

**TURKEY
TOWARD EU ACCESSION**

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1. Introduction

Turkey applied for associate membership in the EU –then the EEC– as early as 1959. The application resulted in an Association Agreement in 1963, whereby Turkey and the EU would conditionally and gradually create a customs union by 1995 at the latest. The customs union was seen as a step towards full membership at an unspecified future date. The EU unilaterally granted Turkey preferential tariffs and financial assistance, but the process of staged, mutual reductions in tariffs and non-tariff barriers was delayed in the 1970s because of economic and political conditions in Turkey. Turkey applied for full membership in 1987. The response in 1990 was that accession negotiations could not be undertaken at the time, since the EU was engaged in major internal changes as well as in the transition of Eastern Europe and the Soviet Union. However, the EU was prepared to extend economic relations without explicitly rejecting the possibility of full membership at a future date. Hence, the plans for a customs union were revived and a customs union for industrial goods was phased in between 1996 and 2001.

The process of bringing the Central and Eastern European Countries –the CEECs– into the EU made it difficult to keep the Turkish application for membership on hold any longer. A breakthrough came at the Helsinki meeting of the European Council in 1999, when Turkey attained the status of candidate for membership. It now has a so-called Accession Partnership with the EU, which means that the EU is working together with Turkey to enable it to adopt the *aqui communautaire*, the legal framework of the EU. However, in contrast to other candidate countries, Turkey has not received a timetable for accession. The revision of the number of votes and their distribution in the Council of Ministers that was agreed upon during the Nice summit in 2000 did not take Turkish membership into account, which effectively meant that the EU-15 did not think that Turkey would become a member during the coming twelve years.

The purpose of this paper is to study selected aspects of Turkish accession. While section 2 discusses briefly the trade aspects of Turkey-EU relations, section 3 considers the effects of Turkish accession on Turkey, and section 4 looks at the effects of Turkish accession on the EU. Finally, section 5 spells out the conclusions.

2. Opening up the Turkish Economy

Until the early 1980's Turkey was a fairly closed economy. At that time -as part of more wide ranging economic reforms- the trade policy of protection and import substitution was replaced by a much more open trade regime. Measured as the average of exports and imports of goods and services over GDP, the openness ratio in 1980 was 9 percent. Since then, trade has expanded rapidly, and by 2000 the openness ratio reached 27.9 percent. Turkey joined the European customs union (CU) starting January 1, 1996. According to the Customs Union

Decision (CUD), all industrial goods except the "European Coal and Steel Community" (ECSC) products are to circulate freely between the parties as of January 1, 1996. In the case of ECSC products Turkey signed a "Free Trade Agreement" (FTA) with the EU in July 1996; as a result of which ECSC products have received duty free treatment between the concerned parties since 1999. Today all industrial goods circulate freely between Turkey and the EU. Thus, no quotas and tariffs are imposed on imports of industrial goods. Turkey is implementing the Community's Common Customs Tariff on imports of industrial goods from third countries. On the commercial policy side the country is implementing measures similar to those of the Community's commercial policy. Turkey has adopted the EC competition law, established the Competition Board, adopted the EC rules on protection of intellectual and industrial property rights, established the Patent Office as well as adopted most of the EC product standards.

Consideration of Turkish merchandise trade data for the year 2000 reveals that Turkish merchandise exports amounted to US \$27.3 billion, and merchandise imports to US \$54 billion. Exports to the EU-15 formed 52.5 percent of total exports, and imports from the EU represented 48.9 percent of total imports. Among the EU-15, Germany is Turkey's most important trade partner with export and import shares of 18.8 and 13.2 per cent respectively; but Germany is not as dominant as in its trade with the CEEC-10, where more than 40 percent of imports from the EU-15 are from Germany.

Turkey's pattern of trade in goods is shown in Figure 1. For a country in the middle income range, the pattern is fairly sophisticated; almost 90 per cent of trade is in manufactures. However, when one scrutinizes the trade pattern in manufactures, it becomes clear that manufacturing exports are concentrated in low skilled, low wage goods such as textiles and clothing, while manufacturing imports are concentrated in skill and capital intensive goods such as machinery, telecommunications equipment and automotive products. However, during the last decade exports of machinery and automotive products have grown much more rapidly than exports of textiles and clothing, while the reverse can be seen for imports. Much the same can be said for the trade pattern with the EU, although here trade in manufactures dominates even more. Thus, the comparative advantage of Turkey lies in agricultural goods, primarily fruits and vegetables, iron, steel, textiles and clothing, that is, in resource and labor intensive goods, while Turkey's comparative disadvantage lies in physical and human capital intensive goods, as revealed by large net imports of more sophisticated manufactures.

The deficit in goods trade is substantial, at US \$26.7 billion in total and about US\$12.1 billion with the EU. However, the statistics quoted above do not include the considerable transit and shuttle trade. Shuttle trade includes trade carried out

by people from parts of the former Soviet Union, who travel to Turkey to fill large suitcases with various goods to bring back to their home countries. The transit and shuttle trade provide 3-4 billion Euros in net exports. The deficit in goods trade is also balanced by a surplus in tourism services. In fact, tourism is the largest export item, with export revenues of about 7 billion.

The Turkish tariff rates applicable on imports of industrial commodities from the EU are all zero as shown in Figure 2. The average tariff rate on imports of agricultural commodities from the EU is 11.1 percent. Since Turkey has signed free trade agreements (FTAs) with EFTA countries, Israel, and with most of the CEEC which have FTAs with the EU, the applied Turkish tariff rates applicable on imports of industrial goods from these countries are also zero. Furthermore since Turkey has adopted the Community's common customs tariffs on imports of industrial goods from third countries, the Turkish applied tariff rates on industrial goods from third countries equal those of the EU. While the average tariff rate on imports of iron and steel products from third countries equals 18.3 percent, the average tariff rate on agricultural commodities on imports from third countries equals 13.9 percent and on textile and clothing products 7.7 percent.¹

Regarding market access for Turkish exports into the EU market, we note that the EU abolished the nominal tariff rates on imports of industrial goods from Turkey on September 1, 1971. However, certain exceptions for textile products were made. Furthermore, trade of products within the province of the European Coal and Steel Community were protected by the Community through the application of non-tariff barriers and anti-dumping measures. These barriers to trade have been eliminated to a large extent with the formation of the customs union in 1995.

3. Effects of Accession on Turkey

Joining the EU will require Turkey to adopt and implement the entire body of EU legislation. This means that Turkey should attain macroeconomic stability, adopt the CAP, liberalize its services and network industries and bring among others its environmental protection system and standards up to Western European levels.

3.1 Macroeconomic Stability

Table 1 shows the EMU convergence criteria for Turkey and the CEEC. The table reveals that the CEEC are about to satisfy the criteria, but that Turkey is far away from satisfying the conditions. Indeed, Turkey is in the midst of a determined campaign to turn around decades of weak performance reflected by pervasive structural rigidities, and weak public finances. The past few years have witnessed three major attempts at addressing underlying weaknesses. The first

¹ Sectoral tariff rates have been obtained by weighting the line tariff rates by Turkish imports of the commodity in the sector.

was during 2000 under the three-year Standby Agreement initiated in December 1999. Despite some notable achievements, a worsening current account and a fragile banking system led in late 2000 to a liquidity crisis which turned into full-blown crisis in February 2001. The government decided to abandon the crawling peg regime and floated the currency. In May 2001 IMF increased its assistance under a new stand-by arrangement. Just as the revised program was beginning to show results, the events of September 11 triggered the re-emergence of serious financing problems. In February 2002 IMF approved a new three-year stand-by credit for Turkey to support the government's economic program. With implementation of the stabilization program Turkey envisages gradual but steady improvement in its economic conditions.

Turkey realizes that soon after accession it will be expected to join the Exchange Rate Mechanism (ERM-II) for at least two years and to achieve the Maastricht conditions for monetary and fiscal convergence before its EMU membership is examined.² Once admitted Turkey would then replace its domestic currency with the euro at an irrevocably fixed exchange rate, confer the bulk of its reserves to the European Central Bank, and be bound by the so-called "growth and stability pact."

For Turkey the problem is not how to stay out of EMU, but on the contrary it is how to reap the net benefits expected of monetary integration by fulfilling the Maastricht criteria as soon as possible. But these benefits can only be derived at some cost. The costs of fulfilling the Maastricht criteria when estimated by expected output losses turn out to be quite substantial.³

3.2 Agriculture⁴

Agriculture is an important part of the Turkish economy. Turkish agriculture contributes about 14 percent to GDP, and provides 33 percent of total employment. The corresponding figures for the EU-15 is 1.7 percent and 4.3 percent. In absolute numbers, Turkey employs about the same number of people in agriculture as the EU-15, or more than 7 million. In terms of agricultural land, adding Turkey to the EU would increase the area under cultivation by 32 percent.

² The conditions require that (i) member country's inflation may not exceed the average of the three lowest inflation rates in the EMS by more than 1.5 percent, (ii) its long term interest rate must not exceed the average of the interest rates in the three countries with the lowest inflation rates by more than 2 percent, (iii) its exchange rate must have been in the 'normal' band of the Exchange Rate Mechanism (ERM) without devaluation for at least two years, (iv) its public debt cannot exceed 60 percent of its GDP, and (v) budget deficit must not exceed 3 percent of its GDP.

³ The expected output losses can be determined with the use of a 'sacrifice ratio' defined as the cumulative loss in output, measured as a percent of GNP, associated with a one percentage point permanent reduction in inflation. On the sacrifice ratio see for example Ball (1993).

⁴ These results were obtained in collaboration with Harry Flam.

Adding both CEEC-10 and Turkey increases EU land under cultivation by about 78 percent.

Trade in agricultural products between the EU and Turkey is a relatively small part of total trade. Most of this consists of exports of fresh and processed fruits and vegetables. Agricultural trade is not part of the EU-Turkish customs union, is subject to duties, quotas and price regulations, and is highly protected. Turkey has granted very few preferential tariffs to agricultural imports from the EU. High specific duties are applied to core products of the CAP: cereals and processed cereals, sugar and sugar products, dairy products and meat. Also, olive oil is highly protected. Turkish exports of vegetables and fruits receive export subsidies. On the other hand, the EU has granted imports from Turkey highly preferential treatment. Many agricultural imports enter the EU without duties. Import barriers exist mostly in the form of tariff-quota schemes, where imports within the quota are free from tariffs and the entry price scheme, where specific duties are applied as long as the value of the consignment falls below the entry price. It is estimated that about 70 percent of imports from Turkey enter duty free and without any other import barriers.

In Turkey, agricultural support has until now placed a large burden on taxpayers. Transfers to farmers has amounted to about 5 percent of GDP and the total support to agriculture, including the higher prices paid by consumers, has been estimated at 8 percent of GDP. These numbers tell us that Turkish accession is likely to have important social, distributional and political effects in Turkey. The reason is that Turkey would have to switch policies to the CAP -something it is already in the process of doing- and would also be eligible for CAP financial support.

In the EU, the prices of many agricultural products have been kept above world market prices by the buying up of excess supplies at administratively determined minimum prices and by protecting EU markets from low world market prices by duties on imports. Excess supplies are disposed of at a loss in the EU and on the world market. Starting in 1993, the CAP has gradually been shifting away from price to income support. Currently, prices in the EU are lowered towards world market prices and farmers are compensated by direct income payments based on their holdings of land and animals. The CAP favors the main agricultural products and farmers of the original EU 6, namely grains, sugar beets, dairy products and beef. Fruits, vegetables, poultry and pork, important products of the newer, southern members, receive less or no support. Recently, the EU has declared that farmers from CEE countries will not be excluded from direct income support payments, but stated that direct payments would be introduced in CEE countries equivalent to 25 percent, 30 percent and 35 percent of the present system, in 2004, 2005 and 2006 respectively. After 2006 direct payments would be increased by percentage steps in such a way so as to ensure that in 2013 the

new Member States would reach the support level that would be applicable at the time. Since by 2013 support could absorb a high percentage of the EU budget, it seems that the support system of the EU will change to a large extent between now and then.

In Turkey the most important part of agricultural policy has been price support. State economic enterprises and agricultural sales cooperatives have been commissioned to buy cereals, tobacco, tea and sugar beet from farmers at prices determined by the government. The higher than world market prices have been protected by import tariffs. The second most important component of the policy has consisted of various subsidies, grants and exemptions lowering the cost of inputs, including capital, fertilizer, seed, pesticides and water. The output of tobacco, hazelnuts, tea and sugar beet has been controlled in various ways. Services to farmers, such as research, training, extension and inspection services were provided free or at low cost.

The present agricultural reforms in Turkey are a result of the Uruguay Round agreement on agricultural trade, Turkey's own efforts to adjust to the CAP, and the conditions of the IMF program. Under the reform program output price supports and input subsidies and grants in various forms will be phased out and replaced by direct payments to farmers based on land holdings, and tariffs will be gradually reduced. Income support is capped at 20 hectares and it is estimated that the total support will cost in excess of 2 billion euros. The reforms are being implemented at present, and are planned to be completed in two years time. The privatization of state enterprises in the agricultural sector is also part of the program. If the reforms are brought to completion, Turkey will have an agricultural policy similar to the CAP; high intervention prices and protection from the world market will have been replaced by direct income support, lower protection and prices approaching world market prices. Implementing the program requires extensive administrative reforms. For example, substantial investments are needed in improving land registration, collecting agricultural data, and raising veterinary and phytosanitary standards.

The Turkish reforms can be seen as a consequence of accession, as well as a need to reduce public expenditure. They will in the short run lead to considerable efficiency gains, but also to substantial reduction in farmers' incomes. Lower administered prices and elimination of input subsidies are far from being compensated by direct income support. It is estimated that total support - measured per hectare of land under cultivation -will decline from \$295 to \$68 per hectare, including direct income supports (averages for 1997-99; OECD, 2000). Although this represents a large reduction, it is fairly small in relation to total farm income. In terms of the value of agricultural output, total support was estimated at 13 per cent in 2000, which should be compared to the EU average of 38 per cent in 2000 (OECD, 2001). The present price reductions in Turkey will

not bring prices down to the new CAP levels. Disregarding any direct income compensations, adoption of the CAP would therefore lead to further reductions in incomes. However, we also need to consider CAP subsidies to Turkish farmers. CAP subsidies are largely, but not entirely, independent of the recipient country's income level. If Turkey benefits in full from CAP subsidies, Turkish farmers will be able to raise their income above the level existing before the present reforms, given that total support per hectare is much higher in the EU, or the equivalent of \$845 on average annually in 1997-99 (60 percent of which consists of transfers from taxpayers; OECD, 2000). In other words, accession is likely to provide a gain for Turkish farmers, provided the present subsidy system is not changed and Turkey receives a 100 percent equivalence of the present system of subsidies in the EU.

For agricultural production and trade the consequences of adopting the CAP, including free trade with the EU, are less clear. The fact that prices in Turkey are generally higher than in the EU indicates that agricultural production will contract and that the trade position with the EU will deteriorate.⁵ Turkey had an agricultural trade surplus of about 1.3 billion euros with the EU in 1999. Most of the surplus was in fruits, vegetables and tobacco, which can already enter the EU practically free. The customs union in agricultural products between the EU and Turkey will therefore have small effects for Turkey's main export items. Vegetables, fruits and tobacco have higher tariff protection in Turkey than in the EU when imported from third countries. Adopting the EU tariff rates may therefore induce some competition from imports. On the other hand larger effects can be expected for the main crops, wheat, rye, barley, oats, maize and sugar beets, since they have administered prices that are scheduled for reduction both in the EU and in Turkey.⁶

3.3 Services and Network Industries

Joining the EU will require that Turkey liberalize its services and network industries, which account for about 65 percent of its GDP. In the following sections, the paper concentrates on the effects of liberalization in the banking and electricity sectors as representative sectors of the services and network industries respectively.

⁵ The administered prices in Turkey during 1999 were 58 percent higher in the case of wheat, 13 percent higher in the case of barley, 22 percent higher in the case of maize and 32 percent higher in the case of sugar beet (58 percent, 13 percent, 22 percent and 32 percent higher, in the case of wheat, barley, maize and sugar beet respectively).

⁶ The price, output and trade effects of Turkish accession after implementation of the present CAP reform have recently been simulated by Çağatay, Saunders and Amor (2001).

3.3.1 The Banking Sector

One of the primary causes of the recent currency crisis in Turkey was the unhealthy structure of the banking sector. First, there were problems with state banks. Governments have used these banks for a number of non-commercial objectives such as agricultural support, income redistribution, and industrial, urban, and physical infrastructural development, and they faced unrecovered costs from duties carried out on behalf of the government, called 'duty losses'. The state banks covered their financing needs from markets borrowing at very high interest rates and at short maturities. Second, the banking sector faced problems created by high public sector deficits. As private banks found the financing of public deficits increasingly profitable, the share of government domestic securities in total assets of domestic banks increased considerably. The banks became vulnerable to changes in interest rates. Furthermore, during the 1990s the banks started to borrow funds from abroad, and with these funds they bought government bonds.⁷ Banks, which became vulnerable not only to changes in interest rates but also to changes in the exchange rate, underestimated the risks inherent in overly extending investments in government paper and opening foreign exchange positions. Third, the 1994 crisis had led the authorities to take drastic measures in order to save the economic system from collapsing. The most controversial of these was the introduction of a full (100 percent) state guarantee for deposits. This guarantee was effective in ending a bank rush as well as in making drastic shifts in deposits from private banks to state owned banks in 1994. However, the fear of renewal of the banking crisis prevented the authorities from abandoning this supposedly temporary measure in favor of a reasonable deposit insurance scheme. In addition, this decision led the banks to take higher risks and stimulated moral hazard. Fourth, there were problems related to the legislative, regulatory and institutional framework of the banking sector. Turkey lacked competent supervisory authorities, a regulatory framework and legal and institutional infrastructure. In addition, the then prevailing prudential regulations were poorly enforced.

Since 1999 Turkey has taken measures to reform the regulatory and institutional framework of the banking sector, and restructure the state and private banks. In 1999 the Parliament passed a new banking law, which mandated the creation of a new independent Banking Regulatory and Supervisory Agency (BRSA). The BRSA took over the bank regulation and supervision responsibilities previously fulfilled by the Treasury and the Central Bank. In the case of state banks, the Treasury provided floating rate notes to those banks securitizing the duty losses, and strengthened their capital base. A law was introduced requiring the state

⁷ The average excess return on Turkish government bonds over LIBOR both measured in US Dollars has amounted to 4.05 percent over the period 1990-1993 and 22.9 percent over the period 1995-November 2000.

banks to run no more duty losses. Any support provided to the state banks will henceforth have to be budgeted. The state banks are required to comply fully with all banking regulations. On the other hand the private banks, which had incurred significant losses in the aftermath of the currency crises, were either taken over by the Savings Deposit Insurance Fund (SDIF) or asked to strengthen their net worth and balance sheet structure. Furthermore, the capital base of banks under SDIF management has been strengthened by injection of government funds, and measures were taken to facilitate bank mergers and prepare the state banks for privatization.⁸

According to the Banks Act of December 1999 the establishment of a bank to be founded as a joint stock company is subject to authorization to be issued by BRSA. Any candidate bank must be founded as a joint stock company, have founders who are of sufficiently good repute and have sufficient experience in the banking sector, and must have capital, paid in cash, which shall not be less than TL 20 trillion (US\$ 14.3 million).⁹ According to the Banks Act, banks may exit from the system through acquisition, merger and liquidation. Mergers are to be realized with the permission of the BRSA Board. The Act also requires the Competition Agency's approval for mergers that exceed 20 percent of the total assets of the banking system. According to Article 14(3) of the Banks Act, the BRSA Board can revoke the license of a bank to perform banking operations as long as the conditions stated in the Article 14(2) materialize.¹⁰

Currently, banks are required to maintain and keep an 8 percent capital adequacy standard ratio, on a consolidated and unconsolidated basis, in order to ensure that banks maintain an adequate amount of capital against losses which may result from existing and potential risks. The consolidated financial reporting requirements allow quarterly verification of the bank's compliance with the consolidated capital adequacy requirement. When evaluating the capital adequacy ratio, banks are required to take capital charges for market risks such as foreign exchange risk, interest rate risk, and securities price fluctuation risk. Lately, the maximum open foreign exchange position was reduced from 30 to 20 percent. Furthermore, the government requires banks to establish internal control and risk management systems. The government has also taken steps to correct flaws concerning the weak loan loss-provisioning rule and the lenient large

⁸ The cost of the banking crisis is estimated around \$40 billion.

⁹ According to the 1977 First Banking Co-ordination Directive (77/780/EEC) and the 1989 Second Banking Co-ordination Directive (89/646/EEC) any bank to be founded in the EU must have initial capital of at least ECU 5 million, and have founders who are of sufficiently good repute and have sufficient experience in the banking sector. There must be prior consultation with the competent authorities. Thus Turkish regulations on the establishment of banks are in conformity with EU rules.

¹⁰ If BRSA determines that a bank - the assets of which are insufficient or that fails to meet the minimum level of capital - does not take the required measures to remedy the situation, it may revoke the license of the bank.

exposure and connected lending limits. With the amendments to the Banks Act tighter limits were imposed on both on- and off-balance sheet commitments to related parties and especially to companies belonging to the same group. The bank shareholders and managers became personally liable for the mismanagement and abuse of bank resources. Since bank managers may attempt to under-report the size of their bad assets and overstate their capital, the BRSA requires that banks introduce internationally recognized accounting and auditing standards. The above considerations reveal that Turkish prudential requirements as of 2002 are, in general, in conformity with those in the EU regarding the capital adequacy standards, loan classification and provisioning requirements, limits on large exposures, limits on connected lending and requirements for liquidity and market risk management.

The objective of the legislative and regulatory reform has been to bring the regulatory and supervisory regime for the Turkish financial sector up to the level of international practice in line with EU standards. This objective has been achieved to a large extent. A major issue that needs to be solved concerns the privatization of state banks. Recently, Turkey has decided to privatize the two largest state banks within three years, to withdraw the banking license of another state bank, and resume the privatization process of another large state bank as soon as market conditions allow.¹¹ What is needed now is strict enforcement of the rules by the BRSA to cover all public and private banks in Turkey.¹²

Consideration of the data on the Turkish banking sector reveals that in the year 2001 private domestic banks accounted for about 53.6 percent of the total assets of the banking sector with the five largest banks accounting for 36.1 percent of total assets. While the share of foreign banks in total banking assets amounted to 2.6 percent, the share of state banks was 27.2 percent and the share of banks managed by the SDIF was 11.7 percent. Thus foreign banks in terms of their shares in total credits and deposits remain insignificant in Turkey.

With Turkish accession to the EU, competition in the financial sector will increase as Turkey recognizes the Supervisory Authorities' competence of EU Member States and introduces to its legislature the principle of home country control. According to Claessens, Demirgüç-Kunt and Huizinga (1998), the share of foreign bank assets in total bank assets over the 1988-1995 period averaged 77

¹¹ The state banks to be privatized within three years are Ziraat Bank and Halk Bank. The government has withdrawn the banking license of Emlakbank, and it will resume the privatization process of Vakıfbank as soon as market conditions allow.

¹² It is emphasized that the ratio of non-performing loans to gross loans of the banking system has increased to 17.7 percent as of August 2001, and that this ratio is expected to grow further because of the economic downturn. Strict enforcement of the rules in such an environment would lead to further takeovers of private banks by SDIF. The budgetary burden would then make the country's debt dynamics more difficult.

percent in Greece, 31 percent in Spain, 61 percent in Hungary, 51 percent in the Czech Republic and only 1 percent in Turkey. Thus with liberalization in financial markets the penetration rates of foreign banks in Turkey are expected to increase substantially, thus causing adjustment costs in the sector. Increased competition will improve the quality and availability of financial services in the domestic market, enable the application of modern banking skills and technology, enhance the country's access to international capital, lower the prices that consumers face, and lead to a larger variety of financial instruments. Some of the Turkish banks will benefit from larger markets by concentrating on activities in which they have a comparative advantage. Other Turkish banks may be forced to merge with foreign banks, or exit from the market.

3.3.2 Electricity

In 2001 Turkey had an installed power generating capacity of about 28.8 GW. While electricity consumption has been growing at an annual average of 9 percent over the last decade reaching 126.5 TWh in 2001, the demand for electricity is forecasted to grow at an annual rate of 8 to 10 percent over the next ten years. This growth will require annual investment of about US\$ 3 billion in generation, transmission and distribution. The Turkish electricity sector is dominated by state owned enterprises. The two largest firms are TEAS, the state owned generation-and-transmission company, and TEDAS, the state owned distribution company. Recently, TEAS was separated into three separate companies covering generation, trading and transmission activities. In the sector, privatization has been widespread for some time. There are privately owned firms which have entered the industry through build-operate-transfer (BOT) or auto-generator schemes. They account for about 21 percent of electricity generation. In addition there are four private distribution companies active on the Asian side of Istanbul, Kayseri, Adana and Antalya. Furthermore, five build-operate-own (BOO) contracts for electricity generation were competitively bid, and transfer of operating rights contracts (TOORs) have been awarded for 8 thermal plants and 14 distribution regions.

Although privatization can be thought of as a legal transfer of assets from the government to a private operator many of the benefits of privatization come with the transfer of risk. When private companies bear risk, privatization can be expected to lead to efficiency gains. Under the current regulations in Turkey the private owners in the electricity sector bear construction and operating cost risks. The private operator signs a long-term power purchase agreement with the state owned generation enterprise in which the latter commits itself to buy the output of the plant for a period of, say, 20 years at a fixed price in foreign currency. While the price has ranged on average between eight and nine US cents per KWh for the first five to ten years of operation in BOT projects, the BOO projects tend to have lower prices. This contract, guaranteed by the Treasury, assures the investor that the project will be profitable irrespective of future demand for

power. As a result the government retains the commercial risks. But there have been significant problems with these arrangements. The high cost electricity purchase agreements have exposed TEAS to significant losses and contingent liabilities. The financial position of the TEAS/TEDAS is poor partly due to high cost BOT contracts that involve purchase costs to TEAS in excess of subsequent sales prices to TEDAS set by the government.

Recently, the government in Turkey has passed a new Electricity Law. The law provides for the establishment of a new independent Energy Market Regulatory Authority, which takes over regulatory functions from the Ministry of Natural Resources. Standard regulatory functions include tariff setting, market monitoring, and access dispute settlements. With the new law the government is introducing a market model as in the EU that will transfer most of the task of supplying and distributing electricity and the associated market risks to the private sector, eliminate the need for additional state-guaranteed power purchase agreements, and minimize costs through competitive pressures on producers and distributors along the EU model. The government will largely withdraw from the electricity generation and distribution businesses. Electricity generation companies will sign contracts for power directly with distribution companies without government guarantees. The government's future role will be largely confined to determining sector policy, owning the transmission system, and making sure that the rules are respected and that prices are competitively determined. Once the new Electricity Law is implemented the regulatory and supervisory regime for the electricity sector will be brought up to the level of international practice in line with EU standards. Currently Turkey faces major problems exiting from the old system, but once the system starts to operate, Turkey expects to derive efficiency gains in the sector resulting in price reductions and improvements in the quality of the service.¹³

3.4 Trade and Growth Effects of Accession

When considering the effects of integration on the Turkish economy, it is important to keep in mind that the customs union in industrial goods was established in 1996 and that a period of perhaps ten years or more will precede full membership and Turkish participation in the internal market. Membership will add free trade in agricultural goods and services and free mobility for labor (eventually) and capital. Furthermore, Turkey within a few years of EU accession will need to satisfy the Maastricht criteria and join the Economic and Monetary Union (EMU).

The impact of the customs union in industrial goods on Turkish welfare has been estimated by Harrison et al. (1997). The authors consider the effects of tariff

¹³ Because of the various BOT and BOO contracts signed in the past, the establishment of a competitive environment may take quite a long time.

reductions, improved access to EU markets due to the elimination of voluntary export restraints and harmonization of product quality standards and improvements in testing laboratories in Turkey and reduced costs of trading due to the reduction in border costs estimate the gains to Turkey of 1.1 percent of its GDP per year.

If liberalizing trade in industrial goods can affect the GDP, then there should be comparable gains from liberalizing agriculture and also services that are becoming increasingly tradable. It is emphasized that trade liberalization in agriculture will lead to efficiency gains. On the other hand an efficient and well-regulated financial sector leads to an efficient transformation of savings to investment. In addition, benefits also arise from increased financial product variety and better risk sharing in the economy. In the case of telecommunications, improved efficiency generates economy-wide benefits as telecommunications are a vital intermediate input and are also crucial to the dissemination and diffusion of knowledge. Similar considerations apply to the electricity sector as energy is an indispensable input into production and inefficient production of energy acts as a tax on production. Following Ritson and Harvey (1997) and Deardorff (2001) one could then argue that Turkey will derive considerable gains from eliminating barriers to trade in services.

The above considerations reveal that integration will remove the distortions in the price system, which in turn will boost the allocative efficiency in the economy. As a side effect, this heightened efficiency will make the country a better place in which to invest. Investment will increase and hence foreign direct investment. Thus the allocative efficiency gains from integration will be boosted by induced capital formation. While investment increases above its normal level the Turkish economy will experience a growth effect. All this means is improved material well being for Turkish people in the long term.¹⁴

Furthermore with accession Turkey will be eligible for EU structural funds. As a result infrastructural investments will increase, which in turn will contribute to economic growth. Finally, within a few years of EU accession Turkey will abandon its national currency and adopt the euro. As stressed by Mundell (1961), the currency union will reduce the costs of international transactions and promote trade and openness. Frankel and Rose (2002) note that belonging to a currency union triples trade with other currency union members, that there is no evidence of trade diversion, and that every percent increase in the country's overall trade relative to GDP raises income per capita by at least one third of a percent.

The consideration of the effects of membership on the pattern of trade between the EU-15 and Turkey reveals that the trade pattern in industrial goods will not

¹⁴ The process described above summarizes briefly the impact of EU membership on Spain, Portugal and Ireland.

be affected significantly, since the customs union was already established in 1996. Trade in agricultural goods will be affected, but the major effects will be in Turkey, not in the EU-15, since import barriers are relatively low for Turkish agricultural exports. Turkey's comparative advantage will for some decades to come be in low skilled, low wage activities in manufacturing. Compared to the CEEC-10, Turkey has less human capital and skills, because of a generally much lower level of secondary and higher education. The average level of schooling for an adult is 4.5 years. It was only recently that Turkey raised the mandatory minimum length of schooling from five to eight years.

Although the pattern of Turkish-EU trade is not expected to change substantially as a result of full membership, there is considerable potential for an increase in the volume of trade. The recent experience of the CEEC-10 shows that trade volumes have increased substantially as a result of large investments by firms from Western Europe and elsewhere, which combine their technical, managerial and marketing assets with a generally well educated and skilled labor force at low wages. Turkey has a long way to go before it can hope to attract foreign direct investment to the same extent as some of the more successful countries in Central and Eastern Europe. For example, Turkey attracted \$15 per capita in foreign direct investment in 2000 compared to \$256 in Poland, the most successful of the CEEC. Foreign direct investment in Turkey is hampered by economic and political uncertainty, government intervention, bureaucracy and detailed regulations. Turkey's investment climate has one of the lowest ratings in the UN's Direct Investment Index. Membership and adoption of the *acquis* will go some way towards establishing a better investment climate, which in turn will lead to higher volumes of trade in the same way as in the CEEC-10.

We have forecasted the volume of trade between Turkey and the EU-15 under the assumption that it will reach the same level of intensity as trade between the EU member states at present.¹⁵ The forecast is based on estimation of a gravity function for trade within the EU-15. The gravity function has been used to explain the volume of bilateral international trade since the 1960's and has proven to be remarkably successful. It postulates that the volume of trade between a pair of countries is a function of the size of the trade partners, measured by GDP, population or geographic area, of their income level or capital abundance, measured by GDP per capita, and of trade costs, measured by a variety of factors, such as tariffs and other administratively imposed trade barriers, geographic distance, common borders, common language or common

¹⁵ These results were obtained in collaboration with Harry Flam.

legal systems.¹⁶ We have estimated the following standard version of the gravity equation:

$$\log [(\text{exports from country } i \text{ to country } j + \text{exports from country } j \text{ to country } i) / 2] = \text{constant} + \beta_1 \log (\text{GDP of country } i \times \text{GDP of country } j) + \beta_2 \log (\text{GDP per capita in country } i \times \text{GDP per capita in country } j) + \beta_3 \log \text{geographical distance} + \text{dummy for common land border} + \text{error term}$$

The dependent variable in the gravity equation is the logarithmic average of bilateral exports. It is explained by the logarithmic product of GDP; the volume of trade is simply assumed to rise in proportion to the combined economic size of the trade partners. GDP per capita can be thought of as a measure of product differentiation and specialization. The higher the per capita income is, the more differentiated is taste and production, and the larger is the volume of trade based on product differentiation and increasing returns to scale. A high per capita income is also an indication of abundance of physical and human capital relative to manual labor. Thus, the per capita variable should serve to capture both intra-industry trade caused by product differentiation and increasing returns to scale, and inter-industry trade caused by differences in factor endowments. Trade costs are controlled by the inclusion of geographical distance and a common land border. Geographical distance is an indicator of transportation costs, but also of the costs of cultural differences which tend to increase with geographic distance. Finally, a common land border is thought to have a level effect on the volume of trade.

The estimates of the gravity equation are presented in Table 2. Two estimation methods were used, OLS and random-effects GLS. The two methods yield similar estimates and the gravity equation explains more than 90 percent of the variation in the data. All coefficients are estimated with a very high level of statistical significance (less than 1 percent) and have the expected sign, with one exception. The product of real per capita GDP is found to have an unexpected, negative effect on the volume of trade, when distance is taken into consideration. However, the coefficient changes sign and becomes positive and highly significant when distance is left out of the regression, as in the second column. Clearly, the results indicate that income differentials between present EU members and distance are positively correlated.

¹⁶ Note that standard versions of the gravity equation can be derived from all three basic trade models, the Ricardian, Heckscher-Ohlin and increasing returns to scale models, as well as from other models, as demonstrated by Anderson (1979), Bergstrand (1990), Deardorff (1998), and Helpman (1998). Recent research has sought to ascertain to what extent the various models contribute to the empirical success of the gravity equation and thereby to evaluate their empirical relevance, see Feenstra, Markusen and Rose (1999) and Evenett and Keller (2002). A tentative conclusion is that models based on increasing returns and product differentiation are more successful in explaining intra-industry trade, while trade in homogeneous goods is better explained by factor endowment differences or differentiation of goods by country of origin (the Armington assumption).

The OLS estimates of the gravity equation in the first column were then used to make forecasts of bilateral trade for each of the CEEC-10 and Turkey with the EU-15. The results are presented in Table 3. As can be seen, the forecasted value of Turkish EU-15 trade is 26.1 billion dollars in 2000, which is almost 41 percent higher than the actual average value of \$18.5 billion for the period 1999-2001. Most of the CEEC-10 are also projected to increase their trade with the EU-15, some of them considerably more so than Turkey, while two countries -Estonia and Hungary- have higher actual than projected trade. Note, however, the point estimates obtained with our forecast method are highly uncertain as shown by the 95 percent confidence intervals for the point estimates.

Next, we assume that Turkey eventually will have a share of EU trade to total trade that is equal to that of the four large EU countries, namely 58 percent. Then total trade of Turkey can be shown to increase to \$45 billion. When we divide this value by the average value of GDP for 1999-2001 we arrive at a ratio between the average of exports and imports to GDP of 25.2 percent. The actual value of total trade to GDP over the 1999-2001 period, on the other hand, is 20.67 percent. Noting from Frankel and Rose (2002) that every percent increase in the country's overall trade relative to GDP raises income per capita by at least one third of a percent. Thus we can state that with EU accession, income per capita in Turkey will increase by about 1.5 percent.

4. Effects of Accession on the EU¹⁷

The effects of Turkish accession on the EU are analyzed in the following under the headings of migration and budgetary effects.

4.1 Migration

The PPP-adjusted income per capita in the EU is more than three times higher than in Turkey. It will probably take decades before Turkey attains an income level comparable to that of the EU-15. The income differential will continue to be a strong incentive for migration from Turkey to the EU. Turkish migration to Western Europe was particularly high in the 1960s, but a steady flow has continued, particularly to Germany and, to a lesser extent, to the Netherlands. A period of active recruitment of foreign labor in many of the present EU countries in the 1950s and 1960s ended after the first oil crisis in 1973-74. Since then immigration policies have become successively more restrictive, and immigrants have mostly consisted of relatives of former immigrants, refugees and asylum seekers. Most migrants from Turkey have ended up in Germany, which has a population of 2.1 million with Turkish origins. The second largest recipient has been the Netherlands, with 250 000 immigrants and their descendants from Turkey.

¹⁷ This section is based on the work of Harry Flam.

The prospect of large-scale immigration from Turkey and the other candidate countries is a source of considerable concern among the EU-15 (member countries), where it is feared that the immigrants will depress wages, boost unemployment and cause social friction and political upheavals. Free migration will surely not be allowed immediately upon full membership, but only after some period of transition. In the case of the CEEC-10, the length of the transition period is still to be agreed upon. A transition period of seven years was applied for Greece, Portugal and Spain. Austria, Finland and Sweden were under no migration restrictions when they became members.

4.1.1 Theory

The effects of migration from Turkey to any of the EU-15 member states can be illustrated with the help of Figure 3. The horizontal axis measures the total supply of labor in Turkey and - say - Germany. We will simplify at first and assume that labor is a homogeneous factor of production. Later we will take account of the fact that labor is differentiated by education, training and experience. Demand by employers for labor in Turkey is shown by the demand curve D^T . Likewise, demand for labor in Germany is shown by the demand curve D^G . The total supply of labor in Germany and Turkey is assumed to be fixed. Initially, it is divided up so that the supply of labor in Turkey is measured by the length of the line segment $L^T L^0$, and the supply of labor in Germany by the length of the line segment $L^G L^0$. The supply of labor in each country is assumed to be inelastic. Before migration is allowed, the equilibrium wage in Germany is w^G , and it is much higher than the equilibrium wage in Turkey, w^T .

When free migration is allowed, labor will move from Turkey to Germany in order to earn the higher wage. Migration stops when the wage is equalized between the two countries, at the level w , and $L^T L^0$ of labor has moved from Turkey to Germany. Thus, one effect of migration is that it raises the wage in the sending country, and lowers the wage in the receiving country. Migrants as well as those remaining in Turkey gain, while German workers lose. The effects for capital owners are opposite. Turkish capital owners now earn the surplus TwE instead of $Tw^T C$, while German capital owners earn GwE instead of $Gw^G A$. (We assume that capital does not migrate in response to eventual earnings differences.) The fact that part of the labor force has moved from Turkey to Germany also means that the Turkish GDP declines and the German GDP rises. All of these changes amount to an increase in aggregate social surplus or welfare. The increase is given by the area ACE , and it is captured by German capital owners and Turkish migrants. The welfare increase is due to a more efficient allocation of labor; Turkish laborers become more efficient when they are moved to Germany and the optimal allocation is achieved when the marginal productivity of labor in Germany and Turkey is equalized.

Figure 3 provides a simplistic yet powerful analysis of the income, redistribution, output and welfare effects of migration. It is built on the assumption that migration is entirely driven by a wage differential and that no unemployment exists. Unemployment can easily be added to the model. Assume that before migration is allowed, $L^T L^0$ of the Turkish labor force is unemployed. Those employed now earn a higher wage, w instead of w^T . Assume also that employment is decided by a daily lottery. Thus, the expected wage (the actual wage w times the probability of winning employment) is lower than the actual wage and lies somewhere between w and w^T . The expected wage in Turkey is still below the certain wage w^G in Germany, so labor will migrate to Germany once migration is allowed. Assume that all unemployed in Turkey migrate to Germany, but that employment will remain unchanged in Germany despite the inflow of migrants. In addition, assume that employment in Germany is also decided by a daily lottery, in which German and Turkish workers have equal probabilities of winning. The expected wage therefore falls below w^G but not all the way to w . Thus, in the new equilibrium the actual and expected wage are higher in Germany than the actual wage in Turkey. In the new equilibrium, in which migration has stopped, the expected wage can be higher in Germany because workers attach a negative value to the risk of becoming unemployed. They demand a higher expected wage to compensate for the risk.

It is seen that Turkish migration can serve both to depress wages in the receiving country and to raise unemployment. Changes in the assumptions made, such as allowing unemployment to remain in Turkey, employment to increase in Germany or Turkish workers having a higher risk of becoming unemployed, would not change the basic conclusions. One assumption in the analysis is however questionable, namely that labor is homogeneous. In reality, labor is highly differentiated according to education, training, experience and many other characteristics. Thus, we do not have just two factors of production: labor and capital, but many types of labor and many types of capital as well. As soon as we allow for three or more factors, the effects of migration for income distribution and social welfare become less clear-cut.¹⁸ In general, the effects for native labor and capital become more favorable when immigrants are complements to rather than substitutes for the native factors. For example, if the German labor force is skilled and the Turkish immigrants are unskilled, then immigrants tend to increase the productivity and wages of German workers. Likewise, the increase in social surplus from migration tends to rise the more complementary migrants and native workers are. In terms of Figure 3, smaller substitutability between labor and capital means that the demand curves become steeper and that the size of the surplus triangles become, up to a point, greater.

¹⁸ See Borjas (1995).

The decision to migrate is of course not only dependent on relative wages and unemployment, but on many other factors as well. The early theoretical research focused on income differentials and individual decisions, as in Berry and Soligo (1969). Recent research stresses that migration is a household decision, and that social networks, culture, language, geographical distance and other factors are important as well.¹⁹

4.1.2 Forecasts of Migration from Turkey to Germany

We have made a forecast of Turkish migration to Germany under the assumption that such migration will be completely free from restrictions. Our forecast is based on an estimated model of immigration to Germany from the EU-15, Norway, Turkey, USA and former Yugoslavia by Boeri and Brücker (2000). The choice of Germany is dictated first by the fact that Germany holds by far the largest population of Turkish immigrants among the EU-15, and therefore can be expected to attract the largest numbers of future immigrants; and second, the paucity of data on migration flows and stocks before the 1990s for most of the other EU-15 countries.

Boeri and Brücker (2000) estimated how the flow of migration depends on the wage differential, employment rates in the home and host countries, the stock of migrants from the home country, restrictions on migration, and country specifics such as language differences, distance and institutions. The migration decision is seen as dependent on expectations about the future wage differential. This is based on past and present values of the differential, which is conditioned by the individual probability of finding employment in the host country relative to the home country. This, in turn is assumed to be based on past and present average employment rates, on the ease of adjustment, which is proxied to the size of the presence of earlier migrants, on the difference in development between the home and host countries and language differences, and on agreements regulating migration, such as guest-worker agreements. Migration flows are seen as short run adjustments to a long run equilibrium in which migration has ceased and the stock of migrants has attained an equilibrium level dependent on the wage differential, the employment rate differential, restrictions on migration and the country specific factors. The long run equilibrium is also estimated, giving long run relations between the stock of migrants and the explanatory variables.²⁰ The existence of a long run equilibrium builds on the assumption that the propensity to migrate has a certain distribution in the home country; the equilibrium is reached when those with the highest propensity have emigrated for given long

run values of the explanatory variables, and those remaining do not find it worthwhile to emigrate.²¹

We have used the Boeri and Brücker (2000) estimation of the migration equation to forecast free migration from Turkey to Germany from 2000 to 2030. To make a forecast, we have to make assumptions for the whole period about population and GDP growth rates, and about employment rates. For population growth, we have used the forecasts given by the World Bank in its World Development Indicators database. For GDP, we simply assume a GDP growth rate for Germany equal to the average for 1990-2000. The GDP and population growth rates yield a GDP per capita growth rate of 1.7 percent. For Turkey we assume a higher GDP growth rate. We make forecasts based on the assumption that 1 percent, 2 percent or 3 percent of the per capita income gap is closed per year. This means that GDP per capita in Turkey grows at about 9 percent, 12 percent or 15 percent in the beginning of the period and at about 3 percent at the end. The average rate is about 5.5 percent for the 2 percent assumption. The Turkish GDP growth rate has been about 5 percent over the last five decades. Our assumption implies that GDP growth has to increase by about 2 percentage points for GDP per capita to grow at 5.5 percent. The forecast results are shown in Figure 4. As can be seen, the Turkish immigrant population starts out at about 2.2 million in

²¹ Boeri and Brücker (2000) first estimate a (error-correction) model taking migration responses to short run deviations from long run equilibrium relations into account. The signs of the coefficients on the explanatory variables correspond to the signs found in the estimation. The equation was estimated with data on migration to Germany from 18 industrialized countries during the period 1967-1998. This equation is:

Change in migrant population in receiving country/population of sending country = β_1 (country specific factors) + β_2 (change in GDP per capita in sending country relative to receiving country) + β_3 (change in employment in receiving country) - β_4 (change in employment in sending country) + β_5 (GDP per capita in sending country relative to receiving country in the previous year) + β_6 (employment in the receiving country in the previous year) - β_7 (employment in the sending country in the previous year) - β_8 (migrant population/population of sending country, in the previous year) + β_9 (dummy variable for free migration) + β_{10} (dummy variable for guest worker agreement).

The long run equilibrium relations between the ratio of the migrant population in the receiving country relative to the population of the sending country on the one hand and the explanatory variables on the other can be found by setting the changes in equation (1) equal to zero and estimating the resulting equation which describes the long run equilibrium relations as follows:

Migrant population in receiving country/population of sending country = $(\beta_1 / -\beta_8)$ (country specific factors) + $(\beta_2 / -\beta_8)$ (GDP per capita in sending country relative to receiving country) + $(\beta_3 / -\beta_8)$ (employment in receiving country) - $(\beta_7 / -\beta_8)$ (employment in the sending country) + $(\beta_9 / -\beta_8)$ (dummy variable for free migration) + $(\beta_{10} / -\beta_8)$ (dummy variable for guest worker agreement).

The signs of the coefficients within parenthesis correspond to the estimated signs. As expected, in the long run the migrant population in the receiving country is positively related to the income differential between the sending and receiving country, the employment rate in the receiving country, free migration and guest worker agreements, and is negatively related to the employment rate in the sending country.

¹⁹ For a survey, see Ghatak et al (1996)

²⁰ The assumptions and the model are described in detail in Boeri and Brücker (2000)

2000 and reaches about 3.5 million in 2030 under the assumption that no restrictions are placed on migration.²²

4.2 EU Budget Transfers to Turkey and other Candidate Countries

The structure of the present system of EU revenue and expenditure is such that rich member states transfer resources to poor members, but the relation between income per capita and net transfer is far from straight. Some rich countries give proportionately more than others, while some poor countries receive a disproportionate share of the transfers. Turkey and the CEEC 10 are all poor relative to the EU 15. Much attention has therefore been given to the budgetary effects for the EU of enlargement on the presumption that enlargement will be very costly for the EU 15. The present net recipients from the EU budget seem to fear that transfer to them will be cut, and the net contributors fear that they will be required to raise their contributions.

The major items on the revenue and expenditure sides of the budget in 2002 are shown in Table 4. Revenues are collected from three sources: the member states' VAT revenues, customs duties collected by member states and a tax related to the member states' GNP. The total contribution to the EU budget is, by decision, capped at an amount equal to 1.27 percent of GNP annually until 2006, when the present long-term budget ends.

Expenditures have two main destinations: the CAP and the so-called Structural Operations aimed at disadvantaged countries and regions. The CAP has until recently built on price supports. Starting in 1993, the CAP has gradually been shifting away from price to income support. On the other hand, Structural Operations are based on criteria of relative income level, underdevelopment and the structural problems of particular regions and countries. Regional support is given by the so-called Structural Funds. For example, to be eligible for support under the classification of "Objective 1," a region has to have a per capita income less than 75 percent of the EU average. Nearly 70 percent of Structural Operations expenditure falls under this classification. The Cohesion Fund is by construction exclusively directed at Greece, Ireland, Portugal and Spain. The Cohesion Fund expenditure is rather modest, or about 2 percent of the total budget, but is important for the recipient countries. Relative to GDP, the largest recipients of Structural Funds are Greece and Portugal, which receive the equivalent of more than 2 percent of their GDP, and Spain, which receives more than 1 percent.

²² It must be stressed that the forecast is highly uncertain. It depends on the specification of the migration model, the estimates of the model, which themselves are uncertain, and on heroic assumptions about GDP and population growth rates. Furthermore, we assume that estimates made for a group of countries during a certain time period in the past, can be applied for a different country pair and a different time period.

One way to calculate Turkey's contributions to and receipts from the EU budget would be to estimate the "tax base," i.e. VAT and tariff revenue and GNP, and the extent to which Turkish agriculture and regions are eligible for support from the CAP, Structural Funds and the Cohesion Fund. The calculation is likely to come up with a large net transfer to Turkey, both because of the size of the agricultural sector and because Turkey is poor and underdeveloped relative to the EU-15. We find it unlikely that the EU-15 will accept Turkey as a member if it proves to be very costly. Turkish accession will come after the accession of most of the CEEC 10, Cyprus and Malta. These countries are also poor -with the exception of Cyprus- and have relatively large agricultural sectors. When the EU 15 determines new rules for contributions to and receipts from the budget it will consider the budgetary effects of accepting all of the present 13 candidate members. Since the EU 15 will be relatively large net contributors after enlargement under the present rules, they will, we argue, want to change the rules in order to reduce the amount of redistribution from rich to poor member states. Their ability to do so before enlargement is of course great. The question is what will happen once enlargement has taken place?

The history of past enlargements shows that the rules are changed if an acceding country will become a disproportionately large net contributor, or is a disadvantaged recipient of CAP or Structural Funds support under the existing rules. The United Kingdom has a relatively small agricultural sector and receives relatively little CAP support. After a long struggle, it won a permanent rebate -a "correction of budgetary imbalances"- on its contribution. Portugal and Spain receive relatively little CAP funding because their agriculture sector produces relatively little grain. After their accession, it was decided to limit aggregate the CAP spending in favor of the Structural Funds spending, something that benefited Portugal and Spain. The Cohesion Fund set up in 1993 - ostensibly to help the poor members cope with EMU - can also be seen as a compensation to Greece, Ireland, Portugal and Spain. Austria, Finland and Sweden do not have poor regions eligible for much support from the Structural Funds. However, they managed to gain support for sparsely populated alpine and arctic regions when negotiating the terms of accession. Baldwin et al. (1997) provide a more detailed account of how the eligibility criteria and the expenditure pattern have been adjusted in successive enlargements of the EU.

The Rules for contributions to and receipts from the EU budget favor poor countries, since contributions are more or less proportional to income per capita while Structural Operations are targeted at poor countries and regions to raise their income relative to richer countries and regions. The CAP has a bias towards temperate climates and therefore the richer members, but not enough to overturn the redistributive effects of Structural Operations. What the budget rules will be after the CEEC 10, Cyprus, Malta and Turkey have joined depends in the final instance on the voting power of new members and voting rules.

Present rules give small countries more voting power per capita than large countries. Consider the extremes: Germany with a population of 83 million has 10 votes in the Council while Luxembourg with a population of 400 000 has 2, giving voters in Luxembourg 42 times the voting power of voters in Germany. Most of the candidate countries are relatively small. The largest are Turkey, with 65 million, Poland, 38 million, and Romania, with 23 million. Overall, poor countries will have more votes in EU-28 than in EU-15. There are at present 87 votes in the Council. Under existing rules, decisions have to be either unanimous or made with a qualified majority of 71 percent (62 votes). Under the new rules agreed on at the European Council meeting in Nice, 74 percent of the votes will be required for a qualified majority starting in 2005. The 13 candidate countries will add as many as 53 votes to the Council, based on the present allocation of votes according to population size.²³ Turkey should receive 10 votes, the same number as France, Germany, Italy and United Kingdom each. Thus, a coalition of poor, new member states can easily block decision-making in the EU-28.

Voting power should therefore be a good indicator of how much a country receives from the EU in the form of CAP and Structural Operations support. The history of enlargement has shown that if new members feel disadvantaged under existing rules, they will change the rules and eligibility criteria to achieve an outcome that is more favorable. At the same time, GDP per capita is a good indicator of how much a country has to contribute to the EU budget. An alternative way of calculating the budgetary effects for new members is therefore to estimate the contribution per capita in the EU-15 based on income per capita, and to estimate the receipts per capita based on per capita Council votes and on the level of development in a broader sense, as indicated by eligibility for Cohesion Fund status. The results of such an estimation are shown in Table 5. As can be seen, GDP per capita alone can explain 82 percent of the variation in contributions per capita among the EU-15. The estimated effect is highly significant. As for receipts per capita, the number of votes per capita and Cohesion Fund status can explain as much as 87 percent of the variation in the data. The effect of voting power is borderline significant (it is significant at the 10 percent but not at the 5 percent confidence level), while the effect of Cohesion Status is highly significant.

The estimates of Table 5 were then used to estimate the contribution and receipts of each of the candidate countries shown in Table 6. It must be remembered that these estimates are based on the present distribution of votes among the EU 15 and present rules for contributions and receipts. The total net transfer to the 13

countries is quite large, or 49 billion euro. This is equivalent to more than half of the present budget of the EU-15. Turkey would receive the largest net transfer, about 14 billion euro. The second largest net receiver is Poland, with about 9 billion. The smaller countries receive net transfers that are much larger per capita than the larger countries, due to their higher voting power. Although the net receipts to Turkey are the largest, the receipts per capita are the smallest. Turkey would receive 263 euros per capita, which is less than any country with Cohesion Status, while Malta, the smallest country would receive 3 400 euro.

The distribution of votes that we have assumed is of course somewhat uncertain, as is the assumed eligibility for Cohesion Fund support. We have assumed that all countries except Cyprus qualify because their per capita income would be less than 75 percent of the EU-28 average. A less generous assignment of Cohesion Fund status would generate substantially lower net transfers.

It is clear that accession of all the candidate countries requires substantial changes in the EU budget. The alternatives are numerous. One is of course to increase the gross contribution to allow much larger net transfers between member states. Another alternative is to drastically reduce the amount of redistribution. This must be achieved by a reduction of Structural Operations, since they are to a greater extent redistributive than CAP financing.

5. Conclusion

Joining the EU will require that Turkey attains macroeconomic stability, adopts the CAP, and liberalizes its services and also its network industries. Integration will be beneficial for Turkey, as it will remove the distortions in the price system, thus boosting the allocative efficiency in the economy, which in turn will make the country a better place to invest. Furthermore, with accession Turkey will be eligible for EU structural funds. The increase in infrastructural investments will contribute to economic growth in Turkey. In addition, Turkey will reap benefits from monetary integration, and finally, Turkey will benefit from the migration of Turkish labor to the EU. However, the welfare gains that will be derived by Turkey from integration will have a price. The price will be the adjustment costs associated with the attainment of macroeconomic stability, adoption of CAP, liberalization of services and network industries, and the complying with EU environmental directives.

According to Eurobarometer (2001) 59 percent of the Turkish population supports EU membership and 68 percent of the population declares that it would support the country's membership to the EU if a referendum were to be held on this issue. This high percentage of support for EU membership could partially be explained by the economic benefits that Turkey expects to derive from membership. Equally important is the recognition in Turkey that the system of governance of a rule-based society, as in the EU with its institutions, may provide a better system for meeting the demands of various groups in the

²³ The Nice Treaty has increased the number of votes in the Council to 348 when EU has been enlarged to include the CEEC-10, Cyprus and Malta (but not Turkey). The new distribution of votes per member state is more differentiated with respect to population size than the present distribution, but the voting power distribution is still very regressive.

society.²⁴ Furthermore, the support for EU membership stems also from the process of Westernization and geo-strategic considerations.²⁵

The Turkish accession will also affect the welfare of current members of the EU. With Turkish accession current members will derive welfare gains from standard comparative advantage sources and also from growth effects of integration. Furthermore, migration of Turkish labor to the EU will affect the welfare level in member countries. The empirical research on the economic effects of immigration indicates fairly small and on the whole positive effects; employment opportunities are not affected much, the wage of low skilled labor is depressed somewhat but that of skilled labor is raised, and the net present value of public transfers is positive.²⁶ In addition to these effects, the EU will have to incur the net annual budgetary cost of Turkish membership to the EU. Estimates indicate that this cost will be quite high unless the rules on CAP and structural funds are changed over the next few years. There will also be political gains for the EU. Turkey is a large and fast expanding market. It is in fact the largest market in the Middle East, Balkans and Caucasus. According to the World Bank Turkish GDP is as large as 80 percent of Russian GDP. Turkey, located at the crossroads between Europe, Eurasia and the Middle East, has the potential to act as a major link between these markets. With harmonization of commercial legislation, EU companies will be able to use Turkey as a joint investment and export base for the Middle East and Eurasia. Istanbul is emerging as transnational corporations'

headquarters for operations in the Caucasus and Central Asia. The EU will derive potential gains from increased trade in the region. Finally, Turkish membership could help to secure stability and security in the Balkans and Caucasus. The EU could then increase its energy security and also decrease its defense expenditures.

²⁴ This may explain the support provided to EU membership by followers of the Islamist Welfare Party as well as by representatives of different minority groups.

²⁵ During the *Tanzimat* period (1839-1877) Westernizing reforms were responsible for the adoption of a series of Western law codes, judicial organization with secular law courts, introduction of French-style provincial administration (1864), and for the so-called *millet* system, which made it possible for the Christian minorities to have their own religious autonomous administration with representative councils. These liberal reforms culminated in the declaration of a constitution and the convocation of a parliament in 1876-1877. The process of reforms continued after the national War of Independence of 1919-23. Under Atatürk's leadership, the newly founded Republic of Turkey carried through an extensive and comprehensive program of modernization and secularization. Atatürk considered the total Westernization of the country as an absolute precondition for Turkey's becoming a member of the Western family of nations. He succeeded in forging a modern nation out of a failing empire and a traditional community, based on the model of the Western countries. Turkey's aspiration to membership in the EU stems from the process of modernization and Westernization, the roots of which may be traced to Atatürk's reforms designed to establish a secular order in a country with a predominantly Muslim population. The Turkish elite considers membership in the EU a natural, desirable, and inevitable step of this process. Furthermore, Turkey realizes that it sits strategically at the edge of three regions of conflict - the Balkans, the Middle East and the Caucasus. Given the complexity of its security, Turkey seeks to cultivate stability in order to minimize the potential for conflict. For Turkey, EU membership can help to secure this stability and contain conflict, particularly in the Balkans. Furthermore, the EU and Turkey have a mutual interest in preventing and containing any instability that could arise in the CIS region.

²⁶ See the studies by Zimmerman (1995), Haiskens-De New and Zimmerman (1996), Winter-Ebmer and Zimmerman (1998), Storesletten (2000) and Bonin (2001).

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Figure 1: Turkey-EU Trade, 2000 (US\$ billion)

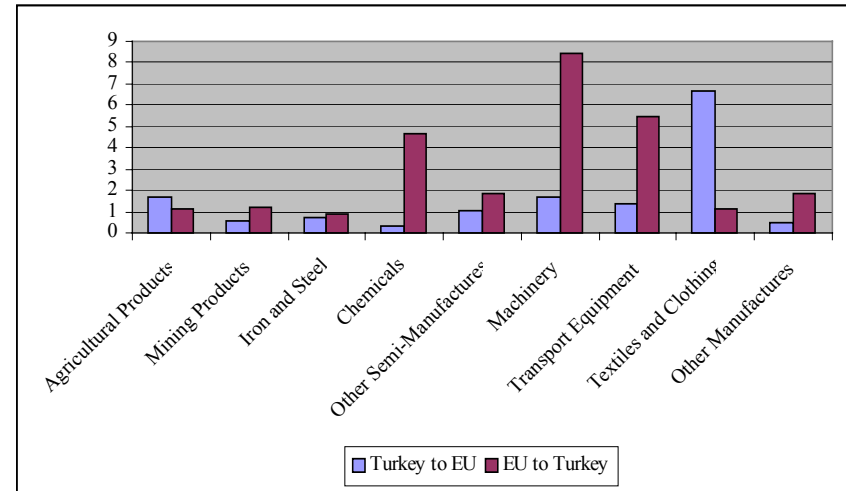


Figure 2: Tariff Rates on Imports from EU and Third Countries

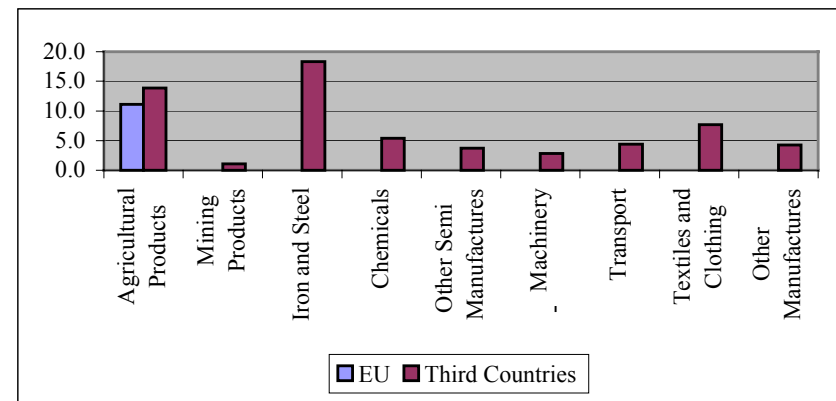


Figure 3: Effects of Migration

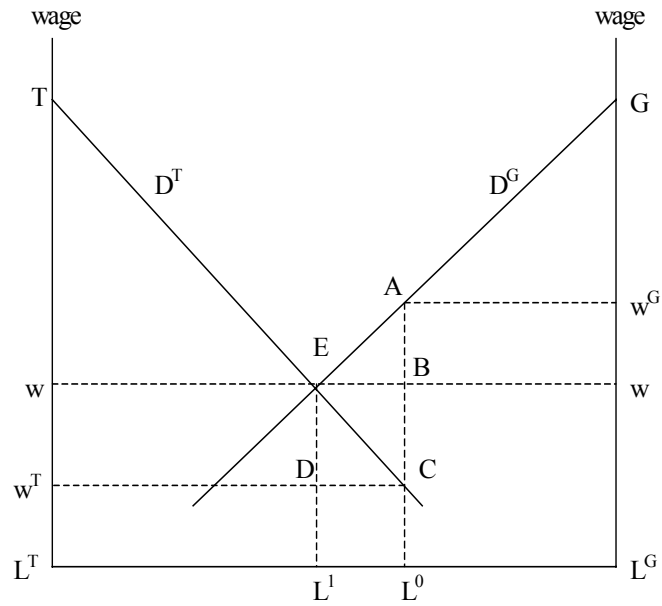
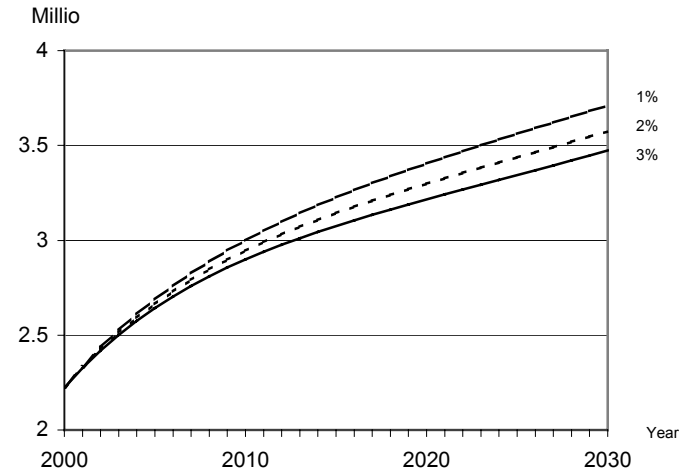


Figure 4. Forecast of the Turkish Immigrant Population in Germany



Note: Forecasts for 1, 2 and 3 % convergence rate of per capita income between Germany and Turkey.

Source: Own calculation

Table 1: EMU Convergence Criteria

	Inflation Rate (%)		Budget Deficit (% of GDP)		Government Debt (% of GDP)		Interest rates (10-Y bonds)	Exchange Rate Stability Deviation from Parity		Currency Regime
	2000	2001	2000	2001	2000	2001		Last	Max -2Y	
Bulgaria	10.1	7.9	-1.1	-1.0	83.8	72.5	5.2	0.0	-1.3	Currency Board (EUR)
Czech Republic	3.9	4.7	-4.0	-3.2	29.2	29.0	5.5	14.0	-6.0	Managed Float (EUR Ref.)
Estonia	4.0	5.8	-0.7	1.1	6.6	6.2	4.7	0.0	0.0	Currency Board (EUR)
Hungry	9.8	9.2	-3.5	-5.0	56.1	51.5	6.7	5.4	-4.5	Crawling Peg (EUR)
Latvia	2.7	2.5	-2.8	-1.9	10.0	12.2	10.7	2.6	2.6	Peg (SDR)
Lithuania	1.0	1.3	-2.8	-1.4	28.3	29.0	7.9	8.1	8.1	Currency Board (EUR)
Poland	10.1	5.5	-2.7	-6.3	43.8	38.0	8.3	8.4	-8.7	Float
Romania	45.7	34.5	-4.1	-3.7	29.2	31.2	34.9	-31.4	-31.5	Managed Float (USD Ref.)
Slovakia	12.0	7.3	-6.8	-7.2	32.9	42.7	7.8	4.0	-2.0	Managed Float (EUR Ref.)
Slovenia	8.9	8.5	-1.4	-1.3	25.1	25.4	NA	-7.1	-7.1	Managed Float (EUR Ref.)
<i>Turkey</i>	<i>54.9</i>	<i>54.4</i>	<i>-19.6</i>	<i>-17.6</i>	<i>57.4</i>	<i>93.3</i>	<i>75.0</i>	<i>56.9</i>	<i>93.3</i>	<i>Float</i>
Reference Value	2.8	3.3	-3.0	-3.0	60.0	60.0	7.3		+/- 15%	

Note: Parity refers to last 3-year average exchange rate against EUR. In the case of Turkey the interest rate is the annual compound interest rate on government bonds of 8 duration obtained in the latest auction of treasury bills.

Source: Deutsche Bank Research, EU Enlargement Monitor, April 2002, Turkish State Planning Organization, Central Bank of Turkey and Turkish Treasury

Table 2: Pooled Panel Gravity Estimates for Intra-EU-15 Trade

	OLS (1)	OLS (2)	Random Effects GLS
Log real product GDP	0.857686 (0.0098)	0.881789 (0.0120)	0.803127 (0.0266)
Log real product GDP per capita	-0.28017 (0.0362)	0.243911 (0.0384)	-0.37215 (0.0342)
	-0.8819 (0.0326)	- (0.0948)	-0.93738 (0.0948)
Log distance	0.399995 (0.0516)	1.255733 (0.0673)	0.417394 (0.1780)
Common border	- (0.0516)	- (0.0673)	0.3897 (0.1780)
R ² : Within	-	-	0.3897
R ² : Between	-	-	0.9275
R ² : Overall	0.9249	0.8797	0.9227

Notes: GDP and Population data from OECD Economic Outlook No.70 (Dec. 2001). Trade data from OECD Monthly Statistics of International Trade CD-ROM (June 2001) and great circle distances between capitals from the website <http://www.wcrl.ars.usda.gov/cec/java/lat-long.htm>. 1155 observations, annual data for 15 countries, 1990-2000. Intercept and year controls not recorded. Standard errors within parenthesis. All estimates significant at less than 1%.

Table 3: Forecast of Trade with EU-15

Country	Forecast (million US\$) 2000	95% Conf. Interval		Forecast/Actual Trade, 2000
		Lower Bound	Upper Bound	
Bulgaria	4.1	1.5	11.3	1.82
Czech Republic	22.5	8.3	60.2	1.29
Estonia	1.7	0.6	4.7	0.69
Hungary	13.8	5.1	37.2	0.80
Lithuania	3.2	1.2	8.7	1.82
Latvia	2.3	0.9	6.2	1.59
Poland	38.7	14.4	104.0	1.75
Romania	9.6	3.6	26.2	1.63
Slovak Republic	10.2	3.8	28.0	2.02
Slovenia	6.7	2.5	18.0	1.26
Turkey	26.1	9.7	70.3	1.41

Notes: GDP and Population data from World Development Indicators On-line (World Bank). Trade data from OECD Monthly Statistics of International Trade CD-ROM (June 2001) and great circle distances between capitals from the website <http://www.wcrl.ars.usda.gov/cec/java/lat-long.htm>

Table 4: The EU Budget in 2002

	Revenues		Expenditures		
	Million Euro	Share in %	Million Euro	Share in %	
Duties & levies	15 267	17	Agriculture	40 506	49
VAT	35 193	40	Structural Operations	27 591	33
GDP	37 580	43	Internal Operations	5 361	6
Correction*	-71		External expenditure	5 231	6
Total	87 969	100	Administrative exp.	4 643	6
Other revenue	4 755				
Total	92 724		Total	83 331	100.0

Notes: *Due to exchange rate differences. **Interest, surplus from previous years, fines, taxes on salaries of employees of European institutions, etc.

Source: European Commission, Allocation of 2000 EU operating expenditure by Member State, table 5a and 5b.

Table 5: Estimates of Contributions and Receipts Functions

	Contributions	Receipts
Intercept	19.04018 (17.3033)	158.9615 (12.6017)
GDP per capita	0.010079 (0.0007)	
Votes per capita		22.91323 (8.9696)
Cohesion status \times votes per capita		670.4564 (39.3141)
Adjusted R ²	0.82	0.87

Notes: Data from OECD Economic Outlook No.70 (Dec. 2001) and Euro Conversion Rates from IMF/IFS (Mar. 2002). OLS, 45 observations, annual data for 15 countries, 1998-2000. Standard Errors within parenthesis.

Table 6: Forecast of Contributions and Receipts in 2000

Country	Contributions (millions €)	Receipts (millions €)	Contr. per capita, €	Rec. per capita, €	Council votes	95% confidence interval, %	
						Contributions	Receipts
Bulgaria	285	4072	35	499	4	233	26
Cyprus	109	166	144	220	2	54	61
Czech Rep.	746	5100	73	496	5	110	27
Estonia	80	2298	58	1678	3	138	13
Hungary	685	5060	68	505	5	117	26
Latvia	123	2457	52	1036	3	156	15
Lithuania	193	2667	52	722	3	154	19
Malta	46	1449	118	3715	2	66	12
Poland	2445	11691	63	303	8	127	43
Romania	825	7727	37	344	6	222	38
Slovak Rep.	310	2939	57	544	3	140	24
Slovenia	234	2396	118	1205	3	66	14
<i>Turkey</i>	<i>3409</i>	<i>17313</i>	<i>52</i>	<i>265</i>	<i>10</i>	<i>154</i>	<i>49</i>

Notes: Data from World Development Indicators On-line (World Bank) and Euro Conversion Rates from IMF/IFS (Mar. 2002). Forecast based on estimates in Table XX. Assumed number of votes in Council of Ministers. All countries are assumed to have Cohesion Fund status, except Cyprus.