CONSTRUCTION AND CONSTRUCTION MATERIALS

Sector Overview

The infrastructure investments of Turkey, which have stagnated because of the tight fiscal policies of the IMF program in operation since 1999, started to be re-activated in 2005 and, against a 4.6% growth in 2004, the construction sector expanded 21.5% in 2005.

- The main market driver has been the back of surged residential developments after a number of years of dormant activity. A significant boom has been prevalent in the residential real estate market in 2005, along with pent up demand and sharply falling interest rates boosting short-to-mid term housing credits.

  A consequence of the high urbanization is the ever growing housing requirement. According to the State Planning Organisation (SPO) and Turkish Statistics Institute data, during 2000 and 2005, additional housing requirement in settlements with a population of 20,000 or more, would be 2,714,000 due to demographic developments. An additional 361,000 would be needed for renewals purposes. Consequently, the total housing requirement in the plan period was 3,075,000. With the addition of existing housing requirement not met yet, i.e. 1,771,240, the total housing requirements until year 2005 was approximately 5 million.

  By using conservative assumptions of 1.2% population growth and 2.3% urbanization ratio, it is expected that demand for residential units will stay at 692,182 by 2010 by growing with CAGR 2.2%. These assumptions also indicate that despite huge increase in supply (CAGR: 32%), housing gap in the market will persist for the years going forward, which will continue to push the prices up.

HOUSING REQUIREMENTS FORECAST, 2001-2010
000 Units

Year	Urban demographic req.	Renewal disaster req.	Total Urban requirement	Occupancy permissions	Differe.
2001	496	72	568	279	288
2002	521	72	593	161	432
2003	527	72	599	202	397
2004	561	72	633	323	309
2005 Sept.	607	72	679	336	343
Total	2,714	361	3,075	1,303	1,771
2010	680	12	692	-	-

Source: SPO, Turkish Statistics Institute, Raymond James Securities

Lower interest rates parallel with the declining inflation and extended credit terms since the beginning of 2004, have helped the **housing sector** to recover. The construction sector will continue to benefit from the gains of the current economic program in the medium and long run: Improvement in economic conditions and growth will stimulate investment, which in return will require construction of new factories and other facilities. And, the formal introduction of the mortgage system in early 2006 and further decelerating interest rates since 2004 will continue to increase housing credits and housing demand furthermore.

As a result of the aforementioned gap in the Turkish housing market, residential segment experienced the highest price inflation in the last two years compared to office and retail segments. The Istanbul housing market, which accounts for more than 45% of the Turkish residential market, took the first spot in 2005 among the 25 EU countries with 37% in terms of house sale prices due to the unleashing of the delayed demand for luxury units and easy financing.

Unequal income distribution and rising income per capita has led the demand for luxury residences and satellite towns to grow considerably. High-cost mass housing companies, large contractors and recently emerging land developers are developing numerous private residential complexes for upper middle class. These projects are valued at an average between $300 – 400 million and have pools, artificial ponds, cinemas, tennis courts, animal parks and other social facilities and are good prospects to host super and hypermarkets. Some projects offer helicopter services to their inhabitants. These activities boosted in 2005 in particular and the same trend is expected to continue in the mid term as well. A report by Yapi Merkezi published in April 2006 states that residential constructions started only in Istanbul total around $4 billion, with delivery dates concentrating in 2007 and partly in 2008. Another recent report by GYODER forecasts that Istanbul only needs a total 2.5 million residential units by 2015, which represents a 75% growth in a decade.

EMERGING REAL ESTATE & MORTGAGE MARKETS

Assuming that current economic policies are maintained and that the decline in inflation continues, it can be concluded that the fall in interest rates on real estate loans as well as the lengthening of the maturity of loans will continue. In this case, there is a high prospect for an increase in the availability of quality housing to middle-income groups that had previously only been available to upper and upper-middle-income groups.

During the period of 2000 through September 2005, the Turkish construction industry was only able to produce a total of 1,303,760 units compared to the approximately 5 million needed to meet demand. This is a direct result of the 2001 financial crisis' effect on construction which resulted in the recovery starting only in year 2004. Even the latest construction boom has not been enough to level the strong demand requirements. It is estimated that until 2010, there will continue to be a need for additional 5 million units in Turkey. This requires a total investment of around $200 billion until year 2010 (approximately $40 billion every year).

When Turkey compared with other European countries, the total mortgages still constitutes less than 3% of the GDP (compared with 39% with EU average) and mortgage loans constitutes around 8% of the total loans in the banking industry (compared to 32% with EU average). Therefore, despite the recent boom of the mortgages, it is believed that the Turkish mortgage industry still is at its infant stage.

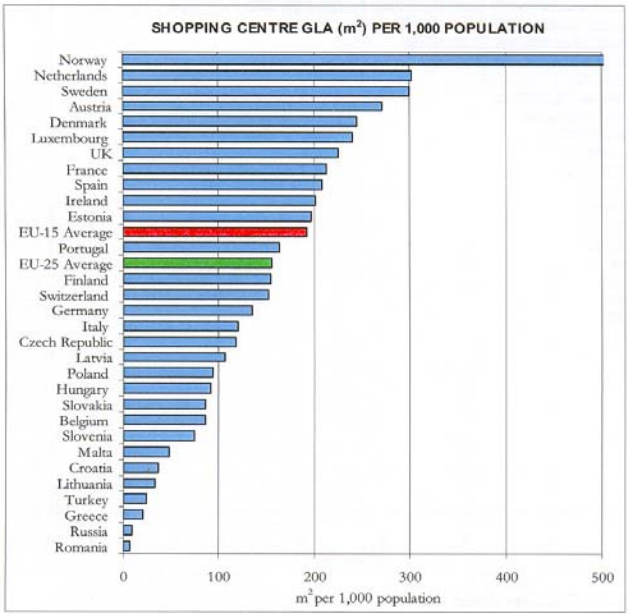
Source: Tevfik Turel, Stewart International

- Other component of the boom has been the rapidly developing retail sector and the consequent rise in the shopping mall constructions.

  Retail infrastructure has seen substantial growth during the past decade. The number of modern retail outlets, including hypermarkets, supermarkets, discount stores and shopping centres has been soaring since early 1990s. The number of outlets in the organized trade has grown 125% between 1998 and 2004 and supply in shopping centres increased by 12% CAGR in the last four years as vacancies declined from 12% to 7%.

  The retail sector is still at an embryonic stage of development, as indicated by the relatively small sales area per person. In addition to Carrefour, Metro, Tesco and BIM, Wal-Mart is interested in expanding to the Turkish market, but has not yet worked out a plan for its possible investments in Turkey. Other foreign groups interested in the Turkish market include: Casino (French), Aldi (German), Tengelmann (German), French YPSDD and Coop (Italian).

  The current sales area of approximately 2 million sqm and number of shopping centers of around 100 is small compared to a total 83.3 million sqm GLA and 4,315 active shopping centers in 34 European countries. Turkey's figure of 23 sqm/1,000 inhabitants is much lower than the EU 25 average of 155**.** According to a PWC research, there are 2 hypermarkets per 1 million inhabitants in Turkey, while this figure is 15 in Europe. Although the sector looks as if it grew in number and GLA terms, it is in its emerging state yet when compared on the GLA per capita basis.



Source: Cushman & Wakefield Healey & Baker.

The development in the organized retail in the last five years has been particularly striking and signals that the sector will be one of the rising stars of the economy in the coming periods. The growth in hyper-markets and modern malls and retail centres is expected to continue as current and foreign developers continue to invest in this sector and, as part of the EU accession process, more stringent health and food standards shift part of the retail trade to organized retail.

Following the 17 December 2004 (EU decision to start membership talks with Turkey) and 3 October 2005 (commencement of accession negotiations) decisions of the EU in general and IPO of the prestigious Akmerkez in particular, shopping malls became a centre of attraction for institutional investors and pension funds. Currently there are a number of foreign companies involved in shopping center investments including CGI, (the real estate investment fund of Commerzbank), ECE Turkey (German), MDC Turk Mall (Netherlands), General Growth and Hawthorn Hotels of USA, Emaar Properties and Dubai International Properties of Dubai and Aerium of the UK. Additionally there are many on the way including Pirelli Real Estate. Shopping mall investments are expected to gain pace during 2005-08, in particular, when the sector will grow 50% with the addition of 30-40 new ones. In addition to Istanbul, other cities including Ankara, Izmir, Bursa, Konya and Gaziantep will get their shares from this expansion.

The construction sector has accumulated the technological capacity and know-how over the years to meet the domestic demand, and thanks to the structural changes in mid 1980s favouring the integration of the economy with the world economy, has had a significant presence in the nearby countries since the 1990s. Regarding the contracting services, Turkey is one of the top ten countries in the world. The value of projects undertaken abroad totalled $9.3 billion in 2005, while Turkish contractors have completed work worth $60 billion in 55 different countries.

Among the main problems of the housing sector is that there is a very large shortage in properly authorized dwellings. When the rate of population growth, urbanization and migration is taken into consideration, it would appear that there is an annual shortage of at least 500,000 dwellings. It would thus appear that around 200,000 illegal units are built each year. In urban areas an average of 62% of the housing stock is properly authorised, but if occupancy permits are taken into consideration rather than planning permissions, the proportion falls to 33%. In other words, 67 of every 100 buildings are not licensed. According to the State Planning Organisation, only 26% of the housing requirement is met legally.

Market Size

Construction investments, as part of the overall fixed capital investments realized in the country, totalled $32.8 billion in 2005. Construction investments in general constitute 60% of total investments, but the ratio fell to 54% in 2002 and further to 41% in 2004.

Great part (62%) of the construction investments is accounted by residential units: in 2004, infrastructure accounted for 27.6% and non-residential construction 10.4% of total construction investments. Building materials production market is the third largest industrial segment after food and textiles and accounted for 10% of total industrial output.

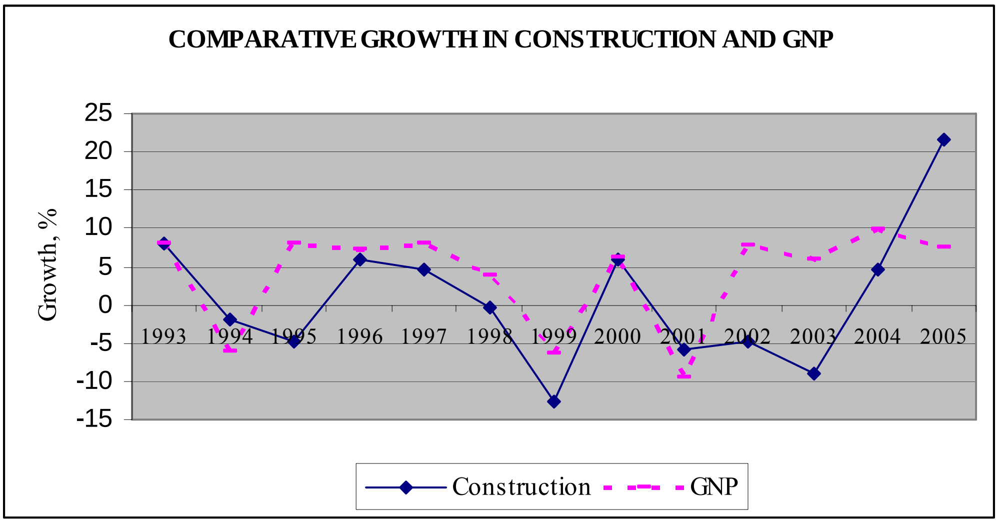
CONSTRUCTION INVESTMENTS, 2005
At current prices

	Amount $ million	Share in total invest., %	Share in GDP, %
Gross fixed capital investments (machinery & equip. included)	70,913	-	19.6
- Public total investments	15,403	21.7	4.3
- Private total investments	55,510	78.3	15.3
- Public sector buildings	3,131	9.6	0.8
- Public sector infrastructure	8,396	25.6	2.3
- Private sector buildings	21,272	64.8	5.9
Total construction	32,799	100	9.0
GDP	361,470		100

Source: Turstat

The construction sector contracted a total 29% during the last decade until 2003 compared to a growth rate of 20.1% in GNP. The sector, which grew at an average of 5.4% during 1991-98, experienced a historic downturn in 1999, caused by the Russian crisis and the 1999 earthquake. Two sharp economic crises in November 2000 and February 2001 have put the sector into a deep recession. Some experts argue that after the devastating earthquake in 1999 and following the economic crises, very limited numbers of housing projects have been undertaken, in particular in Istanbul (the city of 15 million inhabitants), which is located on an earthquake fault-line. The sector performed poorly in 2003 and despite a 5.9% growth in the economy, contracted by 9%.

However, the long-awaited recovery was seen in 2004 – the sector posted a 4.6% expansion, compared to overall GNP growth of 9.9%. This became the highest rate of growth registered since 1998. Construction permit data further confirmed the recovery – the number of construction permits issued for building rose by 60% in 2004. The private sector was the main force in the recovery, from $8.9 billion in 1998 to $6.2 billion in 2001, $7.8 billion in 2003 and $21.2 billion in 2005. The public construction expenditures, which were on decline under the current economic programme of tight fiscal policies, increased from $8.6 billion in 2004 to $11.5 billion in 2005.



As regards the **housing** constructions, the number of construction permissions declined, with the exception of 1997, between 1993 and 2002. Construction permissions indicate the intention of engaging in construction work. According to research carried out by the Secretariat of Housing, 62% of the existing urban housing units are in possession of a construction permission. In 1993 the number of planning permissions stood at 548,120. This fell to 432,599 in 1998, 315,162 in 2000 and 161,920 in 2002. These, however, have started to increase since then.

RESIDENTIAL CONSTRUCTION, 1995-05
000 units

	Housing units	**Change, %**
1995	507,623	- 3.1
1996	454,295	- 10.5
1997	464,117	2.2
1998	432,599	- 6.8
1999	339,446	- 21.5
2000	315,162	- 7.2
2001	279,616	- 11.3
2002	161,920	- 42.2
2003	202,237	25,2
2004	323,927	60,2
2005 June	204,094	57,0

Source: YEM (Building Information Centre)

Non-residential construction, comprising of superstructure investments in such areas as commercial, industrial, health, social, cultural, and religious establishments, follow a general trend parallel to the development of the private sector. After 1994 there was a dramatic fall in the infrastructure investments and periods for completion of ongoing projects were extended. These investments were further influenced by the IMF-backed two successive disinflation programmes covering the 2000–04 period. Infrastructure investments regained the 1994 values only in 2002, indicating that there had been a loss of nearly eight years in infrastructure investments. The year 2003 experienced a growth rate of 26% in US dollar terms and 4% in fixed price terms, while the corresponding values realised as 17.5% and -3.2% in 2004.

DEVELOPMENT OF INFRASTRUCTURE INVESTMENTS, 1995-05

Year	$ million	Growth, % on $ basis	Growth, % at fixed prices
1995	3,350	-22.2	-
1996	4,470	33.3	
1997	5,700	21.6	-
1998	6,140	7.2	6.3
1999	5,005	-18.5	-15.0
2000	5,365	6.7	12.2
2001	3,857	-28.1	-10.3
2002	4,210	9.2	0.4
2003	5,308	26.0	4.0
2004	6,237	17.5	-3.2
2005 June	2,449	50.5	26.1

Source: "The Building Sector Report", Building Information Centre

Construction Materials Sector

The construction sector is one of the powerhouses in the Turkish economy with links to around 150 sub-sectors. The construction and engineering companies operating in Turkey and abroad support a flourishing building materials industry, which have a strong footing due to its dependence on local sources.

Despite its strong export performance, the construction materials market is still very small and still in the course of development.

Turkey is a major producer of basic materials such as cement, construction steel, timber, bricks, PVC, polyethylene, glass, ceramic tiles and sanitary ware. It is competitive especially in cement, ceramics, iron/steel and glass, occupying a very important position in Europe. The domestic consumption of building materials has increased and diversified in recent years, and added DIY markets to its marketing channels. The goods produced conform to European norms and international norms and standards, and the utilization of the CE label is obligatory since 2002. The building materials offer major opportunities for further development and cooperation with foreign companies regarding new and more sophisticated technology, including 'finished' products of higher quality, interior 'finishing' materials, building systems, specialist building products imported in component form and assembled in country.

The production of building materials account for 10% of the overall industry, 12 to 13% of the manufacturing industry and around 30% of the production of intermediate goods (semi-manufactured products destined for final production). A striking characteristics of it is that, despite overall imports exceed exports by 47%, export of building materials is two times the imports.

Around 100,000 manufacturing, export, wholesale and retail firms and some 20 DIY retailers are active. There are around 5-6 large manufacturers in each product group, accounting for around 80% of the sub-markets involved.

PRODUCTION OF BUILDING MATERIALS, 2002-04

	000 tonnes			
	2002	**2003**	**2004**	**Change, % 2004**
Processed stone & marble	2,510	3,346	3,550	6.1
Paints & varnishes	300	337	357	5.8
Flat glass	631	820	850	3.7
Glass wool	29	29	30	1.3
Glass mosaic	8	8	8	6.7
Double glazing	22	23	25	8.7
Cement	32,758	35,094	36,000	2.6
Plaster	1,250	1,287	1,300	0.9
Lime	1,800	1,667	1,700	2.0
Ceramic tiles	2,150	2,639	2,800	6.1
Roof tiles (million)	525	600	650	8.3
Building materi's from cement & plas.	3,200	2,750	3,000	9.1
Iron/steel pipes	1,458	1,569	1,656	5.5
Iron/steel profiles	638	813	900	10.7
Iron/steel tubes	8,218	9,160	10,000	9.2

Source: YEM

Building materials represent a share of 11.4% in total exports. Exports rose 27% in 2003 and 58% in 2004, amounting to $7.3 billion. Largest share of the exports is accounted by iron/steel products ($3.3 billion), followed by processed stone ($485 million) and cement ($418 million) and ceramic tiles ($390 million).

EXPORTS OF BUILDING MATERIALS, 2002-04
$ million

	2002	**2003**	**2004**	**Change, %**
Iron/steel tubes, profiles, wires	1,011	1,350	2,513	86
Iron/steel pipes &pipes connections	580	406	756	86
Cement	314	341	418	23
Processed stone	237	322	484	50
Ceramic tiles	248	313	389	24
Aluminium building materi's..&acces's	146	227	291	28
Plastic building materials	136	200	326	62
Heating & cooling systems	89	93	117	25
Iron/steel building accessories	131	172	333	94
Iron/steel radiators	81	140	226	60
Ceramic sanitary ware	95	122	161	32
Electrical goods	80	113	159	41
Prefabricated buildings	18	102	144	40
Locks of ordinary metal	56	91	139	52
Paints	64	77	99	29
Lighting appliances	51	75	101	33
Flat glass	81	70	60	-14
Insulated electric cables	40	60	97	61
Glass fibre	48	57	80	40
Iron steel nails, nuts, bolts etc.	37	55	80	43
Iron steel sanitary accessories	25	38	55	44
Asphalt, plaster, cement, concrete items	15	31	50	63
Plaster	17	26	37	46
Aluminium sanitary accessories	13	22	29	31
Timber building materials	13	20	30	52
Total, with others	*3,670*	*4,645*	*7,347*	*58*

Source: Undersecretariat of Foreign Trade, YEM

Imports account for 3.2% of total imports. The value of imports rose by 15% in 2003 and 29% in 2004 ($2.8 billion). Largest share of imports is accounted by iron/steel pipes and fittings ($814 million) and heating and cooling equipment ($481 million), followed by electrical equipment, paints and locks and other door furniture and plastic construction materials.

IMPORTS OF BUILDING MATERIALS, 2002-04
$ million

	2002	**2003**	**2004**	**Change, % 2004**
Heating & Cooling systems	485	411	481	17
Iron /steel pipes & fittings	306	368	283	-23
Electrical goods	235	334	445	33
Paints	150	201	261	30
Locks of ordinary metals	100	146	233	59
Iron/steel nails, bolts, nuts etc.	85	133	212	59
Plastic building materials	115	130	177	36
Iron/steel tubes, profiles, wires	84	108	216	99
Iron/steel building accessories	126	64	84	30
Lighting appliances	45	61	87	42
Glass fibre	32	45	54	20
Flat glass	35	51	65	28
Aluminium building materials	21	31	38	20
Insulated electric cables	18	23	44	91
Processed stone	16	20	30	48
Timber building materials	17	17	21	28
Mineral fibres	20	16	24	45
Ceramic tiles	9	12	28	142
Elevators	8	11	13	18
Aluminium sanitary ware	6	9	12	36
Asphalt, plaster, cement, concrete goods	9	10	17	74
Cement	4	8	17	109
Prefabricated buildings	6	6	14	126
Iron/steel radiators	5	6	10	84
Iron/steel sanitary ware	3	5	8	72
Wall papers	2	3	4	63
Plaster	1	2	3	45
Total	*1,949*	*2,236*	*2,889*	*29*

Source: Undersecretariat of Foreign Trade, YEM

Prospects

- The construction and construction materials sectors are set to benefit from the gains of the current economic programme in the medium and long run. Improvement in economic conditions and higher growth will stimulate investment, which in return will require construction of new factories and other facilities. Lower interest rates parallel with the declining inflation and extended credit terms since the beginning of 2004, have already helped the construction sector and, in particular, the housing sector to recover. The sector is set to grow higher than GDP in the next two years, contributed by the initiation of mortgages as well as positive urbanization rate of 2.7%.

- Residential and retail sectors are likely to attract higher investment in the short-to-mid term. Residential segment was the dominant driver of the growth on the back of unleashed demand and cheaper financing and the sector experts expect that demand for residential units will continue to grow in the next seven years. Finansinvest project $15 billion of real estate investment in the residential and retail sectors over the next five years, mainly driven by foreign investors. Industrial projects (logistics/warehousing, ports, etc) will also attract capital.

Following the 17 December 2004 (EU decision to start membership talks with Turkey) and 3 October 2005 (commencement of accession negotiations) decisions of the EU in general and IPO of the prestigious Akmerkez in particular, shopping malls became a centre of attraction for institutional investors and pension funds. Currently there are a number of foreign companies involved in shopping center investments including CGI, (the real estate investment fund of Commerzbank), ECE Turkey (German), MDC Turk Mall (Netherlands), General Growth of USA, and Aerium of the UK. Additionally there are many on the way including Pirelli Real Estate. Almost all projects listed below are focusing Istanbul real estate market.

Investor	**Origin**	**Project focus**	**Initial investmen $ mn**	**Total investmen $ mn**
Emaar Properties	Dubai	Residential, retail	700	10,000
Hawthorn Hotels	US	Hotel	120	n.a.
General Growth Prop.	US	Retail	n.a.	n.a.
Panargo Construction	Netherlands	Residential	n.a	n.a.
Commerzbank Grund. Inves.	Germany	Retail	105	652
Dubai International Prop.	Dubai	Retail	500	5,000
MDC Turkmall	US	Retail	565	1,200
Source: Raymond James Securities				

- Turkish retail sector is in the growth phase of the business cycle and the outlook in the shopping malls appears more promising with relatively higher yields (12-15%) compared with major European cities.
- The construction sector will be among the first to benefit from the membership prospects with the EU in the short and long run. The Turkish companies will have an easier access to the European market, and FDI inflow will directly and indirectly stimulate the construction sector.
- Positive expectations regarding the construction sector have been triggering development of a lively organised retail market for building materials. This market grew fourfold in the last two years, reaching $24-25 billion at end-2004.
- Despite its increasing quality standards and export performance, the building industry is still a developing sector. It has been greatly influenced by technology transfer from Europe and the U.S. and offers further potential for collaboration in terms of local investment and trade opportunities due to the increasing income level and changing shopping patterns in the country.

- "Rebuilding Iraq" process has opened a new market for the construction materials industry. Turkish firms undertook considerable amount of projects in Iraq during the 2004 and 2005 period. The Iraq market has also created demand for the building materials, and in particular iron and cement.