy – utilities, manufacturing, services, and agriculture – for countries at double the current Turkish GDP per capita (Exhibit 55). In interpreting these results, it is worth noting that output and employment allocations have been fairly consistent across all economies, with the exception of agricultural employment in the US.

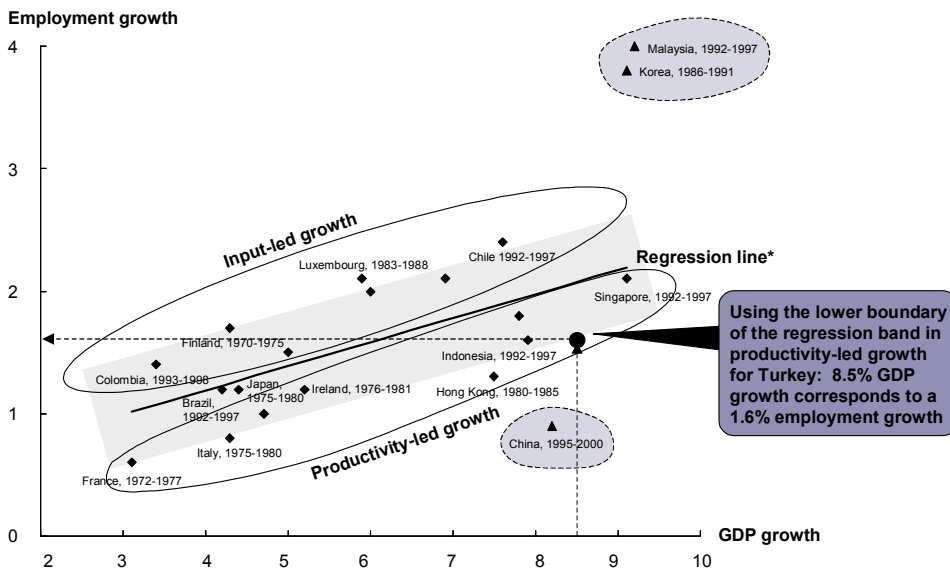
Our aggregate level calculations show that the majority of job creation will be in the services sector, with some job growth in the manufacturing sector as well. Significantly, this result is consistent with Turkey's need to draw women into the

Exhibit 51  
**INCREASED LABOR FORCE PARTICIPATION RESULTING FROM INCREASED EDUCATION LEVELS IN TURKEY**  
 Percent



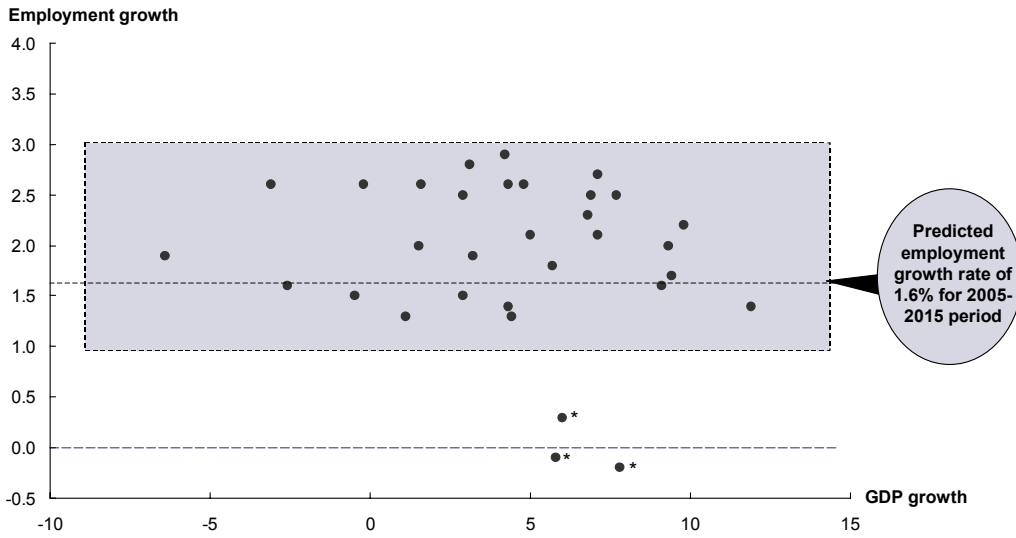
Source: State Institute of Statistics; State Planning Organization; Ministry of Education; MGI analysis

Exhibit 52  
**GDP GROWTH VS. EMPLOYMENT GROWTH RELATIONSHIP**  
 CAGR, percent



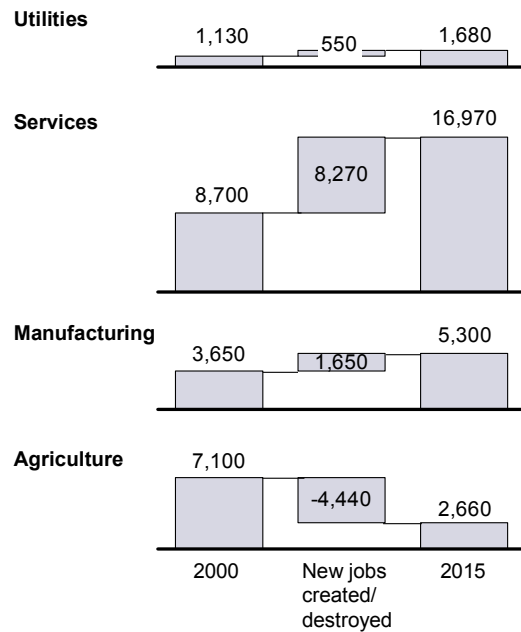
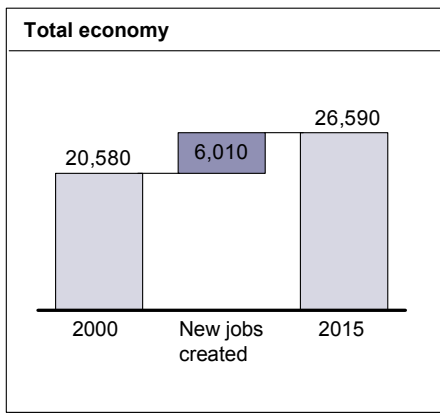
\* Least square regression with  $r^2 = 0.48$   
 Source: World Development Indicators, MGI analysis

Exhibit 53  
**RELATIONSHIP BETWEEN EMPLOYMENT GROWTH AND GDP GROWTH IN TURKEY, 1968-1999**  
 CAGR, percent



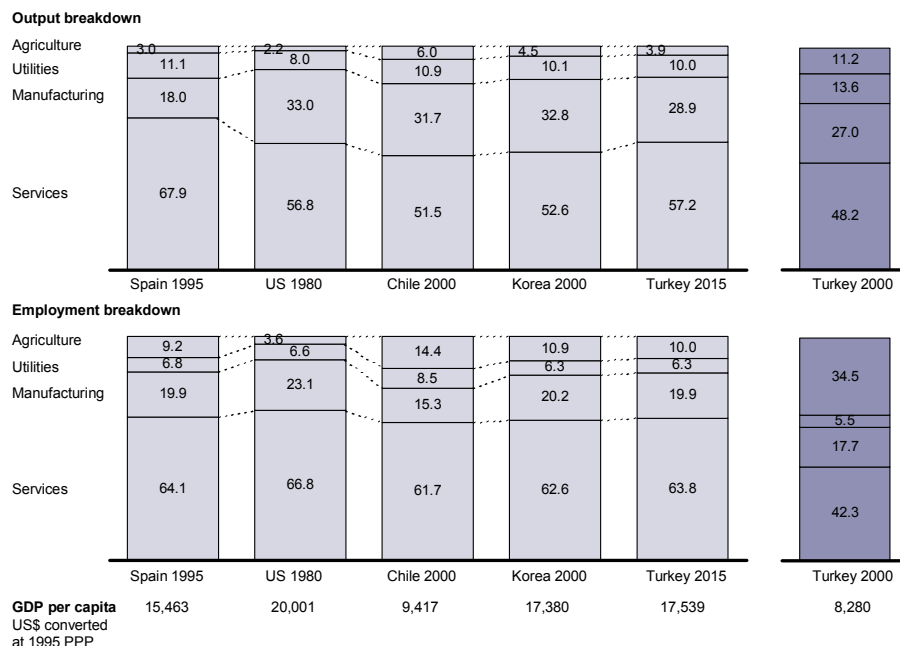
\* Possibly due to change of sampling methodology in State Institute of Statistics  
 Source: State Institute of Statistics

Exhibit 54  
**EXPECTED JOB CREATION BY 2015**  
 Thousands of jobs



Source: MGI analysis

Exhibit 55  
**2015 OUTPUT AND EMPLOYMENT COMPOSITION ESTIMATES**  
 Percent



Source: World Bank; OECD National Accounts; CEPAL Statistical Yearbook; ILO; World Development Indicators; MGI analysis

workforce in order to increase total labor input. As Exhibit 56 shows, Turkey currently lags in employing women in the services sector (e.g., retail, restaurants), but Korea’s experience (among that of others) shows that beyond a certain point of services-sector job creation, the rate of female participation accelerates.

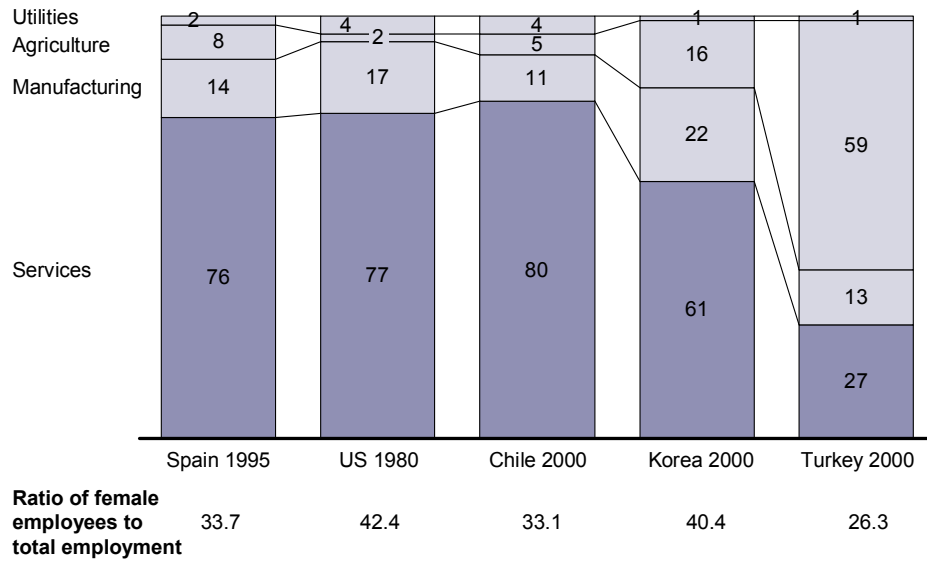
**Expected increase in education levels will be sufficient to meet modernization needs**

As the level of modernization increases in the Turkish economy, the requirement for more workers with higher levels of education will also increase. However, we calculate that Turkey will not face a shortage of either secondary school or university graduates for at least the next 10 to 20 years (Exhibit 57). Although the number of graduates appears sufficient, there may be some issues concerning the quality of education attained. Although the rate of enrollment in university programs has increased rapidly in the past 15 years, the proportion of “Açıköğretim”<sup>14</sup>, or “distance learners,” in total enrollment has increased even faster. The effect, if it continues, is not quantifiable but may need to be addressed.

<sup>14</sup> Distance higher education in Turkey using educational tools such as audio/video and other communication devices such as Internet, TV, etc.

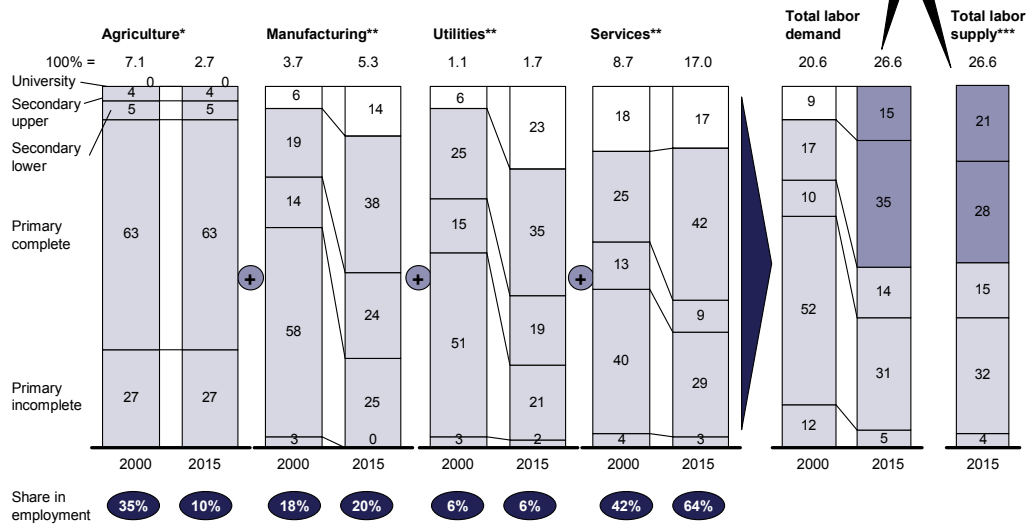


Exhibit 56  
**SECTORAL COMPOSITION OF FEMALE EMPLOYMENT**  
 Percent



Source: World Development Indicators; State Institute of Statistics

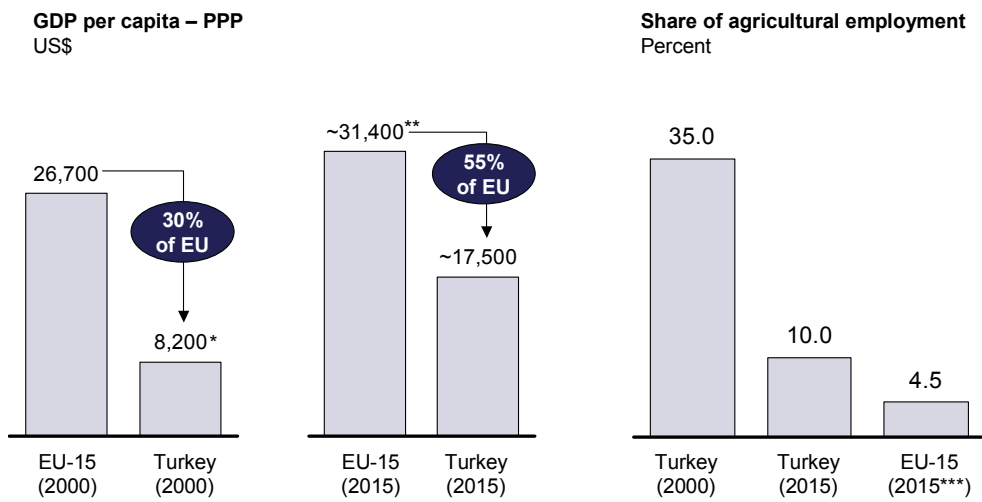
Exhibit 57  
**FORECASTING THE EDUCATIONAL ATTAINMENT OF THE WORKFORCE BY 2015**  
 Percent; millions of people employed



\* Assumed that educational attainment will not change in the sector  
 \*\* Assumed that educational attainment will increase due to format mix shift, favoring modern segment  
 \*\*\* A comprehensive model is built to forecast the educational attainment of the labor force by 2015  
 Source: State Institute of Statistics; State Planning Organization; Ministry of Education; interviews; MGI analysis

Exhibit 58

**TURKEY APPROACHING EU LIVING STANDARDS BY 2015**



\* Including an informal output of 20% GDP

\*\* Based on GDP growth projections of EU countries, by using a similar PPP as 2000 for the period between 2000-2015

\*\*\* Assumed to be similar to 2000 levels

Source: Global insight, OECD, MGI analysis

**Implications for Turkey’s potential accession to the EU**

As summarized in the chapter “Turkey’s Aggregate Economic Performance”, Turkey’s GDP per capita today is only around one-third of the average level across EU countries. Also important, the share of agricultural employment in total employment in Turkey is still eight times the average share of agricultural employment in EU and also twice the average share of the recently admitted countries. While these disparities might be important in any event, they become particularly significant given the size of the Turkish population and, thus, the potential impact on EU economic policies and programs.

Against this background, the analysis shown in Exhibit 58 is compelling. It shows that, by demonstrating the resolve to remove the barriers to productivity growth and thus set the stage for achieving the growth rates of which it appears capable, Turkey should be able to move into a “comfort zone” of economic performance vis-à-vis the EU. Specifically, Turkey’s GDP per capita at PPP would increase from 30 percent to about 55 percent of average EU levels. Finally, as other sectors develop and attract workers agricultural employment will have shrunk to 10 percent of the total employment, which is half of the share of new member countries today.

None of this, obviously, provides any sort of guarantee. However, if Turkey's commitment is unequivocal it should provide compelling evidence to EU decision makers.

In addition, we are aware of the fact that EU negotiations, much less the EU membership, may make it more likely for Turkey to exceed the capital and FDI projections. However, we have not made our projections dependent on a possible EU accession since all the suggested policy reforms and input projections are within reasonable reach by Turkey if it is determined to achieve rapid economic growth.

\* \* \*

Turkey has the potential to achieve rapid productivity growth, thereby providing its growing population with a substantial increase in employment and a dramatic increase in per capita wealth. To achieve its productivity potential, Turkey's challenge is to be focused and effective in accelerating the development of the modern segment of the economy.



## Telecommunications

If Turkey succeeds in achieving its productivity potential in telecommunications, it will have delivered a strong, positive boost to productivity in the total economy as well. This is true for two reasons: because at 3 percent of GDP, the telecommunications sector alone is one of the largest, and because enhanced telecommunications products and services at better prices will enable improved productivity at many levels in other sectors. Turkey is the last OECD<sup>1</sup> country to take the step to full liberalization of its telecommunications market, and this is reflected in productivity performance that is well below developed market standards.

This effect of a state-owned monopoly on productivity in wireline communications is readily discernible and to be expected, but the effect of regulatory weaknesses is also apparent in wireless communications. There, flaws in the regulatory process have interfered significantly with the intended effect – a fully competitive market. While Turkey is well committed in principle to the privatization of its state wireline assets, it must ensure that the transfer of assets is staged within a more robust regulatory and judicial framework – one that properly reflects the future role of wireless – than exists today.

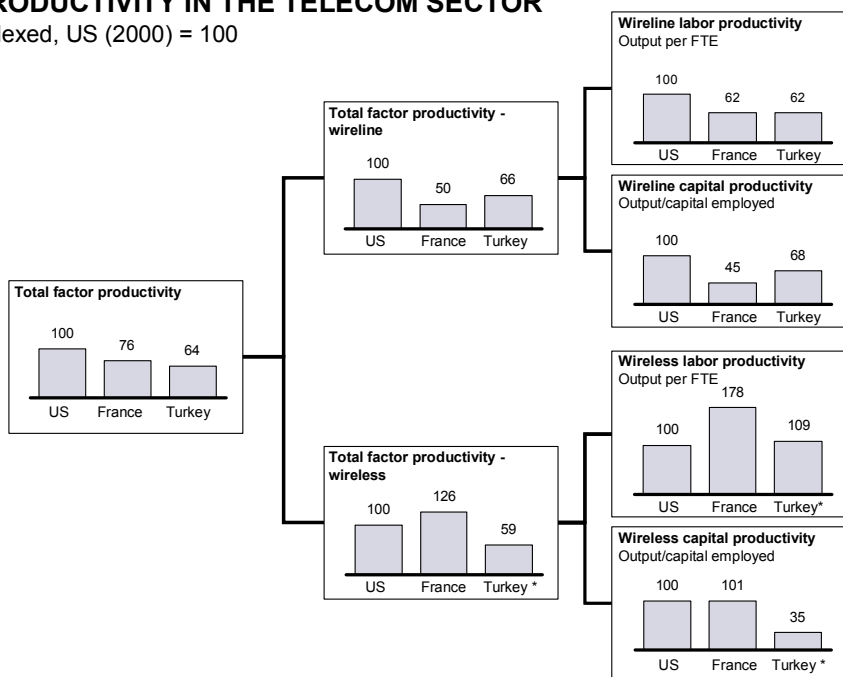
Rapid growth in the sector began in the mid-1980s, was fueled by wireline growth in the late 1980s and early 1990s, and continued with wireless subscription growth in the late 1990s. These two segments account for more than 90 percent of total telecommunications revenues, and total phone penetration in Turkey – with a heavy focus on wireless – exceeds that of countries with similar income levels. However, productivity is well below potential, both overall and in each of the segments.

Total factor productivity (TFP) in the sector is estimated to be around 64 percent of the US level (Exhibit 1). It is striking to note that wireline, a segment that has not yet been liberalized, has TFP of around 66 percent of the US level, whereas wireless, already a competitive segment, has TFP that indexes at only 59 percent. For wireline, monopoly control has reduced the incentives for management to develop and market a wide range of services offered at prices attractive enough to induce the levels of usage seen in other markets. As well, distorted management focus and incentives has meant that inadequate capital has been devoted to viable investments in infrastructure or further automation.

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<sup>1</sup> Organization for Economic Co-operation and Development.

Exhibit 1  
**PRODUCTIVITY IN THE TELECOM SECTOR**  
 Indexed, US (2000) = 100



\* Productivity in mid-2002. The productivity of wireline sector in mid-2002 assumed to be same as mid-2000  
 Source: Fisher output calculation model; annual reports; MGI analysis

The result in wireless illustrates the enormous importance of getting deregulation and/or re-regulation right: capital productivity is very low because license terms have created substantial network redundancy, and output is much lower than it should be largely because of high consumer prices.

The immediate challenge for the sector is the effective privatization and liberalization of wireline. As any reform actions would have significant value-creation/-destruction implications for all stakeholders (e.g., the incumbent operator, new entrants, consumers), the regulator will play a crucial role in establishing and enforcing the “rules of the game”. For timely and successful reform, clear objectives and a clear reform path should be created immediately to foster efficient and sustainable competition and ultimately to result in significant consumer benefits. Only when the objectives are clear can a comprehensive and robust regulatory framework be developed and executed. Critical elements of the framework must include, among others, a licensing regime governing industry structure, pricing, interconnection, and customer access rules (Exhibit 2). Analysis shows that it is possible to create a sustainable competitive environment that will also provide significant customer benefits and result in substantially increased usage.

Exhibit 2

**DESCRIPTION OF REGULATORY LEVERS IN LIBERALIZATION**

	<b>Description</b>	<b>Key levers for wireline services</b>	
<b>Regulatory levers</b>	<b>Industry structure</b>	<ul style="list-style-type: none"> <li>• Policies that allow multiple operators to enter the market</li> </ul>	<ul style="list-style-type: none"> <li>• Number of competitors</li> <li>• Ownership and control rules</li> <li>• Networks and services open to competition</li> <li>• Licensing process</li> </ul>
	<b>Pricing</b>	<ul style="list-style-type: none"> <li>• Policies that are used to eliminate or maintain the historic cross-subsidies between segments</li> </ul>	<ul style="list-style-type: none"> <li>• Approach to pricing regulation</li> <li>• Tariff rebalancing</li> </ul>
	<b>Interconnection</b>	<ul style="list-style-type: none"> <li>• Policies that define the linkage of public communications networks</li> </ul>	<ul style="list-style-type: none"> <li>• Rights and obligations to interconnect</li> <li>• Structure and level of charges</li> <li>• Infrastructure sharing and collocation</li> <li>• Conditions of unbundling</li> </ul>
	<b>Customer access</b>	<ul style="list-style-type: none"> <li>• Policies that determine the ease of switching to preferred service provider</li> </ul>	<ul style="list-style-type: none"> <li>• Numbering plan</li> <li>• Number portability</li> <li>• Call-by-call selection</li> <li>• Carrier pre-selection</li> </ul>
	<b>Universal service</b>	<ul style="list-style-type: none"> <li>• Policies that support universality requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Universality definition</li> <li>• Penetration targets</li> <li>• Universal service funding mechanism</li> </ul>
	<b>Performance levels</b>	<ul style="list-style-type: none"> <li>• Policies that ensure market participants meet specific performance criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Service quality targets</li> </ul>

Source: McKinsey

In wireless, there are still some important regulatory issues that need to be addressed, although the change will not be as dramatic as in wireline. National roaming, an interconnection regime among operators, and number portability stand out as the elements that would most effectively boost the productivity in the sector – by increasing output and by leveraging capital investments better.

The intent of these reforms is to create high competitive intensity that maximizes the efficiency of capital and labor inputs, and results in higher output through a broader range of customer services at lower prices. The intended effect will only be complete when independent regulatory authorities are fully empowered by the judicial system to make binding decisions.





## Electricity

Turkey's electricity industry displays many, but not all, of the productivity shortcomings one would expect in a sector principally composed of state-owned monopolies. As in other developing markets, electricity in Turkey is a fast growth industry, relatively immune to macroeconomic volatility; in meeting the output demands, the government and managers of the key institutions themselves have achieved industry-wide total factor productivity (TFP) at three-quarters of US levels. The business is very capital intensive and, for the most part, Turkey has managed capital productivity satisfactorily as it has met the growth requirements. However, labor productivity has been very weak in both generation and in transmission and distribution as managers of TEDAŞ and TEAŞ, lacking full bottom line incentives and/or unable to resist political influence, have allowed the build-up of excess labor (Exhibit 1).

The textbook solution to improving productivity in such a monopoly setting is to liberalize and privatize, and, indeed, Turkey is moving rapidly in that direction. However, with the goal to optimize the balance among the objectives of substantially reducing end-user prices, ensuring security of supply through future private sector investments and receiving substantial proceeds from the disposition of state assets, the right solution for Turkey must be a great deal more refined. The best balance for Turkey will only emerge from the agreement of all relevant parties to the desired combination of outcomes, followed by the development of a robust and fact-based regulatory framework that will allow a staged process over time.

State institutions dominate the electricity sector in Turkey. The state-owned monopoly, TEAŞ<sup>1</sup>, controls more than 80 percent of generation capacity and nearly the entire transmission network. Another state monopoly, TEDAŞ, is the dominant distribution company, distributing more than 90 percent of electricity consumed. So far, efforts to attract private sector players into the industry have proven to be ineffective. Limited private sector participation in generation consists mainly of electricity production for own consumption (i.e., auto-producers) and of independent power producers with guaranteed sales to the state. In distribution, the private sector is present only in Kayseri and in certain areas of some southern provinces.

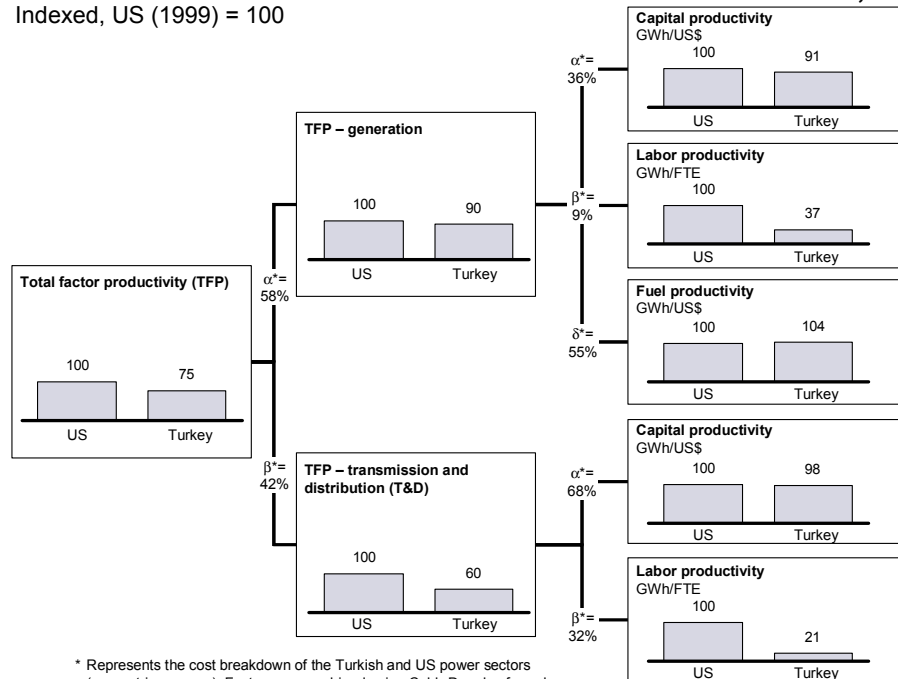
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<sup>1</sup> Recently split into three companies namely, TEİAŞ (transmission), TETAŞ (trade), and TEÜAŞ (generation)

Exhibit 1

**TOTAL FACTOR PRODUCTIVITY IN THE ELECTRICITY SECTOR, 1999**

Indexed, US (1999) = 100



\* Represents the cost breakdown of the Turkish and US power sectors (geometric average). Factors are combined using Cobb-Douglas formula  
 Source: McKinsey US Energy Practice; TEAŞ; TEDAŞ; MGI analysis

In both generation and transmission and distribution, excess labor accounts for all of the TFP gap between current productivities and potential productivity in Turkey. Although Turkey’s labor productivity potential is substantially lower than the US in transmission and distribution, the remainder is unachievable, as it is caused by uncontrollable factors such as low electricity consumption per capita. Therefore, a significant portion of the productivity gap versus the US, and all of the difference versus potential could be closed if the labor inefficiencies attributable to state ownership were remedied.

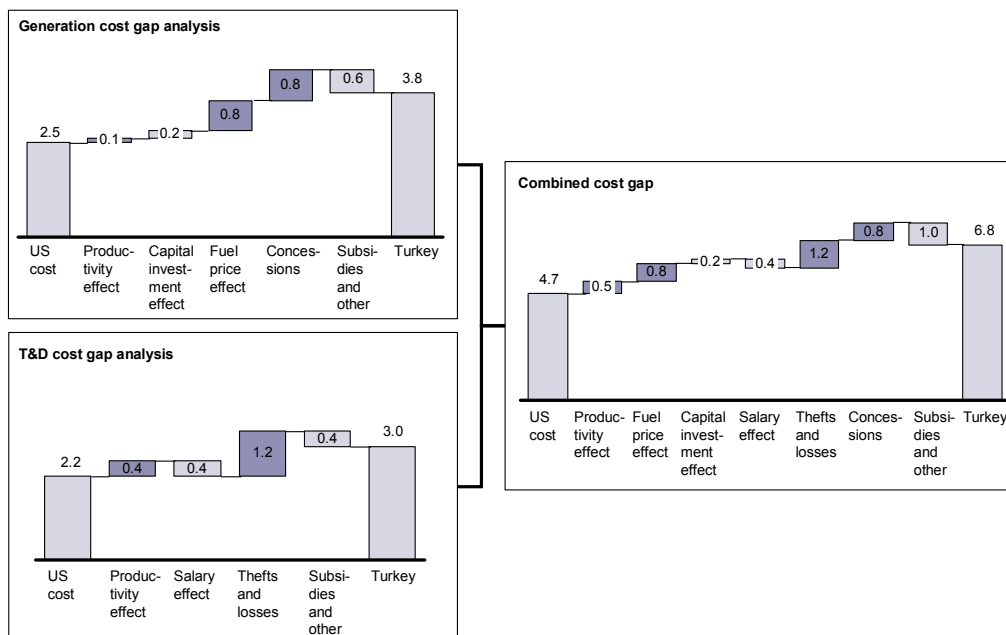
But, one of Turkey’s major challenges today is that end-user prices are very high – as much as 45 percent above US levels. Productivity shortfalls account for only about 15 percent of the difference. Factors such as thefts and losses in distribution, purchase guarantees given to independent power producers at very high prices and unit input fuel prices all play significant roles in Turkey's high end-user prices (Exhibit 2). All must be considered along with productivity performance in charting a course for the future.

Turkey is on the verge of liberalizing its power industry, with the aim of reaching multiple goals – high privatization proceeds, increased generation investments, and reduced prices through competition – in tandem. Rapid privatization of state assets is intended to be the primary axis for achieving the entwined objectives. However, given Turkey’s starting point, there is a serious risk that the result will be to fund Treasury’s immediate needs, but at the expense of securing a sustainable energy source at fair prices. Turkey must more fully take into account

Exhibit 2

**END-USER PRICE COMPARISON: US VS. TURKEY, 2000**

US¢ per kWh



Source: TEAŞ; TEDAŞ; McKinsey US EPNG Practice; MGI analysis

the potential offsetting effects of rapid privatization: at a minimum, the impact on end-user prices, but also the establishment of a regulatory regime that attracts a sufficiency of new investment in time to ensure a continued match of supply and demand.

And yet, pursuing all goals simultaneously may lead to accomplishing none. Across the world, in developing and developed economies alike, there are more failures than successes in the course of liberalization. Brazil has faltered badly, exemplifying the perils of trying to pursue multiple goals with equal priority. The UK, on the other hand, appears to enjoy the most liberal power market, but only by proceeding in stages and only after 15 years of continuous adjustment and fine-tuning.

The answer lies in borrowing one fundamental precept from other countries' experiences: Clarify the relative importance of competing goals and then manage the process in increments, taking only those decisions in each phase that are necessary to sustain momentum toward the desired end state. And, the key to sorting through frequently offsetting goals is to ensure the full involvement of a wide range of relevant institutions and policymakers, all working from a common base of rigorous and fact-based analysis.



## Retail Banking

Beyond the other challenges it faces, particularly since Turkey's most recent financial crisis, the retail banking sector has been a disappointment in productivity terms. The industry has been fully liberalized since the late 1980s, there are many domestic competitors, including a substantial number of reasonably sized private banks, and the industry has attracted some of the best managerial talent in the country. Still, productivity levels are less than half those in the US. As explanation, in many respects the sector illustrates the most damaging effects of macroeconomic and political instability, which, combined with a large government-owned presence in the industry, has dramatically reduced the intensity of focus on productivity in core operations. This affirms the need to reduce economic volatility and to privatize the state banks. However, it also underscores the requirement to enshrine aggressive productivity improvement targets throughout the state bank privatization process.

Since the early 1990s, until the financial crisis in early 2001, retail banking in Turkey has been characterized by two distinctive attributes: high growth, driven to a large extent by new products and services, and exceptional profitability. Loans and deposits grew at over 10 percent per year, credit card growth exploded at 40 percent per year, and the number of branches increased by 20 percent in the decade. And, profitability – measured as average return on assets – was consistently 3 to 5 times higher than norms in most OECD countries.

And yet, labor productivity in Turkish retail banking has badly lagged that in benchmark countries. Across the total sector, productivity is at only 42 percent of US levels. Importantly, while it is below 40 percent in state banks and small/medium banks, it is only 55 percent of average US levels in large private banks (Exhibit 1). Further, the overwhelming source of the productivity gaps across all banks is weak organization of core functions and tasks in all key output areas: payment mix, payment transaction workflows, management of ATM and POS networks, product bundling, and loan processing (Exhibit 2). In addition, productivity in state banks suffers from the fact that two of the three banks still do not offer alternative delivery channels to reduce use of branches, which are the most labor-intensive means to serve customers.

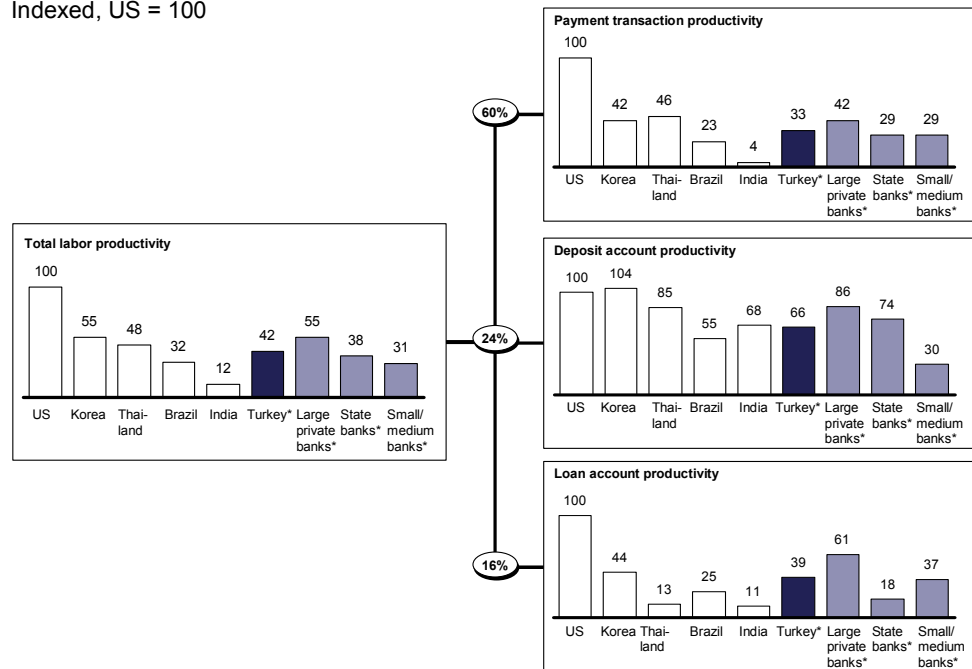
The Turkish retail banking system's profitability then, has not come by way of productivity gains in core operations. Nor is it accounted for by excessive prices charged to retail customers. Rather, as is now well documented, until the onset of the 2001 financial crisis it stemmed principally from treasury operations – lending

Exhibit 1

**RETAIL BANKING PRODUCTIVITY COMPARISONS**

Indexed, US = 100

○ Share in retail banking employment



\* 2002 figures

Source: Banks Association of Turkey; Interbank Card Center; MGI analysis

to government at high real interest rates and carrying open foreign exchange positions.

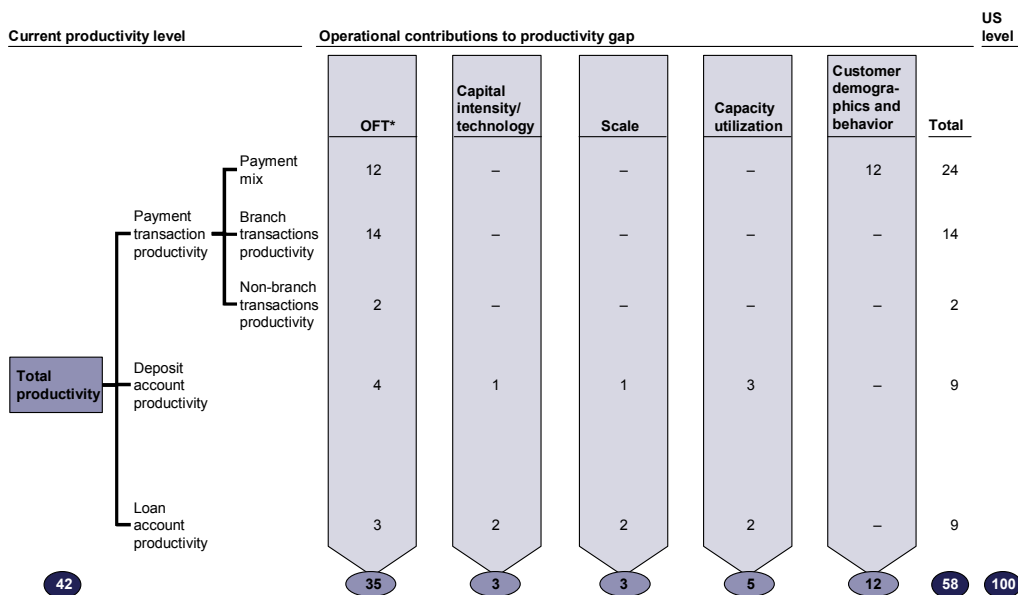
The distorting effect of high real interest rates is thus particularly evident in this sector. Given the fact of high rates, owners and managers made a perfectly rational choice in putting most of their time and attention against managing treasury decisions, rather than improving labor productivity. Exceptional profits validated these decisions. And yet, this source of profits has nothing like the positive effect on overall economic growth that basic productivity improvements would have. There is, as well, another distortion: the penetration of global banks in the Turkish market has been far lower than might be expected given the size of the market and the relative regulatory freedom. Since the preferred route to entry would almost certainly be acquisition of local Turkish players, exceptional treasury profits have simply made acquisition prices too high. As well, in an unstable environment, foreign banks have been uncertain as to how much leverage they can achieve from their core operational skills. The net result is that the intense competition that would be fostered by the presence of world-class institutions has been largely muted in Turkey.

The productivity weakness in state banks is fully consistent with the fact of government ownership. Managers lack the incentive to improve productivity, capital constraints have limited investments in necessary technologies, banks are overstaffed with workers who have lifetime employment guarantees, and state banks have extra social obligations – e.g., retirement salary payments,

Exhibit 2

**IMPACT OF OPERATIONAL FACTORS ON OVERALL PRODUCTIVITY**

Indexed, US = 100



\* Organization of functions and tasks

Source: MGI analysis

management of deposit accounts for some state institutions – that they fulfill inefficiently. Since state banks account for almost 50 percent of employment in the sector, these shortcomings represent a major drag on total sector productivity.

With respect to solving productivity weaknesses in the private banking sector, the fallout from the 2001 crisis and the comprehensive response from the government and from regulators will go a long way to provide the needed incentive for banks to re-focus on efficiencies in mainstream elements of the business system. Needless to say, a regime of high real interest rates would continue to threaten the system with distortions; however, even then new accounting regulations and reporting rules would help substantially to redirect attention from treasury income to core profitability. With respect to state banks, the need is manifest to sustain current efforts to privatize as soon as possible. However, it is also very important to insure that, in the event the government retains a significant influence on bank management for at least an interim period, strong pressure for productivity gains is built in throughout the privatization process.

Comparatively, the retail banking sector will not be a large source of new employment in Turkey; only if the full growth potential of the Turkish economy is achieved will output growth in the sector be high enough to create a meaningful number of new jobs. However, a sector that is successfully reoriented to operational excellence and which derives attractive rates of return from delivering superior services at fair prices will be an indispensable part of reaching Turkey's overall growth potential.





## FMCG Retail

When Turkish policymakers address the barriers to productivity central to the fast-moving consumer goods<sup>1</sup> (FMCG) retail sector, they will be tackling the two most important factors affecting productivity in the economy overall and, potentially, they will be stimulating a ripple effect that should catalyze improvements in a broader slice of GDP.

FMCG retail is a large and rapidly growing sector, with a pivotal role as the final link in a long value chain going back to agriculture. Major growth over the past 6 to 8 years has attracted new and modern players and has begun to transform the sector (Exhibit 1). However, traditional players still dominate sector employment, supported largely by the informality with which they operate, and their productivity levels dramatically lag those of modern players in the industry. As well, though, even today's modern players have not approached their productivity potential, as they have been deflected by the non-operating income available in a high interest rate environment. And so, FMCG retail offers the prototype challenge for what Turkey needs to do to meet its overall modernization challenge: it needs to accelerate the transition of the traditional segment to modern operations while enabling the competitive intensity that will oblige all modern players to achieve their productivity horizons.

Although modern FMCG retailers have grown rapidly, to the point that they now account for 28 percent of turnover, they only employ 12 percent of the labor in the sector. The balance is employed in owner/operator groceries, open bazaars, and other very small formats. These traditional retailers offer a very thin range of products, often at prices as much as 30 percent higher than modern formats. On a level playing field, even though these traditional operators can offer some service advantages, they will go out of business very quickly in the face of superior offerings from more productive modern retailers.

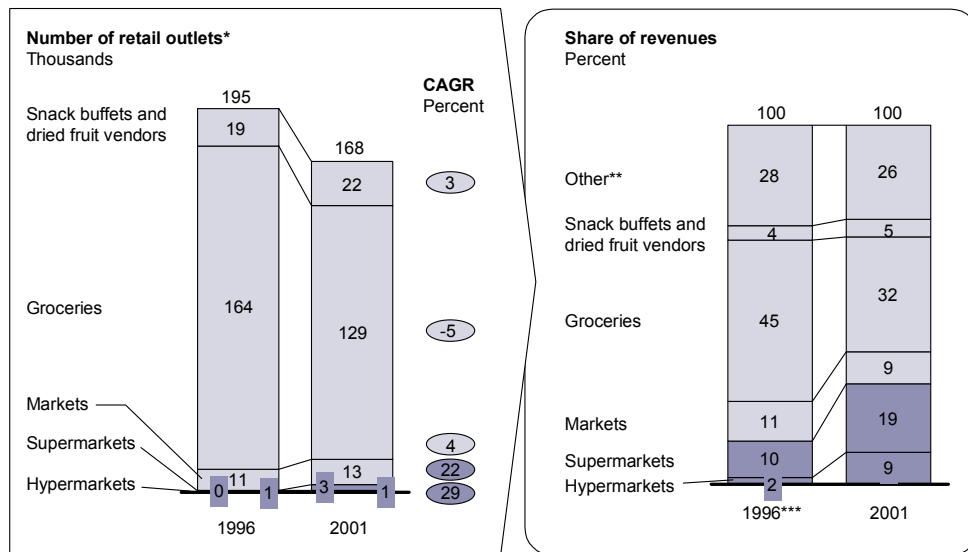
However, the playing field is not level. The vast majority of traditional entities operate with a high degree of informality, evading value-added tax (VAT) and income tax payments as well as social security costs. The value of these cost savings is often just enough to make the difference between going out of business and surviving at a subsistence level. It is also often just enough to dissuade informal retailers from taking the steps that are open to them to modernize their businesses, since modernization must be accompanied by formal approaches.

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<sup>1</sup> FMCG products are typically consumable non-durables and light durables. The simplest and broadest definition would be “the range of products found in a hypermarket.”

Exhibit 1  
DEVELOPMENT OF FMCG RETAIL SECTOR

Modern trade



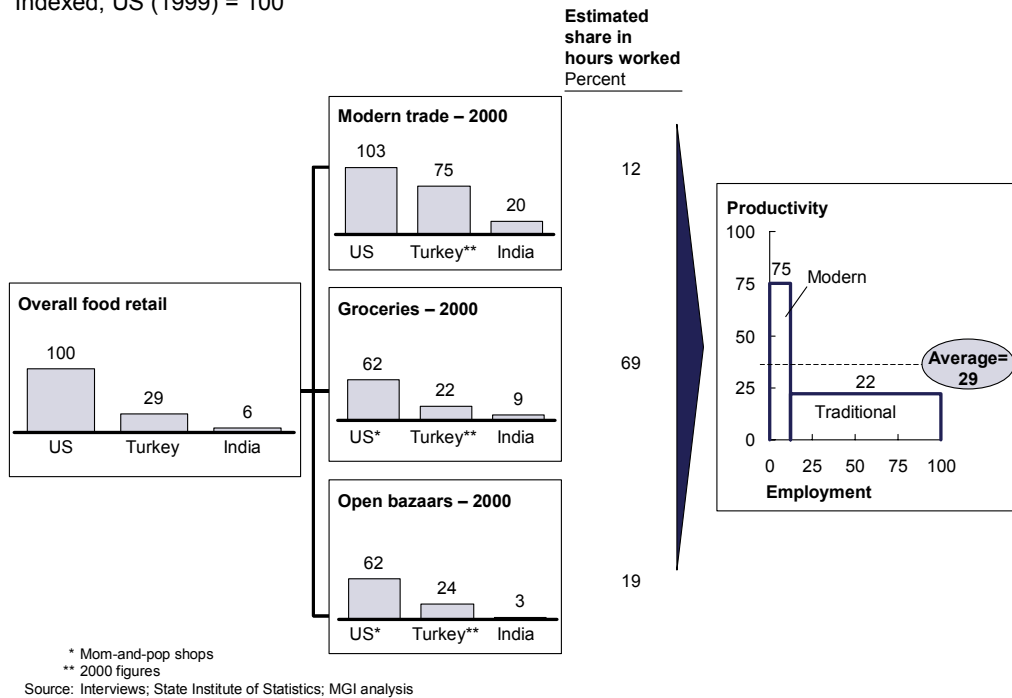
\* Excluding open bazaars and specialized stores (e.g., green grocers, butchers)  
 \*\* Including open bazaars and specialized stores (e.g., green grocers, butchers)  
 \*\*\* For 1996 turnover estimation of others (unaudited markets by Nielsen), the following assumptions are made: specialist store turnover is contracting in line with groceries, open market sales are maintaining their share of total revenues

Source: AC Nielsen; MGI analysis

In productivity terms then, by staying in business or at least delaying their exit, these informal operators substantially depress productivity in the total sector. They do this in two ways: first, with labor-productivity levels only one-half of their potential, but employing almost 9 out of every 10 workers, these retailers themselves account for one-third of the productivity gap in the sector. Worse, by staying in business and staying unproductive as well, they divert throughput from modern competitors who operate at productivity levels three-and-a-half times higher; this accounts for another 40 percent of the gap. When the improvement potential available within modern players – largely through better organization of functions and tasks and improved marketing techniques – is added to the mix, the sector’s total productivity benchmarks at only 29 percent of US levels (Exhibit 2).

Policymakers must not be confused: there is ample room in a developed economy for productive, small, independent retail operators. The US offers compelling evidence of just that. Looking ahead then, Turkish policymakers’ principal challenge is to modernize today’s traditional segment. The “carrot” can be a wide range of technical and financial assistance programs, patterned perhaps after the extensive models available in the European Union. These can lead to the new ways of doing business productively that characterize developed markets – e.g., operating under a common purchasing and logistics umbrella, franchising, and the like. The “stick” should be the strict enforcement of existing tax and labor laws.

Exhibit 2  
**FMCG RETAIL LABOR PRODUCTIVITY**  
 Indexed, US (1999) = 100



No policy changes are required to encourage the further development of more productive approaches by today’s, and tomorrow’s, modern players. Turkey can achieve that by creating a stable macroeconomic setting, thus removing the opportunities that have allowed retailers to make substantial “unearned” profit from cash cycle management and obliging them to make core operations more productive in order to deliver acceptable returns.

Achieving the transition matters a great deal to Turkey. In the sector alone there is potential to create more than 400,000 new jobs in the next 10 years or so (many of these jobs may be filled by current traditional owner/operators who can not make the transition themselves, but who will become economically more secure as employees). More formal operations in the downstream retail sector will oblige more formal operations upstream in the processing sectors that use these channels, helping productivity to expand in a large portion of the economy overall.



## Residential Construction

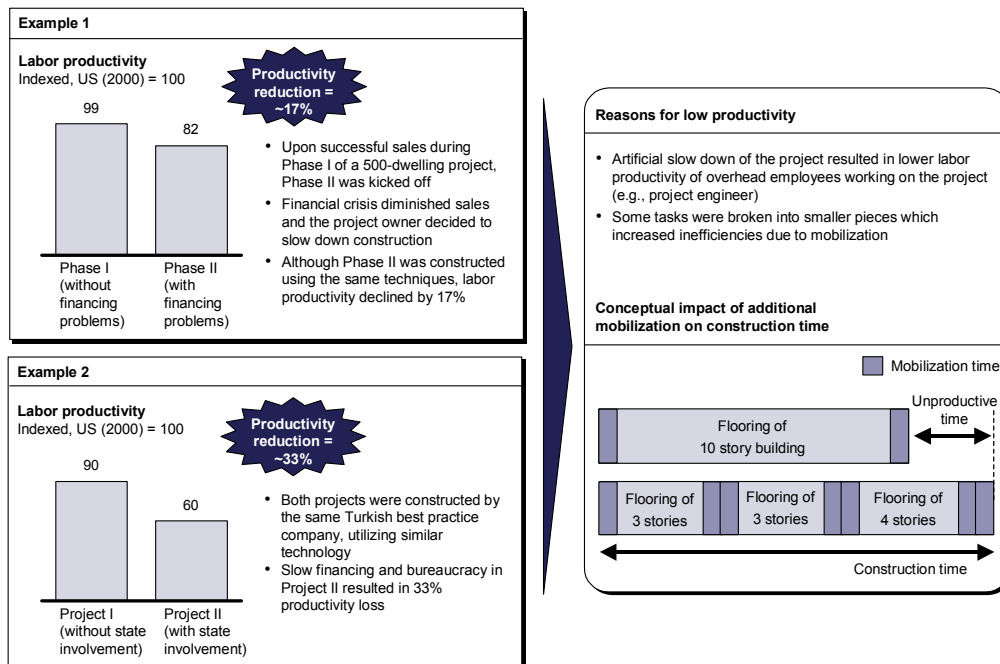
Turkish large-scale, multi-family housing (MFH) developers have adopted well the productivity lessons they began to learn in the 1980s as they competed internationally with high-quality operators. They outsource and subcontract almost all of their specialized subtrades and they have developed excellent project management skills to enable them to organize their collection of resources. To an important degree, these same skills are trickling down to more local Turkish operators. And, as Turkey endeavors to meet a housing demand level that could reach more than twice the 2000 level, it will only be able to do so by operating close to the productivity frontiers.

However, the effects of macroeconomic volatility since the mid-1990s have dramatically undermined the positive boost that the combination of substantial know-how and intense competition in the sector should give to its productivity level. Turkey can, and must, take the steps necessary to eliminate both informality and some specific land market barriers that are influencing productivity. However, it will achieve the doubling of productivity that skill levels in the sector merit only when it has smoothed the extremes in its macroeconomic cycles. In the interim, Turkey can take a positive step in the right direction by launching a real mortgage market.

Over the past two decades, leaders in the Turkish residential construction market have completed a dramatic shift from being largely integrated operators to almost full outsourcing and subcontracting. The result is that the best-in-class, aided by their ability to gain access to relatively stable funding sources, are operating at productivity levels virtually identical to their US counterparts. However, more than 60 percent of the labor in the sector is employed by traditional operators, which operate at productivity levels well short of these standards. Moreover, a further, compounding problem is that for all traditional operators – and for all but the biggest in the modernized sector as well – funding flow difficulties, driven by high real interest rates, negate many of the productivity-enhancing techniques available and known in the Turkish industry.

For example, traditional operators still make much less use of design for manufacturing (DFM) technologies than do their modern counterparts. The use of tunnel molds and pre-cast panels to enable greater standardization is rarely part of their *métier*. However, a much greater problem within the traditional segment – and particularly among single-plot MFH and large-scale single-family housing (SFH) developments financed by construction cooperatives – is the artificial slowdown of projects as a consequence of funding difficulties. These difficulties

Exhibit 1  
**IMPACT OF OFT ON LABOR PRODUCTIVITY**



Source: Interviews; MGI analysis

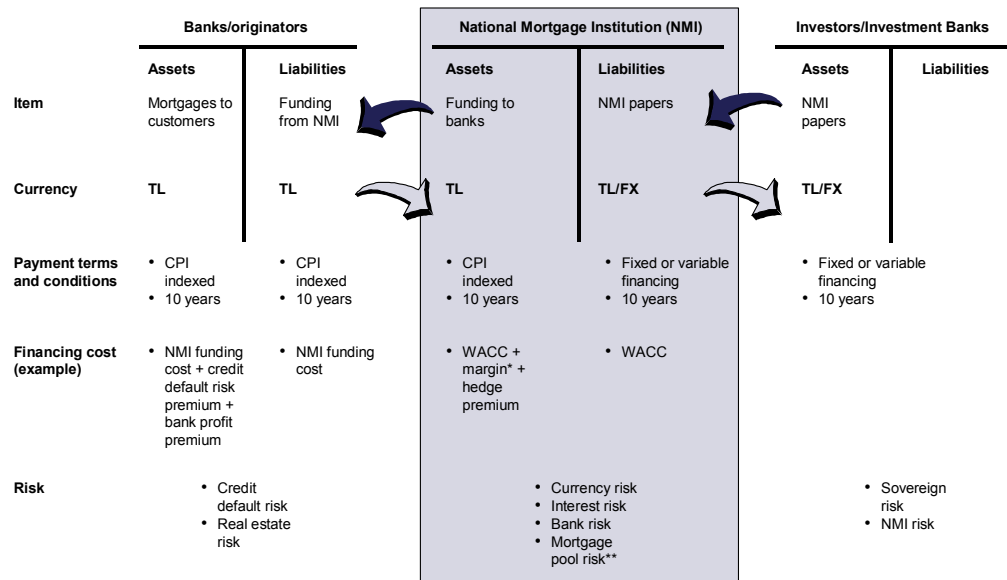
afflict the effective organization of functions and tasks (OFT). Identically scaled projects can experience 20 percent differences in productivities based on differences in workflows (Exhibit 1). And at times, even large-scale MFH and SFH operators face major project scheduling difficulties because of fluctuations in cash flows. We estimate that, all effects considered, macroeconomic instability accounts for more than 75 percent of Turkey’s total labor productivity gap in residential construction.

The advent of a well-functioning mortgage market would ameliorate many of the fund-flow challenges currently facing the industry. Enabling buyers to pay for houses entirely at the time of purchase would enable builders to build to inventory, and thereby to maximize both the benefits of scale and project smoothing. And yet, of course, the virtual absence of a viable mortgage market in Turkey is again a function of high and volatile real interest rates.

Turkey need not be a victim of this deadlock. It can kick-start a viable mortgage regime, one that would enable a significant portion of new housing to be built within the structure of assured fund flows, even while real interest rates remain high. The program would rely on the formation of a national mortgage institute (NMI) to raise long-term financing from international investors, to manage and hedge currency risk associated with asset/liability mismatch, and to regulate and supervise the mortgage market and its players (Exhibit 2). The Turkish government needs specifically to back up the NMI’s activities with sovereign guarantees to secure long-term financing at relatively attractive rates. With this

Exhibit 2

**NATIONAL MORTGAGE INSTITUTION**



\* To meet the operational cost of NMI  
 \*\* When providing mortgage-backed financing

Source: MGI analysis

regime in place, originators, principally banks, will be liberated to create products attractive to customers and to manage associated customer and real estate risks.

Eventually, Turkey will only unlock the full productivity potential in residential construction if it solves its macroeconomic volatility. It need not wait, however, to launch a viable mortgage market even as it awaits a sustained state of lower interest rates. If, at the same time, policymakers successfully tackle strict enforcement of construction codes, they will help to drive out the less-productive informal and unproductive players. Finally, if they reorganize fund flows to assign more revenue-generating responsibilities to municipalities (from the state), policymakers can provide land development incentives to municipalities. Such measures will help ensure that the forecasted, substantially increased level of housing need is converted into demand, and this demand is met by the most productive segments of the industry.

It bears repeating: the demand for housing in Turkey over at least the next decade will be enormous. If policymakers can create the right conditions, the demand can be met. And it can be met with a high level of productivity that, due to the sector’s large size, will contribute substantially to overall economic growth, while creating over 100,000 new jobs just within the sector. If the government fails to get macroeconomic volatility under control – and if it does not ensure the creation of a mortgage market that covers at least a substantial portion of demand – then it is at risk of both failing to deliver one of the basic needs of its growing population and of constraining an important source of productivity growth in the economy.





## Dairy Processing

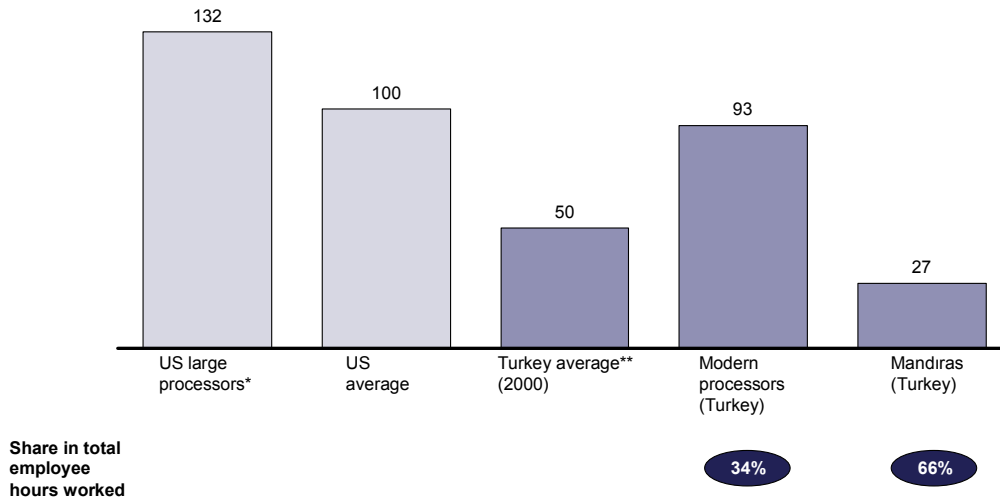
The dairy processing industry's most important role in the transformation of the Turkish economy may be as the gauge by which to measure the modern manufacturing sector's pace of development. Dairy processing is an important component of the broader food processing sector and is also one of the sectors that best illustrates the bi-modal nature of the economy. Although Turkey's modern dairy processors are quite productive by benchmark standards, they still control much less than 50 percent both of raw milk processed and of employment. The remainder is accounted for by traditional operators, the mandiras. Thus, since mandiras – while controlling a major share of sector production and employment – are only a fraction as productive as their modern counterparts, they drag down total sector productivity to only 50 percent of the US level (Exhibit 1). Policymakers' ability to solve the challenges of informality among mandiras, and in the closely related retail sector downstream, will dictate the pace at which overall sector productivity rises.

The modern segment of the Turkish dairy processing industry has been developing steadily for at least the last decade; however, it still has much room to grow before it assumes the dominant role in the sector. Modern processors operate automated, large-scale milk processing plants. They steadily introduce new, higher-value-added products to consumers who are gradually expanding their taste preferences. Mandiras, on the other hand, are traditional milk processors with very small-scale, labor-intensive processing facilities and informal operations. They tend to stay focused on a limited range of basic milk, butter, cheese, and yoghurt/ayran products.

The two segments of the dairy processing industry perform differently in productivity terms. Modern processors' performance – with labor productivity the measure – is at about 93 percent of US levels. On the other hand, mandiras have only one-third the productivity of modern processors.

In the face of superior product range and quality offered at good prices by productive modern processors, mandiras survive by evading social security and tax obligations and by not adhering to sanitary standards. This creates cost advantages that are as great as 20 percent compared to players who honor their obligations – an amount sufficient to keep many mandiras in business much longer than they would otherwise be able (Exhibit 2). They are aided significantly by the fact that 70 percent of the food retail distribution system also operates informally and willingly serves as the key distribution channel for their products. On the

Exhibit 1  
**LABOR PRODUCTIVITY IN DAIRY**  
 Indexed, US (1997) = 100



\* Processors with more than 250 employees  
 \*\* Calculated based on weighted average of bottom-up company data  
 Source: Goskomstat; US Census of Manufacturing; OECD; MGI analysis

demand side, consumers’ low level of knowledge about hygiene further aids mandıras to find markets for their sub-quality products.

The Turkish dairy processing industry has significant potential to improve its productivity. One vehicle is to modernize the traditional sector by obliging mandıras either to upgrade and operate formally or to exit, leaving volume to those players who will so operate. The other vehicle is productivity improvements by the modern processors, mainly through increasing capacity utilization rates, which are currently very low. Completing the loop, these low capacity utilization rates are partly a result of capacities developed by modern processors in anticipation of capturing sales from the traditional segment.

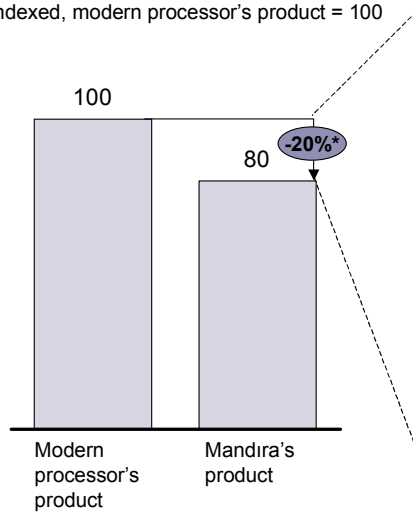
It is only possible to foster the development of the Turkish dairy processing industry by ensuring both that an increased share goes to modern processors (including those who make the transition from traditional operators) and that the mandıras that stay in business are those that have modernized and improved their productivity. Policy change has a major role to play in improving productivity in this sector by enforcing regulations that create the level playing field that will enable this shift.

A developed dairy processing industry will not only create more than 70,000 new jobs by 2015, but also will supply healthier and cheaper products to consumers as a result of increased output and productivity.

Exhibit 2  
**COST ADVANTAGE OF MANDIRAS DUE TO INFORMALITY**

**Retail sales price**

Indexed, modern processor's product = 100



Key differences due to informality		
	Breakdown of informal advantage	
	Percent	Comment
Raw milk cost	25	<ul style="list-style-type: none"> <li>Not adhering to legal levels of milk solids in dairy products (less raw milk per product weight)</li> </ul>
Labor cost	40	<ul style="list-style-type: none"> <li>Evasion of social security obligations</li> <li>Evasion of minimum wage</li> </ul>
VAT	35	<ul style="list-style-type: none"> <li>8% VAT evasion</li> </ul>

\* There are also other factors (e.g., scale, sub-distributor costs) which favor modern processors and get the cost advantage to 20 index points  
 Source: MGI analysis



## Confectionery

The confectionery manufacturing sector in Turkey illustrates the importance of modernization and downstream development in the health of an industry's competitive dynamics and productivity. With the traditional segment dominating employment in the sector, with a few domestic players dominating retail shelves, and with stiff barriers to entry for global best practice competitors, the industry faces a significant gap between its current productivity level and its potential. Policy changes to encourage modernization and promote competition (especially from global players) would help to address this gap. Players would then, alternatively, adapt operational practices to compete more effectively, face acquisition, or exit the industry.

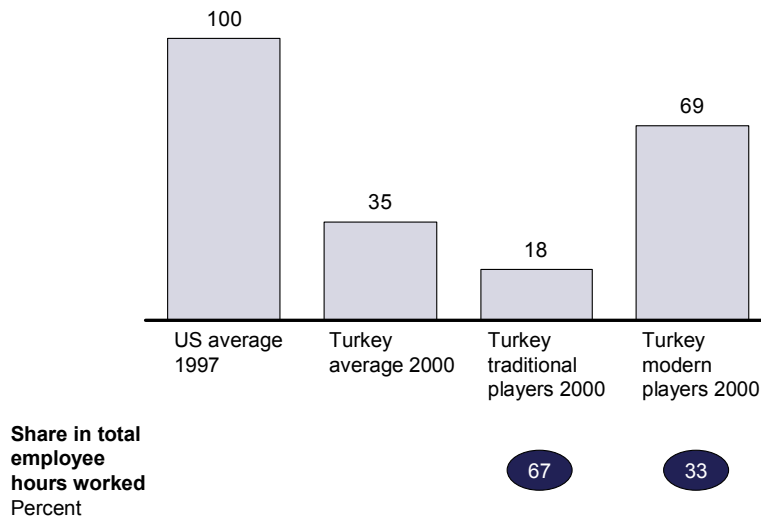
At one level, the domestic market in confectionery manufacturing is more concentrated than many other food processing sectors. The leader provides for almost half the domestic market and the next three players share another quarter; all are domestic companies. However, the balance of the market is then strikingly fragmented: some 350 companies produce biscuits and related products, chocolate and chocolate products, candies, and chewing gum. The most relevant consequences of this fragmentation are that the average scale of operations is low, investment in automation lags what it should be, and capacity utilization is well below 50 percent. In short, productivity suffers just as one would expect.

To a large degree this fragmentation is rooted in recent history. In the early and mid-1990s, Turkish confectionery manufacturers discovered a very large Russian market and the exports of confectionery items to Russia boomed, bringing a rapid increase in sector capacity. The industry continued to expand until 1997, when the Russian crisis hit. Some of the small-scale, low-automation players shut down their plants and some others were bought by the bigger, more powerful players, but a large proportion still remains. In fact, traditional operators index at only 18 percent of US levels, contributing greatly to weak total sector productivity (Exhibit 1).

And yet, modern processors too are mediocre in productivity terms: they index at only 69 percent of US levels.

Why is industry consolidation not taking place more quickly, rapidly reducing the number of small, unproductive operators? Why do modern processors not more closely approximate their US counterparts in an industry that is not so capital intensive, and in which skills requirements are relatively low? The common

Exhibit 1  
**TURKISH CONFECTIONERY LABOR PRODUCTIVITY**  
 Indexed, US (1997) = 100



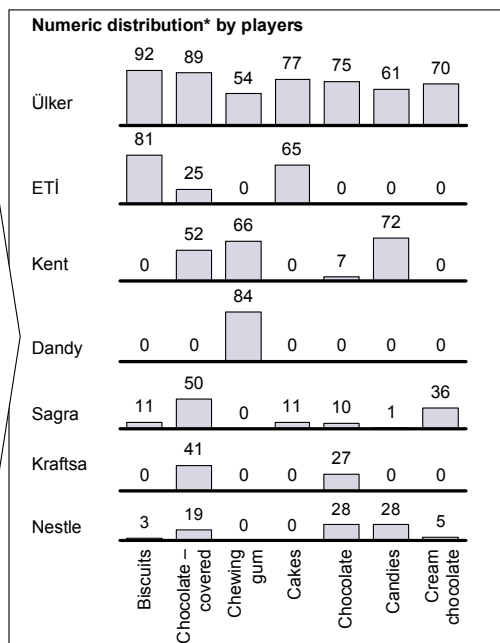
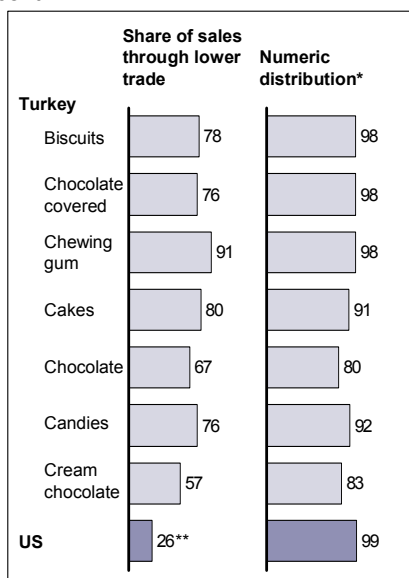
Source: Company interviews; State Planning Organization Sector Reports; MGI analysis

denominator is lack of competitive intensity. On the one hand, a vast majority of confectionery manufacturers operate informally, staying in business through the evasion of taxes and social security obligations, resisting acquisition in the relatively rare instance it is offered, and destroying overall capacity utilization. They are in the market but they do not push the market leaders. On the other hand, the structure of the retail food distribution channel and the skillful way in which modern processors manage their relationships within that channel make it very difficult for all but the one or two largest players in any product subsector to get their products shelved (Exhibit 2). The net result is a market comprising many players with none obliged by competitive dynamics to maximize productivity.

In other sectors and in other countries, international best practice operators significantly increase competitive intensity. Indeed, in developing or recently developed markets, such as Portugal and Malaysia, global companies account for from 25 to 45 percent of confectionery sales. In Turkey they account for only 6 percent. One barrier is the distribution channel dynamics described. Another is indirect tariffs and import-related costs, which can add as much as 38 percent to the cost of an imported product. In combination, these two factors make it very difficult for international players to secure trial and distribution of products that have proven to have strong consumer appeal elsewhere.

Exhibit 2  
**COMPETITIVE ENVIRONMENT – IMPORTANCE  
 OF DISTRIBUTION COVERAGE**

Percent



\* Percentage of retailers who have the respective product

\*\* Sales through convenience stores and vending machines, which are not lower trade but impulse purchase product sellers

Source: AC Nielsen Zet

Increasing the level of competition and ensuring pressure from global best practices would foster major improvements in the productivity performance of the sector over time. At the same time, enforcement of tax, social security, and plant hygiene obligations for traditional manufacturers would expedite the removal of the non-level playing field that exists in the sector. The results would be a dramatic increase in competitive intensity and a rapid transition to more productive performance. The traditional manufacturers would either increase productivity or leave the industry, and greater output would flow through modern processors, themselves more compelled to be productive.





## Apparel

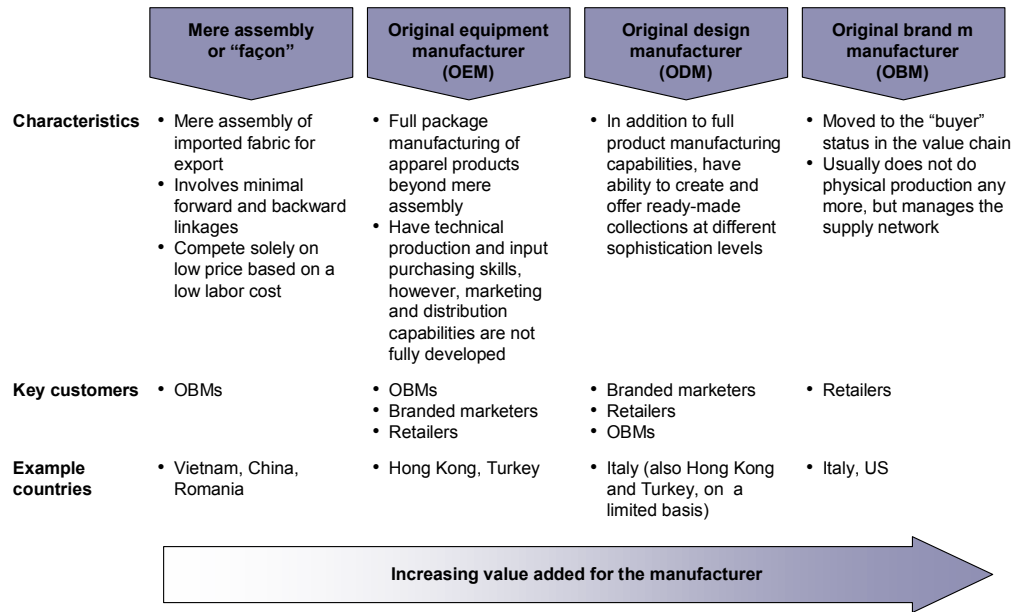
There are no meaningful barriers to productivity growth in this, one of the biggest industries in the Turkish economy. Operators have evolved to create an effective original equipment manufacturer (OEM) segment that has helped triple apparel exports in the past decade - apparel now accounts for more than 20 percent of Turkey's total export volumes. As, or more, significant, Turkey has become the biggest non-EU apparel exporter to EU countries, securing an important role in one of the most demanding apparel markets in the world. Manufacturers have managed this in part by controlling the input side of the productivity equation – principally labor - increasingly effectively. The shortfalls that still exist appear mainly to be a function of priorities, not of barriers, as Turkish operators focus mainly on immediate volume growth opportunities. However, there is substantial potential for productivity growth through successfully managing the output side of the equation – that is, creating greater value-added by creating more brand equity to a “Made In Turkey” image. In this respect there may be a role for government to assist the industry.

Following trade liberalization in the 1980s, the era of rapid growth in apparel began. Beyond liberalization within Turkey, several other factors also contributed to expansion. First, Turkey benefited from the migratory nature of the apparel industry, characterized by rapid shifts of production across regions/countries in search of the lowest-cost labor. Proximity to major markets, in particular the EU, also bolstered growth. Finally, after the collapse of the Soviet Union and the resulting trade liberalization in ex-Soviet and Central and Eastern European countries, demand from these markets helped to boost Turkish exports.

It is a global business and global rules dictate the results for Turkish manufacturers. First, the apparel value chain is a buyer-driven commodity system. Second, distribution of value among the various players in the chain is determined by the contribution each makes to the brand equity of the final product sold. Put another way, the less skilled an operator is beyond handcrafts (e.g. sewing), the less value it captures in the global value chain. An OEM that can create a good replica from a design created elsewhere captures more value than an assembler (façon); however, an original design manufacturer (ODM), which can create and offer new designs to distributors, captures yet more value than the OEM, and an original brand manufacturer (OBM), selling its own brands, captures more again. Turkey has evolved to the OEM stage, with a few pioneer ODMs (Exhibit 1).

The benchmark for Turkey's aspirations should be Italy, where many successful ODMs and OBMs operate and where the art of creating superior brand equity that

Exhibit 1  
**SEGMENTATION OF PLAYERS IN THE APPAREL PRODUCTION VALUE CHAIN**



Source: G. Greffi, "International Trade and Industrial Upgrading in the Apparel Commodity Chain," 1999; interviews; MGI analysis

is reflected in output value-added has been raised probably higher than anywhere in the world. And, in terms of physical productivity, Turkey is performing quite well compared to Italy. Its OEMs and the few ODMs benchmark at about 70-75 percent of their potential in terms of physical output. However, Italian producers create from 10 percent (OEMs) to as much as 25 percent (ODMs) further value-added through the fact that: a) their products are, in any event, Made In Italy; b) at the highest rung of the ladder, OBMs can design products for their own distribution that command the highest prices (Exhibit 2).

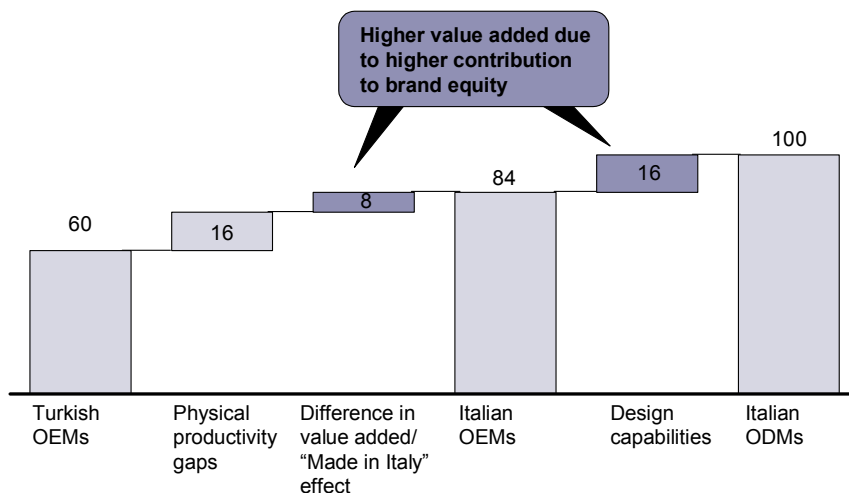
It is the absence of a Made In Turkey equivalent that might most stand between Turkish manufacturers and the achievements of their Italian counterparts. Yes, physical productivity is still below Italian standards, but there are no barriers to lifting it and the skills are there to do so once it becomes a priority for continued export growth (informality is prevalent in Turkish apparel, mainly at the façon level but, since all upstream functions are outsourced by OEMs/ODMs to the façons, it does not create a non-level playing field within Turkey itself). In fact, neither are there specific barriers to development of Made in Turkey value-added, and many buyers for sophisticated global apparel retailers would welcome just such an occurrence.

At this point, the only relevant question for policymakers is, "Is there a role for the government in assisting the industry to enhance the value of the Made In Turkey label?" There are examples on both sides of the debate: In the Portuguese shoe industry, the industry has made major strides on its own; in Hong Kong, the

Exhibit 2

**APPAREL LABOR PRODUCTIVITY AND OPERATIONAL GAPS –  
TURKISH OEMs VS. ITALIAN ODMs**

Indexed, Italy (2002) = 100



Source: Interviews; Incon; MGI analysis

government has taken a leading role in raising the profile of its apparel industry. Either might be right for Turkey, but so far there have only been fragmented efforts, none of which has had major impact to date. The potential is clear, efforts from here should be restarted with a thorough and comprehensive program to align objectives and define roles and responsibilities.



## Automotive Parts

In many respects, automotive parts manufacturing in Turkey serves as a standard-bearer for the power of competitive intensity, coupled with a relative absence of market distortions, to create high levels of productivity and growth in a sector. For those industries in which Turkish companies have the potential to play a significant role in global supply configurations, it also illustrates well the forces that have to be in place in Turkey for sector participants to fulfill that destiny.

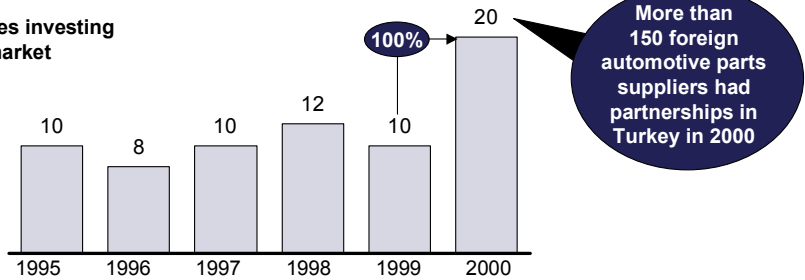
Following the completion of the Customs Union Agreement in 1996, automotive parts exports have grown at a rate in excess of 12 percent annually and total employment in the sector has risen significantly, even as labor productivity rates have improved substantially. More than 150 automotive parts fabricators in Turkey are joint ventures effectively positioned within European or global supply networks (Exhibit 1). This pace of development is sustainable as long as Turkey successfully addresses a small number of remaining barriers to productivity growth. Doing so will help to ensure that Turkish manufacturers continue to earn a place in those supply networks even in the face of intense competition from other emerging economies.

Current total factor productivity (TFP) in this sector is 91 percent of the US level, with the potential to increase to 127 percent of the US average. This high level partly reflects the existence of a well-developed downstream OEM sector, which in turn is competing aggressively for share of export markets. However, as this high productivity level is substantially accounted for by Turkish joint ventures with world-class global fabricators, it also reflects the fact that those international players find Turkey to be an attractive setting – both in terms of the relative absence of productivity constraints, and of the presence of a highly skilled work force. Approximately 60 percent of Turkey’s automotive parts exports are to European Union (EU) countries, indicating that Turkey also has achieved an attractive level of technological facility and quality control at competitive prices.

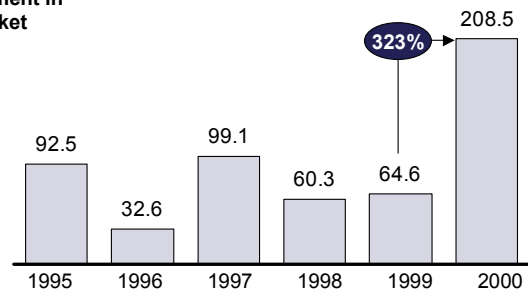
And yet, as with many sectors of the Turkish economy, productivity averages tend to mask a bi-modal effect. In this instance, a modern segment that accounts for 69 percent of total employment operates at high capital productivities, but also at labor productivities that are around 90 percent of the US average, yielding TFP almost 10 percent higher than in the US. On the other hand, a traditional segment, one that still employs 30 percent of the sector’s workforce, operates at labor productivities only slightly more than 20 percent of the US average (Exhibit 2).

Exhibit 1  
**FOREIGN INTEREST IN TURKISH AUTOMOTIVE PARTS SECTOR**

**New foreign companies investing in automotive parts market**  
 Number of companies



**Foreign direct investment in automotive parts market**  
 US\$ Millions



Source: General Directorate of Foreign Investments

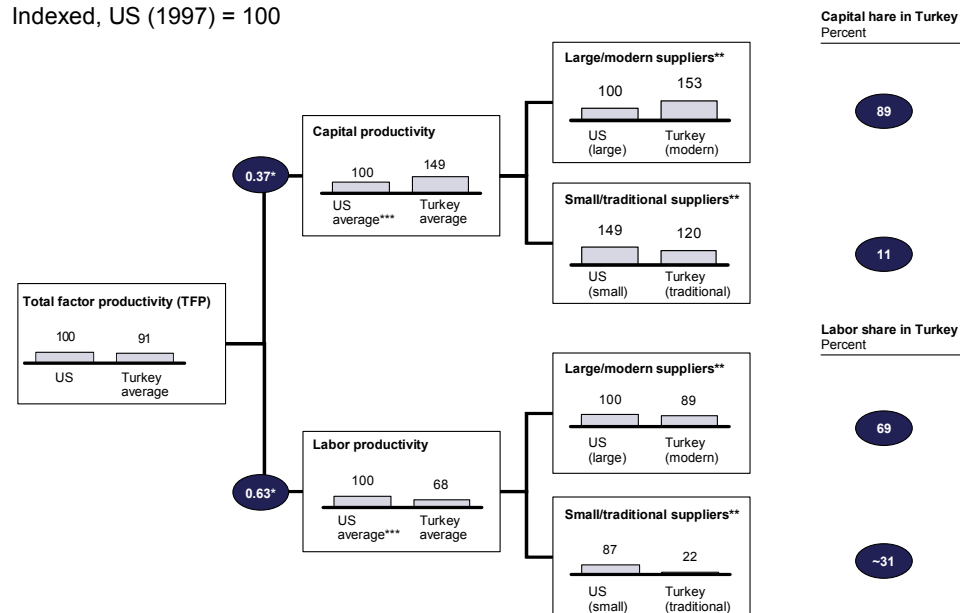
As the Turkish economy grows, and as increased wealth leads to higher wage rates for Turkish labor, the position of Turkish companies in international supply chains can only be sustained if total sector productivity in Turkey continues to grow apace and the gap between current and potential productivity is steadily closed. And there are some barriers that need to be overcome to achieve that. First, the informality that is allowing traditional fabricators to avoid modernizing, and to stay in business even with lower productivity levels, is slowing productivity growth rates substantially. By evading taxes and being able to produce and market substandard parts without penalty, informal traditional players can substantially delay the day when they are obliged to modernize. They can resist the need to invest in selected technologies for automation, avoid developing the skills required to better organize functions and tasks, stay at very low levels of capacity utilization, and continue to participate in a total supply chain that is badly organized. By staying in business longer than they should without modernizing, they both drag down today's total average sector productivity levels and constrain the flow of output to productive players, delaying productivity growth in the modern segment.

The second major barrier to productivity growth is overall macroeconomic and political instability. While performing well in productivity terms at an index of 109, modern players are still short of their potential of 127. They too experience capacity utilization shortfalls. And they also suffer from the inefficiencies created by upstream suppliers who are substantially informal and therefore lack the capability to productively mesh their logistics with those of even well-managed

Exhibit 2

**PRODUCTIVITY LEVELS OF AUTOMOTIVE PARTS SUPPLIERS, 2000**

Indexed, US (1997) = 100



\* Average annual cost for repair and maintenance is 4-6% of total revenue, and for labor is 10-14% of total revenue, resulting in an average 0.37 weight for capital and an average 0.63 weight for labor costs

\*\* Large: suppliers with more than 20 FTEs; small: suppliers with less than 20 FTEs

\*\*\* US capital share: 99.3% for large players and 0.7% for small players; US labor share: 98.9% for large players and 1.1% for small players

Source: Annual reports; interviews; US Census Report – 1997 for Brake and Brake Component Manufacturers; MGI analysis

modern players. Solving the informality problems both in the sector itself and in the suppliers upstream of the sector will substantially improve productivities for the modern players. However, if economic volatility continues, further productivity gains, even by the most advanced manufacturers, will be difficult to achieve. A continued pattern of sharp contractions and expansions will continue to distort capacity planning and utilization. Severe economic downturns will continue to push cost-conscious consumers toward substandard parts, diminishing output value added, and limiting production flow through producers that have modernized.

The need is evident: Turkey must set the conditions that will maximize the rate of productivity growth among its modern players. It must sustain its efforts to dampen economic instability, and it must succeed. It must enforce better tax collection and adherence to labor laws, thereby obliging informal operators to make a real choice: modernize or leave the business. In this same vein, it must standardize and increase awareness of product quality and safety codes, putting pressure on consumers and traditional operators alike to lift value added in the sector.

Success will have enormous payoff directly within the sector. Output has the potential to grow at as much as 8 percent per year, and there could be 170,000 new jobs in the sector by 2015 if productivity growth is fully unleashed.





## Steel

The Turkish steel sector is a work in progress as pertains to privatization and liberalization: much has been accomplished, a few important policy developments will assist the remaining transition, and important backsliding could occur if possible future consolidation is not handled well. The mid-1980s ushered in an era of greatly increased competitive intensity in Turkish steel production; privately owned mini-mills gained a strong foothold and one of the three government-owned integrated producers was privatized. Since then, competitiveness has increased further as mini-mills have continued to develop a stronger market presence, the second government-owned producer was privatized, and the abolishment of import duties on flat product has combined with worldwide overcapacity to intensify pricing pressures (Exhibit 1).

The result for Turkey has been a dramatic improvement in overall industry productivity. In 2000, steel's total factor productivity (TFP) indexed at 70 percent versus Japan, compared to Turkey's potential of 93 (which corresponds to 75 and 100 percent of US, respectively). A primary reason that overall sector performance is so high is that mini-mills, which account for over 75 percent of output but only 25 percent of employment, have a high labor-productivity rate, indexing at 133 versus the US average for the industry (Exhibit 2). On the other hand, processors in Turkey, the companies that convert semis into long products mostly for the construction industry and employing another 25 percent of the industry labor force, index at only 28 percent of the US. The reason for this dramatic discrepancy is the informality in the processor segment. It is this informality that policy must principally be geared to resolve. Actions on this front, combined with decisions that the government makes with respect to a bailout of Kardemir and/or the consequences of possible mini-mill consolidation, will most determine the rate of productivity growth in the future.

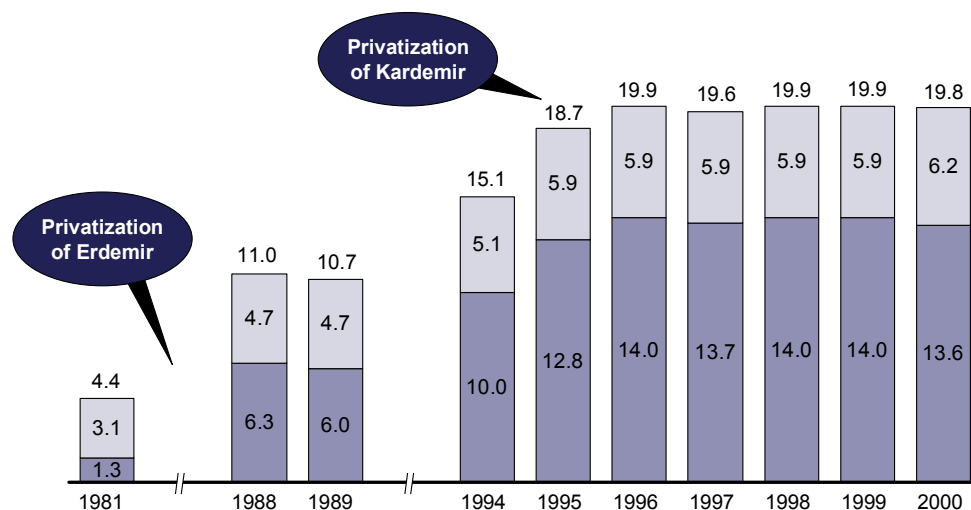
Prior to the 1980s, the steel industry was controlled and heavily protected by the government. Prices of both steel and its inputs were administered and protected by high import duties, and government-owned integrated producers were often subsidized. As of 2001, the competitive landscape has changed dramatically. The number of integrated producers has been reduced to two through effective government-led consolidation, and they now operate with private ownership. Because the investment in mini-mills has been relatively recent, it has incorporated modern technology and Turkey is now among the most productive exporters of long products in the world. At the same time, government incentives

Exhibit 1

**DEVELOPMENT OF STEEL PRODUCTION CAPACITY IN TURKEY**

Millions of tons; percent

■ Integrated producers  
 ■ Mini-mills



Source: Turkish Steel Producers Association

for new capacity, which have tended to distort market forces, have been discontinued completely.

Only two possibilities seriously threaten the continuation of this positive cycle of increased competitiveness and increased productivity: one, if processors are allowed to continue to operate informally, prohibiting the development of more modern processors and pulling down total sector productivity; and two, if any artificial barriers are put in the way of exit by unsuccessful competitors.

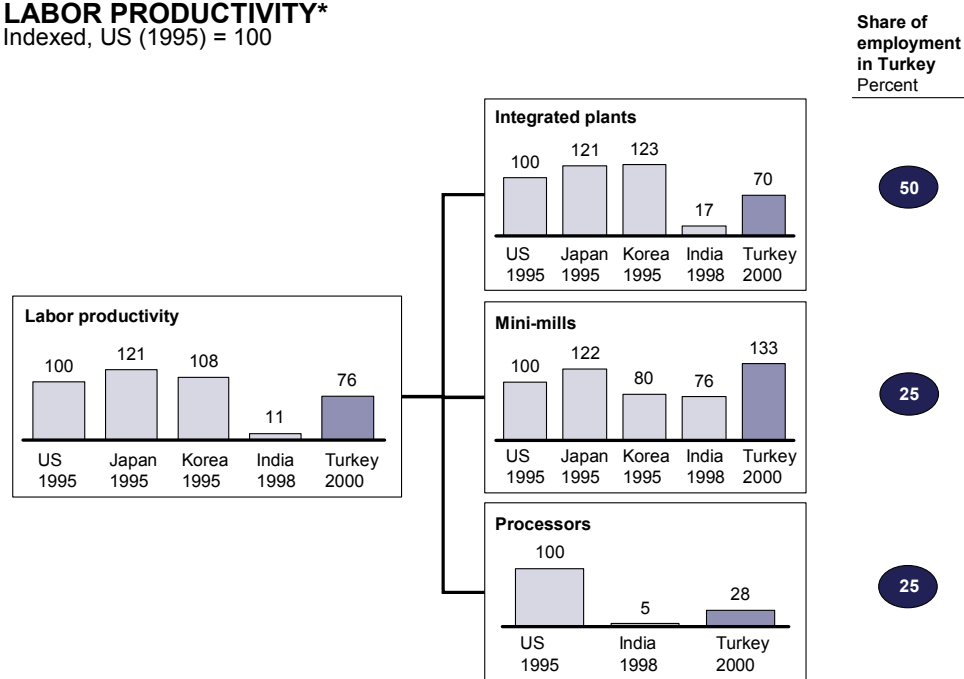
In the first instance, informality is an important phenomenon in the steel sector, just as it is in many other sectors in Turkey. Low-productivity processors use the savings they achieve from avoiding taxes and social security obligations to stay in business in the face of competition from more productive domestic players and international best practice processors who import. As bad, they rely on the sale of substandard steel to the informal part of the construction industry. Strict enforcement of existing obligations, including construction codes, is needed to solve this problem.

Further consolidation in the industry may be inevitable as Turkey's integrated producers contend with strong import competition and as its mini-mills deal with chronic capacity utilization problems. The immediate subject is Kardemir, which is privately owned, but which creates substantial employment. It faces many problems and there is substantial pressure on the government to offer a bailout package. It must not do so. If there are no potential buyers then a shutdown is the

Exhibit 2

### LABOR PRODUCTIVITY\*

Indexed, US (1995) = 100



\* Adjusted for process mix, product mix, and quality  
 Source: Interviews; State Planning Organization; MGI Analysis

right answer, since output will shift to more productive fabricators, at least some in Turkey. If there is value to be created from a shift to flat products, then a buyer will pay for some portion of that value and the government must accept that the market will dictate that price. Either way, productivity gains. In a similar vein, the government should not interject itself if mini-mill consolidation cuts employment.

It would be too bad if Turkish policymakers did not fully stay the course through the reform of the steel sector. By continuing to achieve rapid productivity growth, Turkey can maintain its position among the top steel producers and exporters in the world and could create as many as 20,000 additional jobs over the next decade or so.



## Cement

Productivity in the cement industry in Turkey demonstrates the power of successful privatization and effective liberalization. In a period of less than 20 years, the industry has made the transition from being fully under government control, in terms of both ownership and price and market management, to a situation in which the government exercises almost no direct influence on industry developments. Foreign ownership has risen to about one-third of the market and total factor productivity (TFP) is at 84 percent of US levels, with the potential to rise slightly higher than the US. Importantly, labor productivity in particular has shown a sustained rate of improvement throughout the period. Turkey should achieve its potential well within the next 10 to 12 years, if no market distortions conspire to inhibit its doing so. In this context, the only serious risk appears to be if the government were to provide incentives, directly or indirectly, for the construction of new capacity.

The achievements in the past two decades are striking. Government ownership no longer exists, but capacity in Turkey has doubled. In an intensely competitive setting, almost 20 operators have output in excess of 1 million tons per annum. With such competition, domestic cement prices are among the lowest compared to developing and developed markets alike. World-best foreign operators such as Heidelberg, La Farge, and Italcementi have a significant presence in the market, but domestic companies nevertheless own a majority of the capacity (Exhibit 1). Further, Turkey has become the fourth largest cement exporter in the world, behind only Thailand, Japan, and Indonesia.

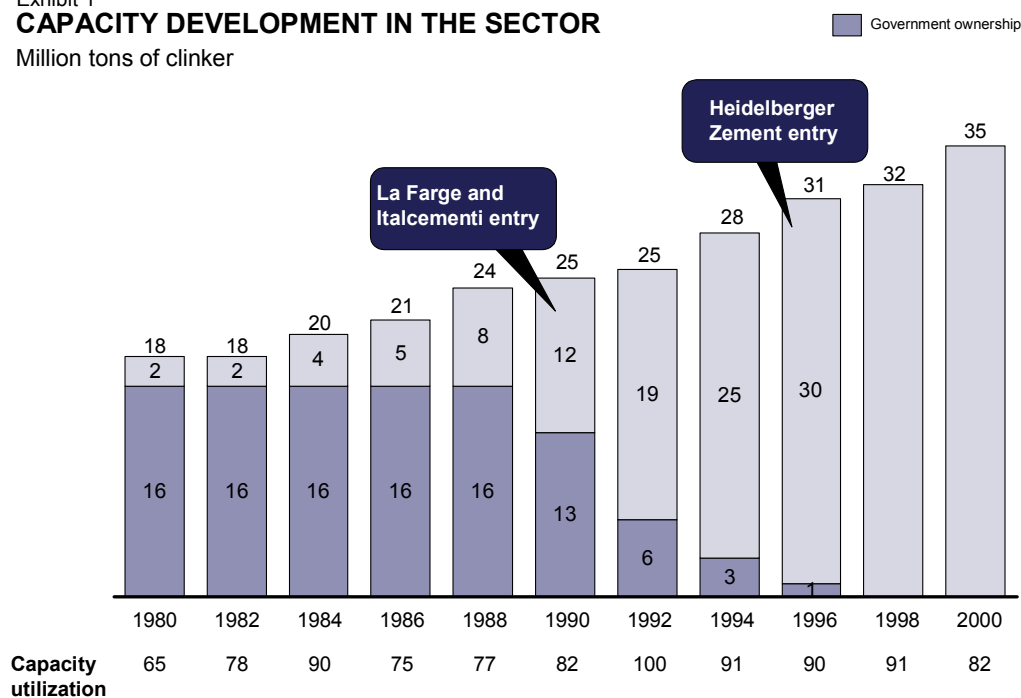
Productivity has risen steadily and shows every promise of continuing to do so. While labor productivity is at only 50 percent of US levels and is lower than another developing country benchmark, Thailand, capital productivity in this investment-intensive industry is at 87 percent of US levels. With energy accounting for almost one-half of factor inputs, it is important that Turkey is benchmarking at 118 versus the US in terms of energy productivity (Exhibit 2).

Notwithstanding the accomplishments, the picture is not perfect. Further productivity gains – mainly labor – will come only as Turkey continues to increase the scale and capacity utilization in the sector. Specifically, the industry in Turkey must move its average utilization from 84 percent to closer to the 95 percent achieved in the US, and it must solve for the fact that only 4 of the 39 plants in Turkey are at, or above, minimum efficient scale (by comparison, 9 of 12 in Thailand are above minimum). Achieving this will almost certainly require plant consolidations. However, substantial government incentives to build new capacity

Exhibit 1

**CAPACITY DEVELOPMENT IN THE SECTOR**

Million tons of clinker



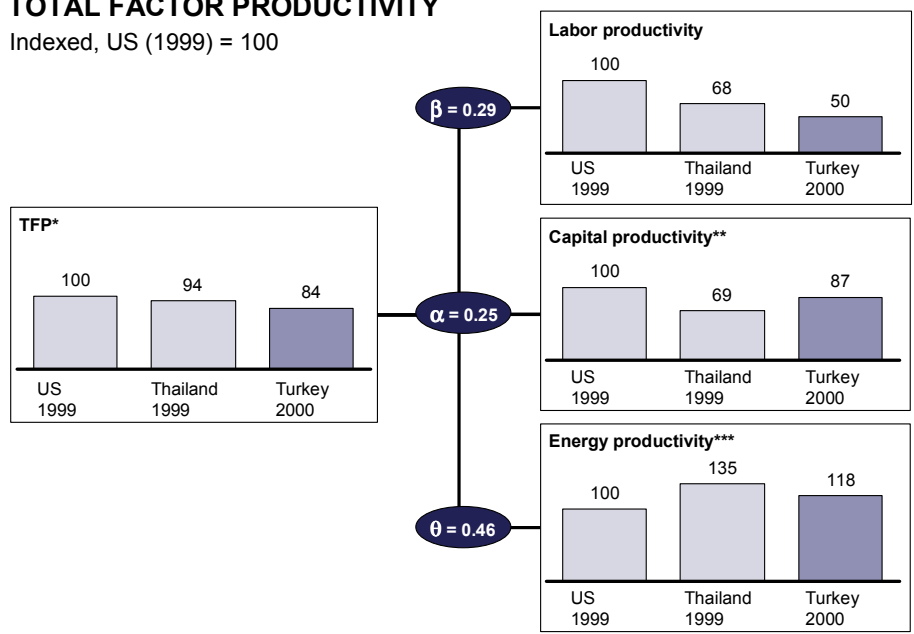
Source: Cement Industry Association; Privatization Agency

have disrupted this consolidation process in the past and, though to a lesser degree, still threaten to.

Throughout the 1990s the government provided major compensation for the creation of new capacity. At the peak in the mid-1990s, these incentives exceeded US \$1 billion dollars per year. The incentives created a barrier to the exit of low-productivity producers because stronger players preferred to build new capacity, utilizing the attractive grant opportunities, rather than acquire existing players and consolidate capacity. In 2001 the government distanced itself one full step from the incentive process by empowering the Turkish Cement Manufacturers Association to govern handouts. However, the government still provides funds – in 2001 incentive certificates valued at US \$200 million were issued – and so the disruption of market forces remains and full productivity gains are still threatened.

There is only one thing that the Turkish government needs to do to maximize the likelihood that productivity in the cement industry will reach its potential: stop incentives in any form.

Exhibit 2  
**TOTAL FACTOR PRODUCTIVITY**  
 Indexed, US (1999) = 100



\* Using Cobb-Douglas formulation with labor share of 0.29, capital share of 0.25, and energy share of 0.46

\*\* Capacity utilization is assumed to indicate capital productivity since share of building construction (which is sensitive to local price levels) is less than 25% of capital investments in cement industry

\*\*\* Reciprocal of average of fuel and power efficiencies

Source: State Planning Organization; interviews; Cement Industry Association; MGI analysis







