



# Relative Income Growth and Convergence

**Kemal Derviş, Daniel Gros, Faik Öztrak, Fırat Bayar  
and Yusuf Işık**

## Abstract

This paper assesses the growth prospects for the Turkish economy over the next decade. It implicitly asks whether Turkey can start closing the gap with the EU in terms of income per capita once it has achieved macroeconomic stability and negotiations with the EU provide an anchor for overall economic policy-making. Viewed from this perspective, the outlook is promising. Turkey is still very poor, compared to most of the existing EU members, but is also more dynamic. The fact that most of the so-called ‘periphery’ is now growing more strongly than the ‘core’ confirms that within an enlarged EU the poorer member countries are likely to prosper and thus cause fewer problems than widely anticipated.

The analysis starts by relating the record of Turkey over the last years, which is a story of ‘ups’ and ‘downs’, with most recently a very strong ‘up’. This is then followed by a comparison of two different metrics: GDP per capita and per worker, which leads us to the issue of demographic trends, which differentiate Turkey from both old and new member states. Some of the structural and regional peculiarities of the Turkish economy are next examined, followed by an evaluation of the factors that should determine growth in the longer run. Finally, two upbeat growth scenarios are drawn.

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**Kemal Derviş, Daniel Gros, Faik Öztrak, Fırat Bayar  
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## **Introduction**

Health not wealth should be the decisive criterion when evaluating Turkey's prospects to become a member of the EU. Viewed from this perspective, the outlook appears promising. Turkey is still very poor, compared to most existing EU members, but it is also more dynamic. Full catch-up in terms of GDP per capita might take more than a generation, rather than years, but full catch-up is not the relevant criterion if one is concerned about enlargement. Experience in the EU has shown that problems are much more likely to arise from established rich member countries with stagnant economies (Belgium in the 1980s, Italy and Germany today) than from poor, but more dynamic states (e.g. Portugal and Greece today). The fact that most of the so-called 'periphery' is now growing more strongly than the 'core' confirms that within an enlarged EU the poorer member countries are likely to prosper and thus cause fewer problems than widely anticipated.

Assessing the growth prospects of the Turkish economy is also important for creating a positive background for the membership negotiations that might last for quite some time. If Turkey can narrow the gap in terms of GDP per capita over the next decade, the perception that the EU is about to take 'yet another poor country' will be weakened.

What would be the benchmark? As shown below, Turkey's real income is at about the same level of that of Bulgaria and Romania today. These two countries seem now to have embarked on a slow, but steady convergence path with growth rates in the 4-5% range. Given that Turkey's population is still growing at a bit more than 1% p.a., and that the population of Bulgaria and Romania is shrinking, this implies that Turkey will have to grow by more than 6% on a sustained basis just in order not to fall behind the two lagging members of the EU-27. The negotiation position of Turkey would be immensely strengthened if by the end of this decade it was the most dynamic economy in Europe.

In this part we assess the growth prospects for the Turkish economy over the next decade. We implicitly ask whether Turkey can start closing the gap with the EU in terms of income per capita once it has achieved macroeconomic stability and negotiations with the EU provide an anchor for overall economic policy-making. We start by relating the record of Turkey over the last years, which is a story of up and downs, with most recently a very strong up. This is then followed by a comparison in Section 2 of two different metrics: GDP per capita and per worker, which leads us to the issue of the demographic trends, which differentiate Turkey from both old and new member states.

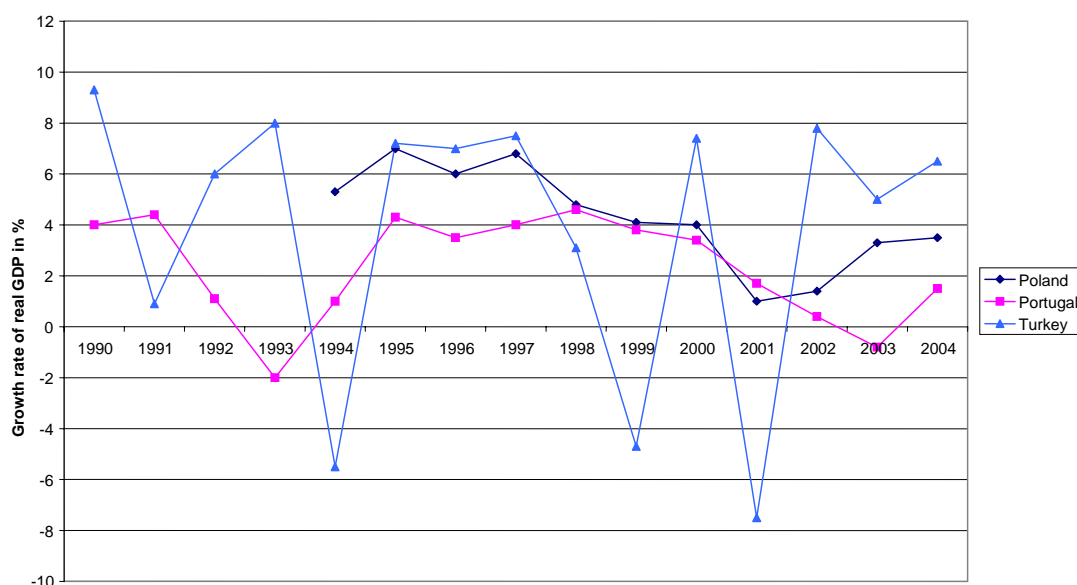
In Section 3 we turn to some of the structural and regional peculiarities of the Turkish economy. In Section 4 we then turn to an evaluation of the factors that should determine growth in the longer run. Section 5 then presents two upbeat growth scenarios and the final section concludes.

## **1. What is the starting point for Turkey?**

There is a widespread, but erroneous perception in Europe that Turkey is by a wide margin the 'poorest' of the countries that are in or will be joining the European Union. This perception does not fully reflect the facts.

At the same time it remains actually difficult to determine the starting point for Turkey because the situation has been changing so rapidly. Figure 1 shows that this has been a feature of the Turkish economy over the last decade. It has not been uncommon to see GDP falling by 8% one year, only to rebound the next year by a similar amount. No EU member country has a similar record. The experience of Poland and Portugal, which both underwent deep structural change, seems positively stable when viewed against that of Turkey.

Figure 1. The growth record over the last decade



Source: Eurostat.

With this volatile growth record, it is not surprising that the lesson one draws from any snapshot of the Turkish economy depends crucially on the particular year one is looking at. Table 1 below presents data and comparisons that are relevant in this context, looking at both nominal and purchasing power adjusted estimates.

Table 1. Turkey's relative income position in per capita GDP

	PPP (€)		Nominal (€)	
	2003	Average (1998-2003)	2003	Average (1998-2003)
EU-15	€23,270	€21,700	€24,320	€22,677
New EU-10	€11,300	€10,675	€7,854	€6,722
Poland	€9,860	€9,043	€4,850	€4,687
Bulgaria	€6,280	€5,503	€2,260	€1,807
Romania	€6,350	€5,582	€2,320	€1,966
Turkey	€5,750	€5,662	€3,000	€2,805
	PPP (EU=100)		Nominal (EU=100)	
	2003	Average (1998-2003)	2003	Average (1998-2003)
EU-15	100	100	100	100
New EU-10	48.6	47.2	32.3	29.5
Poland	42.4	41.6	19.9	20.6
Bulgaria	27.0	25.3	9.3	7.9
Romania	27.3	25.1	9.5	8.5
Turkey	24.7	26.2	12.3	12.4

Sources: EUROSTAT, New Cronos.

The estimates in Table 1 show that in 2003 Turkey's nominal per capita income is at 12% of the 2003 EU-15 average and at 25% of PPP adjusted per capita income of the EU-15. In nominal per capita terms, Turkey is only at 38% and in PPP adjusted per capita terms just above one-half the level of the 10 new accession countries.

Turning to individual comparisons and including Romania and Bulgaria, which are scheduled for accession in 2007, Turkey's nominal per capita income in 2003 was about 62% that of Poland but was actually 29% *higher* than Romania's and 33% *higher* than Bulgaria's.

These comparisons refer to one particular year and the new member countries *at the time of* (or only two years before) *their accession*, while we are looking at Turkey *about a decade before accession*. If the Turkish economy continues its current impressive growth rate, the numbers could change quite rapidly. It is also worth noting that GDP growth in 2004 is expected to be 6%. Moreover, one could argue that a fairer comparison would be to take the accession countries' GDP at the time they started negotiations and compare those figures to Turkey's likely GDP in 2005, the year in which it is expected to start negotiations.

Polish GDP in 1995, for example, stood at about 35% of the EU average in PPP terms<sup>1</sup> and that of Bulgaria and Romania was much lower. Turkey might not be far from these values when its turn comes around.

It is quite clear, therefore, that the distance that separates Turkish GDP per capita and living standards from those in the EU before the 2004 accession of the 10 new countries, is not larger than the distance these countries faced at the time they started their negotiations.

Moreover, in comparison to Romania and Bulgaria, which are scheduled to join the EU in 2007, Turkey is within 10% of their level in terms of PPP adjusted income estimates and actually much higher at nominal income estimates.

An interesting feature of Table 1 is that the ratios of PPP adjusted GDP to GDP at current exchange rates are much smaller when Turkey is compared to the 10 new members than when compared to Romania and Bulgaria. In the latter case, Turkey looks significantly *richer* at nominal exchange rates of 2003 than it does in terms of PPP estimates. The discrepancy is surprising, particularly as the share of non-tradables in GDP is larger in Turkey than in Bulgaria and Romania. This, *ceteris paribus*, should lead to *more* rather than *less* of a difference between nominal and PPP-adjusted income in Turkey compared to Romania and Bulgaria. Given that this problem does not arise when comparing the Turkish numbers with those of the 10 new members, it must have something to do with the PPP conversions for Romania and Bulgaria. It may reflect an undervaluation of their nominal exchange rate.

## 2. GDP per capita or GDP per worker?

The per capita income data described above must, of course, reflect underlying productivity figures. Higher income levels are reached by higher productivity of labour. The relationship is not a simple direct one, however. For a given average level of productivity per person employed, per capita income will vary with the *ratio* of total employment to total population. That employment ratio, in turn, will depend on the demographic characteristics of a country, and notably the share of the 15 to 64 age bracket that is the population that could potentially be employed as well as the population *actually* employed within that age bracket.

Therefore, per capita income figures reflect, both the level a country has reached in terms of labour productivity, which measures the degree of development of the country, and the long- as well as short-term determinants of total employment. The low per capita figures of Turkey are thus partially a reflection of a low rate of labour market participation of the population.

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<sup>1</sup> Assuming 6% annual growth in 2004 and 2005 in US dollar terms, which is somewhat less than projected in the IMF-supported Economic Programme, which projects a slightly more appreciated Turkish lira (TL).

Table 2 below presents the basic age structure and employment ratios in Turkey and selected accession countries. The figures are not directly comparable to the national income accounts as sources but they illustrate the fact that Turkey is still in an early stage of its demographic transition, with the ratio of total employment to total population substantially below that in the comparator countries, largely because of a lower ratio of the 15 to 64 age group as well as a lower participation rate.

*Table 2. Employment, 15-64 age group and total employment/population 15-64 (2002)*

	<b>Employment (000's)</b>	<b>15-64 Age group/total pop</b>	<b>Total emp./ 15-64 age group</b>	<b>Total emp./total pop**</b>
Bulgaria	2998	0.68	0.55	0.37
Czech Rep.	4760	0.70	0.67	0.46
Hungary	3855	0.68	0.55	0.37
Poland	13782	0.67	0.52	0.35
Romania	7745	0.68	0.52	0.35
Turkey*	20836	0.64	0.44	0.28

\* Year 2000.

\*\* Product of columns 2 and 3.

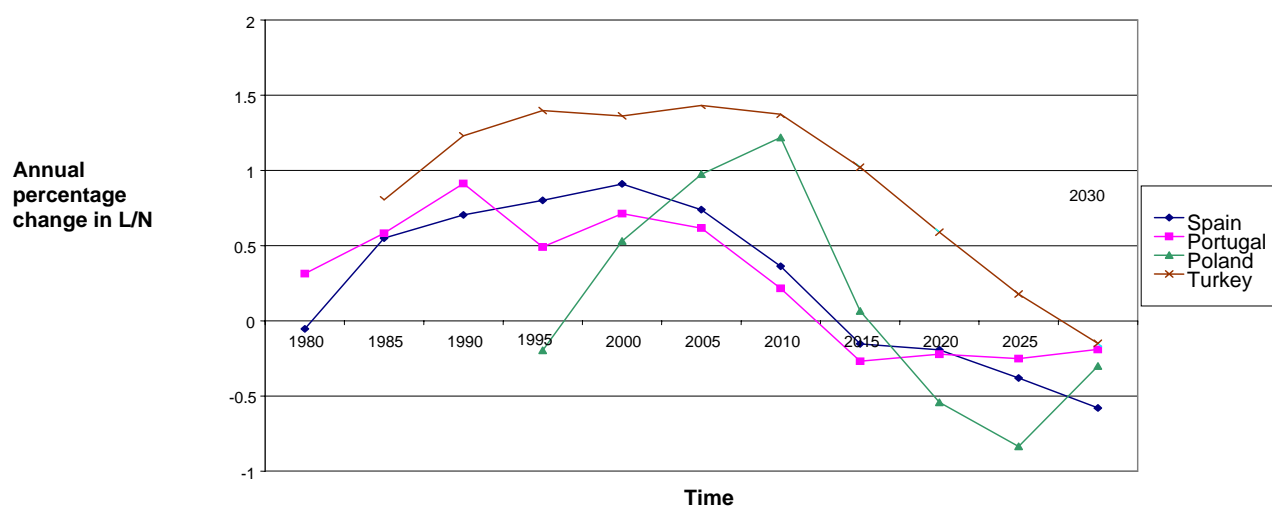
Sources: Calculated from EUROSTAT, Statistical Yearbook and Turkish State Institute of Statistics (SIS).

Table 2 describes how Turkey's total employment ratio is still well below that of the comparator countries, because of its demographic structure and because of a lower participation rate and actual employment in the 15-64 age group. Similar differences in labour force participation rates also exist among the EU-15, with generally the highest value to be found among the Scandinavian countries. Turkey would find itself at the lower end of the 'Southern' group within the EU. Part of the lower employment ratio of the population in working age in Turkey stems from the very low labour market participation rates of women. As discussed below, this could also be regarded as a potential growth factor.

Turkey is in the midst of a demographic transition, reflecting a fairly rapid decline of the population growth rate, from the 2.5 to 3% range in the 1950s and 1960s, to close to the 1.4% neighbourhood, at the beginning of the new century. This implies a rising proportion of the 15 to 64 age group in the total population, starting from a low base, as fewer new babies are born to fill the below-15 age group, and as life expectation, while lengthening, is not yet long enough to result in a large proportion of the total population above age 64.

Figure 2 below shows the demographic bonus in the form of a large hump-shaped curve, which puts Turkey well above all current and prospective member countries, whose demographic 'transition' occurred a generation earlier. Thus the Spanish and Portuguese curves are below that of Turkey and anticipate its movements by about 20 years. (Poland is a special case because of the horrendous losses the country suffered during World War II. This implies that for each year until 2015 there will be fewer pensioners falling out of the labour force. After 2015, however, the low birth rates will make themselves felt in a rapidly deteriorating demographic situation.) Turkey has thus had a demographic bonus over the last decades, but it seems that this bonus has not been used so far in the sense that over these decades Turkey has failed to converge in terms of GDP per capita. The population in working age has grown rapidly, but employment has not, leading to the low employment ratios documented above. The ongoing rebound from the 2001 crisis has not yet changed this pattern in that employment has barely grown since the trough of the crisis. This is a pattern that needs to be broken if Turkey is to use its demographic bonus.

Figure 2. Demographic bonus: Change in labour force/total population -25,65+



Source: Own calculations based on Eurostat and US Census Bureau.

In considering the official data on employment rates one has also to take into account the fact that in Turkey only about one-half of all those officially classified as employed have a ‘standard’ dependent job (i.e. receive salaries or daily wages). The other half are either self-employed (mainly in agriculture) or are classified as ‘unpaid family workers’.<sup>2</sup> This implies that effectively only around 20-25% of the population is occupied by the modern part of the Turkish economy. This gives another indication of the size of the challenge for economic policy and, at the same time, the opportunity for growth. The challenge is to prepare the conditions under which employment in the modern economy can double (even apart from any labour force growth). The opportunity comes from the fact that productivity in the modern part is so much higher than in the rest of the economy (the rural/agricultural sector). If this massive shift towards the modern sector takes place, it could lead to almost a doubling of output. A shift of this magnitude will take a generation to materialise, but even over such a time horizon this would be quite a boost to growth as it would be in addition to other sources of higher productivity.

It is difficult to make an international comparison in this respect since the category ‘unpaid family worker’ does not exist in other countries. However, in terms of the share of self-employed it appears that the situation in Turkey is comparable to that of Poland, but quite different from that of the EU-15, where typically about 85% of the workforce has a standard dependent job. In reality, only Romania might be close to the situation of Turkey because the 40% of ‘self employed’ in Romania are likely to include those who are classified as ‘unpaid family workers’ in Turkey (where they account for over 22% of total employment).

Table 3. Self-employed as % of total employment, 2002

EU-25	15.5%
EU-15	14.6%
Poland	28.1%
Romania	40.2%
Turkey	27.6%

<sup>2</sup> 2003 Annual Report of the Central Bank of Turkey, p. 28.

### 3. Sectoral and Regional Analysis

Aggregate figures provide important information on national averages. It is useful to complement these figures by both sectoral and regional information to give the fullest possible overview of Turkey's relative income position. A large and poor agricultural sector, for example, is perceived by some in the EU as a potential problem at the time of membership. If regional disparities are much larger in Turkey than in other countries, these could make the accession and post-accession period more difficult.

Table 4 shows that Turkish labour productivity (measured by value added per employee) is close to that of the Czech Republic, Hungary and Poland, the three biggest countries among the new EU members. This is so *despite the fact* that gross value added per person employed in agriculture lowers the Turkish average (with the exception of Poland in this case). Productivity in services, construction and, even more so in industry, is high in Turkey, when compared to the new member countries, reflecting the degree of modernity and sophistication reached by Turkey's 'modern sector'. The situation looks even more favourable to Turkish industry when productivity levels are compared to Romania and Bulgaria, the two remaining candidate countries other than Turkey. These productivity comparisons show that the Turkish economy is not only 'more developed' in terms of productivity than the economies of Romania and Bulgaria, but that Turkish productivity outside agriculture is close to or higher than what we observe in the new member countries. Moreover, as we discuss in the section on convergence prospects below, the demographic trend just referred to will in itself tend to narrow the gap between Turkey's average productivity and average per capita income, and be a source of more rapid per capita income growth.

Table 4. Sectoral gross value added per person employed, 2000 (current euros)

	Agriculture	Industry	Construction	Services	Total
Bulgaria	€4,289	€3,696	€3,176	€4,292	€4,073
Czech Rep.	€9,707	€12,391	€8,867	€12,060	€11,739
Hungary	€7,629	€11,962	€8,566	€12,090	€11,531
Poland	€2,093	€11,841	€12,049	€13,511	€10,874
Romania	€1,149	€5,779	€6,224	€7,466	€4,188
Turkey	€4,577	€13,523	€8,508	€15,657	€10,890

Source: EUROSTAT.

It is not productivity levels or even sectoral differences in productivity levels, but regional disparities that pose a bigger challenge. Table 5 below illustrates the share of the richest and poorest Level 2 regions<sup>3</sup> in total GDP in three new members (Czech Republic, Poland and Hungary) and three candidate countries (Romania, Bulgaria and Turkey). As the figures indicate, regional disparities are large in all of the selected countries.

Turkey, which is the poorest Level 2 region, registers GDP at less than one-fourth that of the richest Level 2 region. Regional disparities in Turkey are somewhat higher than those of the recent or soon to be member countries, reflecting in part the larger geographical size of the country. It is interesting to note that what differentiates Turkey from the other larger new member countries is not the position of the richest region (which is about 50% above the national average), but that of the poorest region.

<sup>3</sup> Level 2 of the Nomenclature of Territorial Units for Statistics (NUTS) was established by EUROSTAT to provide a uniform, consistent breakdown of territorial units for the production of regional statistics for the EU (EUROSTAT, 2003)



Table 5. Regional gross domestic product, 2001 (Level 2 regions, selected countries)

	Index	GDP per capita (PPP)
<b>Czech Republic</b>	100	<b>€14,156</b>
Richest Level 2 Region	224	€31,639
Poorest Level 2 Region	79	€11,186
<b>Poland</b>	68	<b>€9,644</b>
Richest Level 2 Region	106	€15,033
Poorest Level 2 Region	48	€6,758
<b>Hungary</b>	85	<b>€12,017</b>
Richest Level 2 Region	134	€18,993
Poorest Level 2 Region	56	€7,876
<b>Romania</b>	40	<b>€5,700</b>
Richest Level 2 Region	85	€12,042
Poorest Level 2 Region	29	€4,088
<b>Bulgaria</b>	43	<b>€6,078</b>
Richest Level 2 Region	60	€8,483
Poorest Level 2 Region	36	€5,071
<b>Turkey</b>	40*	<b>€5,700*</b>
Richest Level 2 Region	60*	€8,510**
Poorest Level 2 Region	13*	€1,891**

\* Year 2000.

\*\* Own calculations from Level 2 GDP and N from the Turkish State Institute of Statistics (SIS).

Sources: EUROSTAT and the Turkish State Institute of Statistics (SIS).

#### 4. Growth Prospects

Looking at the ‘snapshot’ of 2003 deals with only one aspect of the relative income debate. What is even more important is to discuss prospects for long-term convergence between Europe and Turkey in terms of income and living standards.

Any estimate of the longer-term growth and hence convergence prospects of Turkey is torn between a disappointing record over the last decade and future prospects that look favourable under a scenario with structural reforms and macroeconomic stability.

While Turkey’s performance was reasonably good until the late 1980s, the record of Turkey over the last 15 years is disappointing if one starts from the assumption that convergence is the norm among market economies. Since the late 1980s, Turkey has made virtually no progress on this front. Its GDP per capita is now at about the same level as then, whereas other European countries have generally converged at least partially.

Over this very long run, the case of Turkey cannot really be compared to the 10 current and prospective member countries from Central and Eastern Europe because these countries emerged from communist domination only about a decade ago. However, all of the 8 CEECs from the class of 2004 have decreased the distance that separates them from the EU-15 average in terms of GDP per capita (both in terms of GDP at PPP and in terms of GDP at current exchange rates). Only Romania and Bulgaria have started to converge only very recently.

Let us consider a scenario in which accession negotiations would start in 2005 and Turkey would become a member of the European Union some time between 2012 and 2015. Looking further ahead into the future, and taking 2025 as a year of reference, a year when Turkey would have been a EU member for a decade or more, and when possible transition arrangements relating to the mobility of labour and to agriculture would have ended, and Turkey would have become a member just like all the

others, what are the prospects for relative incomes and convergence of living standards over that time frame?

To understand the factors affecting growth patterns, it is useful to consider the international evidence based on the experience of Europe and Japan from the post-World War II years to the mid-1970s, and the experience of the East Asian and other middle income countries over the last decades.<sup>4</sup> Lower initial per capita income levels, demographic trends affecting the share of the working age population in total population, the lower initial quality of the labour force as reflected in average years of education, the level of savings, as well as the major role of the state in investment decisions are factors taken to explain the dominance of factor-input intensive growth or growth based on the mobilisation of production factors as compared to growth achieved primarily through increases in total factor productivity.

What is the relative importance of these various factors in determining growth prospects? The empirical evidence so far suggests that *ceteris paribus*, a certain convergence can be expected unconditionally in the sense that if one compares two countries that differ only in their starting level of income per capita one would expect the poorer country to catch up over time. However, *ceteris* is almost always not *paribus* and this applies with particular force to Turkey, which clearly did not converge within the OECD club, of which it is a member. Thus, the key question is to what extent have the recent drastic structural changes in Turkey improved the prospects of convergence.

The empirical literature on growth suggests that there are two classes of elements that are key for growth: the accumulation of factors of production and ‘institutions’. Neither of these two elements seems to be able to determine growth alone. It will thus be useful to analyse both briefly.

The accumulation of factors of production can mainly take three forms: investment in physical capital, investment in human capital and population growth.

Starting with the third form suggests that the demographic trends projected for Turkey may be one factor allowing Turkey to grow quite rapidly following the examples of the East Asian countries, thanks to a rising proportion of the active population in total population. Demographic trends thus put Turkey into a different situation when compared with the new accession countries whose demography makes their growth primarily dependent on total factor productivity (TFP) and foreign investment.

Moreover, Turkey has the potential for a large-scale absorption of underemployed labour, especially from the rural areas and among women, into higher-productivity activities in industry and services. This differentiates Turkey again from the eight CEECs of the class of 2004. Only Romania shares with Turkey the potential of deriving substantial growth from the internal transfer of labour from low productivity to much higher productivity sectors.

#### **4.1 Investment in human capital**

In terms of Turkey’s investment in human capital, the country starts from a weak position. Table 6 below shows the relevant data concerning both how investment in formal schooling takes place and the output in terms of educational achievements. It is apparent that Turkey is investing relatively little in education, less than most, with the exception of the poorest EU member state. Given that the share of the school age population is so much higher in Turkey, it is thus no consolation that Greece spends even less on education. In terms of educational achievements, the picture is similar: there is only one member that has a worse performance. It is not surprising that this is Portugal, which is showing signs of facing increasing difficulties in adapting to the increased competition in the internal market resulting from enlargement. The two new member countries for which internationally comparable data are available – Poland and Hungary – both invest much more in education and start from a much better starting point. Turkey is unique in having both a very low rate of investment in education and a bad starting point.

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<sup>4</sup> Doyle et al. (2001).

*Table 6. Total expenditure on education and adult population with upper secondary education*

	Total expenditure on education as % of GDP	% of adult population with upper secondary education
Turkey	3.91	24.3
Poland	5.31	45.9
Portugal	5.69	19.8
Greece	3.86	51.4
Hungary	5.15	70.2

Source: OECD.

The available data on enrolment rates and the educational attainment level of the younger generation indicate that the gap in terms of education is not about to be closed soon, even in the cohort that just entered the labour force (the 25-34 year olds) among whom less than a third has finished at least upper secondary education. In terms of investment in human capital, Turkey will thus face a considerable handicap in a ‘convergence race’ with the new member countries.

The dual character of the Turkish economy can also be seen in the educational system. OECD data indicate that expenditure per student in higher (tertiary) education is more than \$4,000 higher than GDP per capita. This is in contrast to other countries where absolute expenditure levels per student are lower (e.g. Poland) and always much lower if related to GDP per capita. The Turkish education system thus seems designed to produce a small elite that should be competitive, but does not provide the masses with the skills necessary for broad-based growth with an improving distribution of income.

*Table 7. Percentage of the population that has attained at least upper secondary education by age group*

	Age group				
	25-64	25-34	35-44	45-54	55-64
Poland	45.9	51.7	47.5	44.5	36.4
Portugal	19.9	32.5	19.9	13.6	8.5
Greece	51.4	72.6	60.3	43.1	27.6
Turkey	24.3	30.2	23.5	19.2	13.3

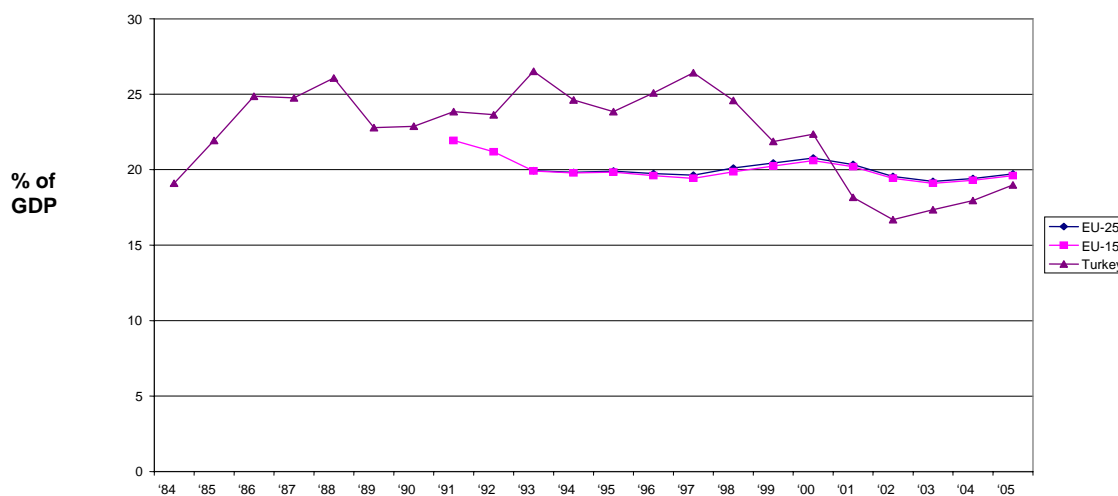
Source: OECD.

## **4.2 Investment in physical capital**

Until the recent crisis, the rate of investment in recent decades in physical capital has actually been rather high in Turkey, averaging substantially above the level of the EU-15, as shown in Figure 3.

The fact that despite this rapid accumulation of physical capital Turkey has not converged in terms of GDP per capita suggests that perhaps political interference with the financial system has distorted the allocation of investment. One positive result of these rather high rates of capital accumulation might, however, have been the rather high level of productivity per worker in sectors such as industry and services noted above. Nevertheless, a capital-intensive model of development of this nature was clearly not appropriate for a country with a rapidly expanding work force; and is surprising in view of the high real interest rates that have prevailed over the last decade. One would have expected that under these circumstances the private sector should have substituted expensive capital with labour. This is another indication that the allocation of capital might have been distorted: capital was cheap for those well-connected with the political system, but not really available for the rest of the economy – thus reinforcing the dual character of the Turkish economy.

Figure 3. Investment as % of GDP



The deep restructuring of the financial system and its de-coupling from politics after the recent currency and banking crisis should lead in future to a more efficient allocation of capital. However, this crisis has also led to a slump in investment, which has only been reversed in the first quarter of 2004. Moreover, the recovery from the crisis has so far not broken with the pattern of the past in the sense that so far there has been almost no increase in employment.

One factor that might explain the capital-intensive nature of growth in Turkey over the last decades might be the limited flexibility of labour market institutions in the country. Surveys by the OECD of existing laws and regulations put Turkey consistently among the countries with the tightest labour market regulations. Table 8 shows that, in theory at least, labour market regulations are even more restrictive in Turkey than, for example, in France or Germany. Poorer countries usually have less restrictive labour market regulations. Turkey appears to be an outlier in this respect with an aggregate indicator of labour market restrictiveness not only above that of the large euro area countries (Germany, France and Italy), but also almost twice as high as Poland.

Table 8. Labour market flexibility compared\*

	Version 1	Version 2
France	3.0	2.8
Germany	2.5	2.6
UK	0.5	0.9
Italy	3.3	3.4
Poland	1.6	2.0
Turkey	3.8	3.5

\*A higher value signifies more restrictive labour market relations.

Source: OECD.

Rigid labour markets may constitute a serious obstacle to growth in an economy with a rapidly growing work force and large regional as well as sectoral imbalances. It is important to stress, however, that the rigidity is more apparent than real. The existing inflexible rules reinforce the dual character of the economy: the official rules and regulations are (at least partially) applied in the rather small advanced formal sector (industry and some services), but are irrelevant for the large informal sector (other services and the rural part of the country).

Labour market institutions and taxes on employment must be reformed, while fundamental ILO norms are maintained in the case of the former, so that the extreme dualism is overcome and that the potential for extensive growth from the underutilised work force can be realised.

A higher rate of absorption of underutilised labour requires that the additional work force be equipped with capital; otherwise wage rates will have to decline steeply as the capital labour ratio falls. Given that the working age population will continue to grow at more than 1% per annum over the next decade at least one condition for sustained growth without a 1% fall in wages will thus be a sustained increase in the investment rate – both in physical and human capital. One way to illustrate this effect is to use the law of motion of the capital labour ratio, which states that the rate of change of the capital labour ratio is equal to the investment rate minus the rate growth of employment (and minus the rate of depreciation).

$$d(\ln((K/L))) = d(K)/K - d(L)/L = I/K - \delta - d(L)/L$$

where the symbol  $\delta$  denotes the rate of depreciation and  $d(L)/L$  the rate of growth of the labour force. This relationship implies that in comparison with the new members from Central and Eastern Europe Turkey will have to have a much higher rate of capital accumulation just to keep the capital/labour ratio constant. How much higher? An approximate value can be calculated using some simple, but realistic assumptions. A good starting point might be that the depreciation rate is about 5% (e.g. capital depreciates over 20 years). Moreover, given the combination of much lower employment rates and higher growth rates of the working age population implies that it would be desirable for Turkey to have a rate of employment creation that is about 2% per annum higher. The investment rate required to keep the capital/labour ratio constant will then be about 40% ( $=2/5$ ) higher in Turkey than in a country like Bulgaria, which has a slowly shrinking population and little surplus labour in agriculture. Since the capital/labour ratio is still increasing throughout the new member countries from Central and Eastern Europe, the difference might be somewhat smaller. But this simple calculation illustrates the general principle that Turkey will have to run faster just in order not to fall back. The same consideration also applies *a fortiori* to human capital formation: in order to prepare its work force to be competitive in the internal market, Turkey should spend more than other countries on education.

### 4.3 'Institutions'

We discuss the quality of the institutions that 'frame' growth more in detail in a companion paper focusing on the stabilisation aspects of macroeconomic policies in this series (see Dervis et al., 2004). Here we just want to use one particular variant of the many measures of the quality of institutions that comes in the form of the so-called 'overall competitiveness indicators'. Their use allows for another interesting comparison between Turkey and the new member and candidate countries. Turkey as a whole ranks above both Romania and Bulgaria in the 'competitiveness indicators' table prepared by the World Economic Forum and summarised below in Table 9. The index includes variables such as information society, innovation and R&D, liberalisation, network industries, financial services, enterprise, social inclusion and sustainable development. Besides, it should be stressed again that we are comparing Turkey *before* it has started negotiations with countries that either already are or very soon will be members.

Institutions do not suddenly change overnight. Does Turkey therefore have to wait another generation until the institutions (the quality of the bureaucracy, the incidence of corruption, etc.) have radically improved? Rodrik (2004) argues that this is not necessarily the case. He shows the sustained (i.e. lasting more than seven years) spurts of growth often start with a minor reform – provided this reform eliminated the major obstacle to growth. One could argue that for Turkey the major obstacle to reform has been the pervasive macroeconomic instability coupled with a politicised financial system. With this obstacle removed and the external opening cemented through the customs union, there is thus reason to believe that the current growth spurt might last until the other, more slow-moving institutional reforms can become operative and keep the economy moving from then on.

Table 9. Competitiveness ranking of (potential) accession countries

Country	Final index		Sub-indices							
	Rank	Score	Information society	Innovation and R&D	Liberalisation	Network industries	Financial services	Enterprise	Social inclusion	Sustainable development
Estonia	1	4.64	4.92	3.82	4.40	4.98	5.43	4.90	4.2	4.44
Slovenia	2	4.36	4.38	3.92	4.06	5.21	4.69	3.76	4.24	4.60
Latvia	3	4.34	3.62	3.86	4.44	4.35	4.84	4.87	4.47	4.29
Malta	4	4.2	4.42	2.99	4.03	4.81	5.27	4.0	4.83	3.24
Czech. Rep	5	4.16	3.62	3.34	4.01	5.19	4.03	4.18	4.40	4.48
Hungary	6	4.12	3.24	3.47	4.10	4.57	4.87	4.41	4.19	4.09
Lithuania	7	4.05	3.36	3.57	4.10	4.51	4.67	4.38	3.69	4.17
Slovak Rep.	8	3.89	3.29	3.34	3.84	4.50	4.39	3.43	3.83	4.53
Poland	9	3.68	2.95	3.53	3.75	4.0	4.26	3.56	3.42	3.99
Turkey	10	3.45	2.61	2.72	3.68	4.01	3.99	3.84	3.45	3.33
Romania	11	3.35	2.91	2.88	3.04	3.48	3.77	3.65	3.74	3.33
Bulgaria	12	3.25	2.66	2.94	3.26	3.54	3.64	3.81	3.07	3.06
EU average		4.97	4.61	4.41	4.69	5.81	5.52	4.74	4.81	5.16

Source: World Economic Forum.

## 5. The Critical Role of Foreign Direct Investment

If Turkey is to start a convergence process, its growth rates will have to stay around the 5-7% range achieved over the last few years. But experience has shown that Turkey does not generate enough domestic savings to finance the investment needed to keep growth at this level. This is why in the past growth has often been aborted when the external deficit became too large and a balance of payments crisis ensued. The new and prospective member countries also faced (and still face) the problem how to finance a huge need for new capital that cannot all be met from domestic savings. The solution in almost all cases has been that the current account deficit was financed by foreign direct investment (FDI) as FDI inflows are different from other capital inflows in that this type of capital cannot typically be repatriated on short notice and therefore does not lead to the potential for crises that result especially from short-term flows.

Moreover, as discussed below, FDI might sometimes have a stronger productivity-enhancing effect than domestic investment.

For a country with a domestic savings shortfall and a limited technological base, a high rate of FDI inflows would be desirable. But reality has been disappointing in view of the fact that Turkey had initiated a far-reaching liberalisation and structural adjustment programme in the early 1980s and has made a considerable effort to integrate with the global economy since then.

The main factor that has deterred foreign investment in Turkey has been the lack of political and macroeconomic stability. A high degree of economic uncertainty and bureaucratic barriers confronting business hindered the inflow of foreign direct investment to the country. The inadequacy of these flows impeded the modernisation process of the capital stock and hampered access to international export markets; and, at the end, emerged as a major obstacle preventing Turkey from realising its economic potential.

Therefore, one of the main objectives of the Economic Programme launched in 2001 has been to take decisive steps to improve investment and business conditions in the country. In this context, a new foreign direct investment law has been enacted in July 2003. The new law has been designed as an integral part of the ambitious structural reform programme. It aims at improving the investment climate by creating a more transparent marketplace fully integrated with the world supported by a smaller yet more effective state. In that direction, the concepts of foreign direct investment and foreign investors have been redefined according to international standards, and the rights of investors have

been enhanced via amendments with respect to various issues such as national treatment, guarantee of transfers, access to real estate, international arbitration, employment of expatriates, etc.

Besides this new law, the government has established the Coordination Committee for the Improvement of the Investment Climate (YOIKK). This body, composed of high-level representatives of relevant ministries, the private sector and NGOs, was formed to identify and remove regulatory and administrative barriers to investment.

With these steps, backed by the amendments concerning the simplification and streamlining of company registration, Turkey has become, at least in terms of legislation, one of the countries with the shortest and simplest process to set up a business. Together with prospects of EU membership in less than 10 years this should lead to much greater FDI inflows. As seen in Table 10, FDI as a percent of GDP is relatively low in Turkey compared to the new members of the EU as well as Bulgaria and Romania. The experience of Central and Eastern European countries during the 1990s has shown that FDI has been an influential factor in terms of their economic restructuring and modernisation. In particular, by bringing capital, technology, expertise and know-how, foreign investments have been very effective in increasing productivity and innovation in these economies.<sup>6</sup>

*Table 10. Foreign direct investment (% of GDP)*

	1998	1999	2000	2001
Bulgaria	4.2	6.2	7.9	5.1
Cyprus	0.8	1.3	1.8	1.8
Czech Republic	6.5	11.5	9.7	8.6
Estonia	10.9	5.8	7.6	9.7
Hungary	4.3	4.2	3.6	4.7
Latvia	5.9	5.2	5.7	2.3
Lithuania	8.5	4.6	3.4	3.7
Malta	7.7	22.6	18.1	8.5
Poland	4.0	4.7	5.8	3.1
Romania	4.8	2.9	2.8	3.2
Slovakia	2.6	1.6	1.5	7.2
Slovenia	1.1	0.5	0.7	2.6
Turkey	0.5	0.4	0.5	2.3

*Source:* Calculated from EUROSTAT data.

With the start of accession negotiations in the near future, Turkey will thereby acquire the strong political anchor provided by the EU, which should contribute to a substantial increase in foreign investment inflows. This, in turn, while contributing to employment creation in the country, will further improve debt dynamics and hence will be a major achievement on Turkey's road towards realising its economic potential.

A recent survey on the determinants and growth effects of FDI emphasises that the positive spill-over effects of FDI become stronger only if the host environment is able to absorb advanced technology (see Uppenbergh & Reiss, 2004). In practical terms this means a well-educated work force and at least a small high-productivity sector. As emphasised elsewhere, Turkey scores rather badly in terms of the level of qualification of its work force, but there are also sectors in the Turkish economy that are quite advanced in terms of technology and value-added per employee. Compared to the transition countries, Turkey thus starts with one handicap and one advantage. And the handicap is likely to be felt only after FDI inflows reach a significant level.

Another widely recognised determinant of FDI is the overall quality of domestic governance. For example, Kinoshita & Campos (2004) show that for the CEECs, variables such as external

<sup>6</sup> OECD (2002).

liberalisation, rule of law and the quality of bureaucracy are the most potent predictors of FDI inflows. At present, the indicators for Turkey on the last two items are rather low as documented in the companion paper entitled *Stabilising Stabilisation* (see Dervis et al., 2004). In technical terms, the values for Turkey are two standard deviations below the EU-27 average. What would be the impact of bringing Turkey up to the EU-27 standard? By using the estimates for the new member countries, one can arrive at an approximate answer: The improvement in the rule of law and the quality of the bureaucracy should lead to an increase in FDI of about \$200 per capita (in constant purchasing power terms) in the short run and about three times this value in the long run. This is an additional effect that would come on top of other improvements to the investment climate. This effect alone would mean that a drastic improvement in domestic governance might lead to an increase in FDI flows in the long run worth cumulatively, i.e. over a decade or so, about \$600 per capita or close to 20% of GDP, leading to a total that should be on a similar scale as the inflows experienced by the new member countries (see Kinoshita & Campos, 2004).

## 6. Convergence Scenarios

Over the long-term, per capita income in Turkey, when compared to EU averages, will converge or diverge depending on relative rates of investment, relative increases in labour inputs, relative increases in total factor productivity and terms of trade effects. These developments will all be reflected in Turkey's per capita income in 2025 relative to the EU average. There will have been convergence in nominal incomes if Turkey's per capita income growth rate in constant domestic prices, augmented by any real appreciation of the exchange rate relative to EU currencies, rises significantly more rapidly than income in the EU.<sup>9</sup> What would be a plausible scenario for convergence? The empirical literature has found that within a country, or a large common market, different regions tend to converge, *ceteris paribus*, to the average at a rate that is commonly estimated between 1 and 3% per annum. (The typical convergence growth equation is:  $\text{growth} = \beta * (\text{relative level of GDP per capita at beginning of period})$  plus other factors.) This result implies that full convergence might take a generation or two, but since this is also the time horizon one has to consider when discussing Turkey's integration into the EU it might be interesting to consider what the standard convergence equation would imply for the case of Turkey. Table 11 below shows the result using a convergence parameter at the higher end of the range found in the literature, i.e. a speed of convergence of 3% per annum. Starting with the 2004 values already listed in Table 11 below this leads to the finding that Turkey could basically double its relative position before the end of the next decade, with its GDP per capita at PPP rising from about 25% to over 50% of the EU-15 average.

Table 11. Evolution of GDP per capita as % of EU-15, applying standard convergence equations and assuming fast convergence (3% per annum)

	Czech Republic	Hungary	Poland	Romania	Slovenia	Turkey
1995	61.8	45.9	35.9	32.2	64.2	29.6
2000	55.8	49.3	38.6	23.1	69.8	25.1
2004	64	57.3	40.2	26.7	75.2	25
2009	69.4	63.7	49.2	37.7	78.9	36.3
2014	74.0	69.1	56.8	47.0	82.1	45.8
2019	77.9	73.8	63.3	55.0	84.8	53.9

Source: Own calculations.

Applying the convergence equations mechanically for other new member countries as well implies of course that Turkey would not overtake them. For example, it would remain about level with Romania,

<sup>9</sup> The basket of EU currencies can for practical purposes be taken as the euro, assuming there will not be any significant divergence between currencies of EU countries.



with which it shares the starting point. It is also worth noting that, under a successful convergence scenario, countries such as the Czech Republic or Hungary would pass the threshold of 75% of the EU average under which they would no longer qualify for Structural Funds.

The implications of applying a standard convergence scenario are thus rather encouraging.

A similar result can be obtained if one just extrapolates the recent performance of the Turkish economy into the future. Let us assume, for illustrative purposes at this stage, that the average rate of growth of Turkey's per capita income in domestic prices will be 5% over the next two decades and that the Turkish Lira will appreciate by an average of 1% in real terms annually, over the same period, leading to a 6% growth in per capita income measured in foreign exchange. At the same time, let us assume that in the enlarged EU, per capita income would grow at 1.5% per annum for the next two decades, which is a little above the rate of growth achieved over the past decade. For the PPP adjusted version we assume 5.25% average growth in Turkey, as most of the appreciation of the exchange rate assumed will be reflected in a slowly decreasing gap between PPP and nominal income estimates.<sup>10</sup> The result is presented in Table 12.

*Table 12. A medium term convergence scenario*

<b>Nominal USD</b>			
EU-15 average per capita income in 1997	<b>\$22,098</b>		
EU average per capita income in 2005	<b>\$28,570</b>		
EU average per capita income in 2025	<b>\$38,480</b>		
Accession-10 per capita income in 1997	<b>\$ 4,323</b>	Ratio to EU average:	<b>19.6%</b>
Turkish per capita income in 2005	<b>\$ 4,016</b>	Ratio to EU average:	<b>14.1%</b>
Turkish per capita income in 2025	<b>\$12,829</b>	Ratio to EU average:	<b>33.3%</b>
<b>PPP</b>			
EU-15 average per capita income in 1997	<b>\$21,382</b>		
EU average per capita income in 2005	<b>\$25,920</b>		
EU average per capita income in 2025	<b>\$34,909</b>		
Accession-10 per capita income in 1997	<b>\$ 9,409</b>	Ratio to EU average:	<b>44.0%</b>
Turkish per capita income in 2005	<b>\$ 7,733</b>	Ratio to EU average:	<b>29.8%</b>
Turkish per capita income in 2025	<b>\$21,517</b>	Ratio to EU average:	<b>61.6%</b>

\*2005 forecasts based on data from International Monetary Fund, WEO Database, WEO April 2004.

The projections above are illustrative, but they do reflect what could be considered a plausible scenario based on the following considerations. Turkey's 'historic' per capita income growth rate over the last four decades has been close to 3%.<sup>11</sup> This has been achieved with a population growth rate of about 2% (starting higher and declining), an investment rate fluctuating between 18 and 25% and an average flow of direct foreign investment of less than 0.5% of GDP.

The average over 40 years is, however, composed of two quite distinct sub-periods: one with an average close to 4% and another one with an average only slightly above 2%. The first two decades (roughly 1960-79) constituted the period of rapid growth, but they were followed by two decades of stagnation in the sense that during this period (approximately 1980 to the present) Turkey failed to catch up with the OECD average. This latter period was characterised by significant macroeconomic instability, including, in these two decades, three episodes of serious financial crisis in 1978-1980, 1994 and 2001, and very high real interest rates acting as a brake on growth, particularly in the 1990s.

<sup>10</sup> Some part of the appreciation is also likely to reflect long-term changes in asset holding preferences working through the capital account.

<sup>11</sup> For a comprehensive comparison of Turkish growth with that of a large set of other countries, see Cline (2004, p. 58).

All of the factors that inhibited growth should improve, especially if compared to the 1990s.

First and foremost, there will be the new economic and political anchor from the start of EU membership negotiations, ensuring a consolidation of the structural and governance reforms undertaken in the 2001-03 period. The deep reforms of the banking system and fiscal policy should now allow a growth path without episodes of financial collapse and this should encourage FDI flows to reaching at least about 2% of GDP, as discussed above, helping to increase the investment rate in a sustainable way.

Moreover, Turkey is continuing its demographic transition, which will lead to a very desirable ratio of the active population to the total population in the next two decades. In addition, Turkey has undergone over the last decade a massive opening of its economy, with exports (of goods and services) going from less than 14% of GDP during the early 1990s to over 28% today. Most of the liberalisation came through the customs union with the EU, which is analysed in more detail in a companion paper by Ülgen & Zahariadis (2004). These factors, acting together, could plausibly lead to a 5% annual per capita GDP growth rate until our reference year of 2025.

This per capita growth rate measured in domestic terms would be augmented by a steady appreciation of the real exchange rate reflecting a Balassa-Samuelson effect observed in many other similar situations. On the basis of these considerations, a 6% average growth rate of per capita income measured in foreign currency appears as an optimistic but possible scenario if negotiations were to start, with membership achieved 7 to 10 years later, and macroeconomic and structural policies were to build on what was achieved in the recent past so that instability and serious crisis are avoided.

## 7. Concluding Remarks

The analysis above suggests that a mixture of positive factors could now launch Turkey on a sustained convergence path. Combining demographic dynamism, structural reforms and a tight fiscal policy that crowds in private investment could lead to a significant convergence between Turkey's living standards and European averages over the next two decades. In the medium run this will in addition require a concerted effort to improve the level of human capital formation, the one area in which Turkey clearly lags. Under an 'optimistic scenario', Turkey could significantly reduce the average income gap with the EU-25 as described above. Turkish per capita income would increase from about one-eighth of the EU-15 average in 2003 to about one-third in 2025 and from about a quarter in PPP terms to over 60%.

We believe that these orders of magnitude are plausible central values, assuming that Turkey is *anchored in Europe* by a start of negotiations in 2005 and that there is gradual but steady progress towards membership, accompanied by moderate long-term private investments and some modest help coming from the European budget. (A companion paper of this series – see Dervis et al., 2004 – deals with Turkey and the European budget.) If FDI flows were to become even larger, say equal to 3 or 4% of GDP, as has been the case for some countries such as Ireland or Hungary, Turkish growth could be more rapid, approaching what has been achieved in some East Asian countries such as Korea over the last two decades. On the other hand, if significant policy mistakes are made by Turkish policy-makers on the road to accession, growth could fall significantly below what is projected in the illustration above. During this period Turkish policy-makers bear a particularly important responsibility.

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## Assets and Achievements

- Complete independence to set its own priorities and freedom from any outside influence.
- Authoritative research by an international staff with a demonstrated capability to analyse policy questions and anticipate trends well before they become topics of general public discussion.
- Formation of seven different research networks, comprising some 140 research institutes from throughout Europe and beyond, to complement and consolidate our research expertise and to greatly extend our reach in a wide range of areas from agricultural and security policy to climate change, JHA and economic analysis.
- An extensive network of external collaborators, including some 35 senior associates with extensive working experience in EU affairs.

## Programme Structure

CEPS is a place where creative and authoritative specialists reflect and comment on the problems and opportunities facing Europe today. This is evidenced by the depth and originality of its publications and the talent and prescience of its expanding research staff. The CEPS research programme is organised under two major headings:

### Economic Policy

Macroeconomic Policy  
European Network of Economic Policy  
Research Institutes (ENEPRI)  
Financial Markets, Company Law & Taxation  
European Credit Research Institute (ECRI)  
Trade Developments & Policy  
Energy, Environment & Climate Change  
Agricultural Policy

### Politics, Institutions and Security

The Future of Europe  
Justice and Home Affairs  
The Wider Europe  
South East Europe  
Caucasus & Black Sea  
EU-Russian/Ukraine Relations  
Mediterranean & Middle East  
CEPS-IISS European Security Forum

In addition to these two sets of research programmes, the Centre organises a variety of activities within the CEPS Policy Forum. These include CEPS task forces, lunchtime membership meetings, network meetings abroad, board-level briefings for CEPS corporate members, conferences, training seminars, major annual events (e.g. the CEPS International Advisory Council) and internet and media relations.