



INVESTIGATION ON THE POSSIBILITIES TO INCREASE  
MARBLE EXPORT OF TURKEY

(TÜRKİYE’NİN MERMER İHRACATINI ARTIRMA OLANAKLARININ  
ARAŞTIRILMASI)

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ABSTRACT/ÖZET

Turkey’s marble production was 3.2 million tonnes in 2005 and its marble export which was 805 million \$ was the first place in total mining export with 53%. Marble export was increased by 19.2% in 2006. Between January-May 2007, marble export increased by 2% with respect to January-May 2006. Values, in spite of being the first in world for marble export, when Turkey’s marble qualities and reserves is considered, it is not enough. Therefore, presented in this study methods to increase export of Turkey’s marble.

*Türkiye doğal taş ihracatı 2005 yılında 805 milyon \$'lık değerle 3.2 milyon tondur, ve maden sektörü toplam ihracatında % 53 payla ilk sırada yer almıştır. Türkiye'nin bir sonraki yıla göre 2006 mermer ihracat artış oranı % 19.2'dir. 2007'nin Ocak-Mayıs döneminde ise 2006 Ocak-Mayıs dönemine göre özellikle işlenmiş mermer ürünlerinde % 2'lik bir artış görülmektedir. Bu değerle Türkiye, ihracat artış oranı olarak dünyanın en önde gelen ülkesi olmasına rağmen mevcut rezervler ve Türk mermerlerinin rezerv ve kalitesi düşünüldüğünde hak ettiği yerde olmadığı görülmektedir. Bu yüzden bu çalışmada mermer ihracatını artırma yöntemleri anlatılmıştır.*

KEYWORDS/ANAHTAR KELİMELEER

Turkey, Marble potential, Marble production, Marble export  
*Türkiye, Mermer potansiyeli, Mermer üretimi, Mermer ihracatı*

## 1. INTRODUCTION

Turkey has approximately 42% of the total world marble reserves (13.5 billion tonnes), 4.7 cubic meters. However, only 2% of these reserves are currently being utilized. The marble production of Turkey has shown a gradual increase starting from 1990s.

Turkey's marble production was 3.2 million tonnes in 2005 and its marble export which was 805 million \$ was the first in total world mining export with 53%. Its export increased 19.2% in 2006. Between January-May 2007, marble export increased 2% according to January-May 2006. Values, in spite of being the best in the world at marble export, when it is thought Turkey's marble qualities and reserves, it is not enough.

It is necessary that the marble production and export firms must be given necessary provisions and concessions and they must sell the latest products of modern technology for the development of the marble sector in the country. It is also necessary to carry out advertisement and investment activities to have Turkey's marble internationally recognized.

## 2. NATURAL STONE INDUSTRY OF TURKEY

Turkey, situated on the Alpine zone where the world's richest natural stone formations are, has very diverse and large amounts of marble reserves. 40% of the world marble reserves are in Turkey. These important reserves are spread through a large region between Anatolia and Thrace. In addition to these reserves, Turkey has become one of the world's most important natural stone producers because of both its growing industry and the use of technology.

Turkey's natural stone and marble production has increased tremendously in the last few years. With the modern quarry production methods that have recently been applied and with the latest techniques, Turkey is one of the seven big producer countries in the world's natural stone production.

Turkey has been one of the oldest marble producers in the world with its background of 4000 years marble production starting on the Marmara Island. Having a considerable and quite diverse mineral base, Turkey also has one of the world's largest natural stone reserves, which is considered to be excellent qualitywise due to a great variety of colours and textures. The sum of proven, probable and potential reserves of natural stones account for 13,8 billion tonnes (5,2 billion cubic meters). Turkey's annual natural stone production reached about 3.85 million tonnes in May 2007.

Marble is quarried from nearly 2000 quarries in Turkey. There are approximately 1600 workshops and 120 factories for marble is processed. 90% of the quarries are located in the western part of Turkey; mainly the Marmara Island, Aegean region and a province of Afyon.

Marble sector, as being involved in natural stone sector, which has had a significant progress for the last decade, plays an important role in Turkey's economy and export. Marble and stone export was (in terms of value) of nearly USD 40 million in 1990, it increased to USD 188,7 million in 2000, and to USD 960 million in 2006. About 250 types of marble are quarried from Turkey's subsoil and over 100 different types of marble are exported.

Marble export accounts for 91.3% of Turkey's whole natural stone export. The remaining 8,7% represent granites and other types of natural stones.

It is seen from tables 1 to 9 Marble, travertine and granite export market for Turkey in 2006 and 2007 (Table 1-9).

Table 1. Block marble export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
China	110.691.729	17.262.537	160.579.175	25.349.658	45,1	46,9
Syria	178.414.087	5.646.493	171.361.373	4.862.943	4,0	13,9
Greece	34.936.004	2.679.139	51.391.752	4.577.612	47,1	70,9
India	5.412.918	1.124.755	9.500.559	2.082.105	75,5	85,1
Spain	6.493.046	1.023.652	12.312.788	2.006.403	89,6	96,0
Italy	8.592.017	1.532.268	8.148.050	1.357.999	5,2	11,4
Egypt	13.768.756	745.451	13.861.638	889.890	0,7	19,4
Jordan	34.091.723	746.353	24.194.025	570.510	29,0	23,6
Thailand	1.269.892	181.463	2.677.530	556.529	110,9	206,7
Other	17.400.071	2.337.704	19.195.097	2.142.588	10,3	8,4
Total	417.258.101	34.311.241	482.243.506	45.850.588	15,6	33,6

Table 2. Block travertine export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
China	8.835.484	1.087.436	13.871.323	1.768.648	57,0	62,6
Canada	894.784	575.663	1.495.952	903.852	67,2	57,0
Spain	4.882.131	769.377	4.503.240	865.620	7,8	12,5
Italy	1.631.040	220.846	3.534.036	534.375	116,7	142,0
Greece	1.901.353	210.550	3.864.720	479.748	103,3	127,9
Usa	259.757	171.464	327.531	130.970	26,1	23,6
Portugal	77.902	15.051	497.390	81.166	538,5	439,3
Syria	2.476.445	148.351	987.255	81.084	60,1	45,3
France	-	-	254.400	49.938	100,0	100,0
Germany	330.830	42.452	484.974	47.498	46,6	11,9
Other	1.824.497	286.204	1.679.753	176.869	7,9	38,2

Table 3. Block granite export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
Cyprus	-	-	1.299.900	40.392	100,0	100,0
Germany	50	4.301	146	13.059	193,6	203,6
Italy	1.238.980	103.934	109	11.008	91,2	89,4
Finland	-	-	84	10.309	100,0	100,0
Azerbaijan	-	-	92	9.210	100,0	100,0
Helvetia	-	-	80.341	6.500	100,0	100,0
Belgium	-	-	150	868	100,0	100,0
Ukraine	-	-	20	470	100,0	100,0
Israel	6	1.435	997	94	83,4	93,5
Estonia	50	5.769	-	-	100,0	100,0
Other	293	37.949	-	-	100,0	100,0
Total	-	-	1.299.900	40.392	100,0	100,0

Table 4. Slab marble export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
China	26.635.080	4.191.482	70.226.426	10.930.508	163,7	160,8
India	2.544.130	537.082	4.529.700	1.075.917	78,1	100,3
Greece	2.920.898	710.233	2.996.517	723.427	2,6	1,9
Italy	1.989.197	373.731	3.555.840	649.327	78,8	73,7
Lebanon	447.923	64.038	1.840.932	259.813	311,0	305,7
Sri lanka	1.495.930	245.840	907.010	195.946	39,4	20,3
Rumania	210.419	82.511	495.115	186.078	135,3	125,5
Arabia countries	156.780	45.981	656.770	179.199	318,9	289,7
Azerbaijan	15.300	5.689	761.978	168.002	4880,3	2853,0
Other	4.731.966	1.349.999	33.066.576	1.171.771	598,8	13,2
Total	43.953.388	8.056.760	123.421.744	16.362.014	180,8	103,1

Table 5. Slab travertine export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
USA	2.458.072	1.694.989	2.412.141	1.773.623	1,9	4,6
Italy	7.809.727	1.235.513	8.431.208	1.339.626	8,0	8,4
Greece	1.107.565	197.056	2.330.907	508.010	110,5	157,8
Spain	2.556.006	608.760	1.734.134	394.593	32,2	35,2
Brazil	156	41.208	924	286.533	493,7	595,3
Venezuela	253	105.739	582	193.936	130,4	83,4
China	138	20.264	1.225.340	143.365	786,8	607,5
Germany	47	50.336	238.378	113.894	402,6	126,3
Cayman islands	-	-	692	78.836	100,0	100,0
Hungary	191	33.490	207.947	77.960	8,7	132,8
Other	2.886.509	477.333	1.937.490	392.167	32,9	17,8
Total	2.458.072	1.694.989	2.412.141	1.773.623	1,9	4,6

Table 6. Slab granite export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
Germany	20.258	1.584	43.674	2.524	115,6	59,4
Italy	14.101	814.801	10.887	648.776	22,8	20,4
France	3.640.425	321.888	3.730.030	366.396	2,5	13,8
Helvetia	4.332.474	220	5.343.390	353.854	23,3	60,7
Greece	607	79.865	1.568.038	166.166	158,5	108,1
Holland	948	71.615	1.622.928	120.761	71,2	68,6
Iraq	62	26.108	71.476	80.026	16,0	206,5
Belgium	1.490.017	94.835	1.154.325	78.890	22,5	16,8
Spain	366	58.571	311	54.501	15,0	7,0
Ist. Deri Serbest Böl.	20	28.541	100	100		
Other	932	157.197	937.021	146.131	0,5	7,0
Total	20.258	1.584	43.674	2.524	115,6	59,4

Table 7. Finished marble export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
USA.	50.391.043	37.272.503	58.092.261	44.393.754	15,3	19,1
Spain	31.561.733	11.350.937	35.843.626	13.215.506	13,6	16,4
England	11.025.749	8.541.685	13.735.334	12.015.183	24,6	40,7
Israel	19.748.872	6.728.945	23.147.834	7.839.429	17,2	16,5
Suudi arabia	23.031.904	6.253.534	26.732.320	6.483.791	16,1	3,7
Turkmenistan	5.282.129	2.545.431	9.771.816	5.283.044	85,0	107,6
Canada	5.020.906	3.875.878	5.681.840	4.759.922	13,2	22,8
Holland	5.870.594	3.230.563	9.064.340	4.480.339	54,4	38,7
Arabia countries	6.762.074	3.315.351	9.974.292	4.324.163	47,5	30,4
France	2.307.751	1.680.300	7.384.171	3.781.042	220,0	125,0
Other	86.450.908	38.143.386	104.097.914	47.099.725	20,4	23,5
Total	50.391.043	37.272.503	58.092.261	44.393.754	15,3	19,1

Table 8. Finished travertine export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
USA	195.441.848	107.959.377	208.910.223	113.160.158	6,9	4,8
England	18.280.283	13.109.797	24.526.212	17.449.280	34,2	33,1
Canada	6.657.597	4.259.344	11.542.920	8.159.677	73,4	91,6
France	4.308.044	2.541.494	8.342.111	4.971.011	93,6	95,6
Spain	9.565.663	4.345.181	10.509.225	4.770.507	9,9	9,8
South africa	7.017.249	3.142.610	9.183.034	4.214.212	30,9	34,1
Holland	3.512.331	1.850.479	5.125.525	2.560.242	45,9	38,4
Eaegean free area	2.809.217	1.254.058	4.307.713	2.104.401	53,3	67,8
Israel	3.036.164	1.352.270	4.441.353	1.864.439	46,3	37,9
Australia	1.398.724	832.953	2.739.034	1.834.571	95,8	120,3
Other	33.554.488	16.440.391	39.199.411	20.360.517	16,8	23,8
Total	195.441.848	107.959.377	208.910.223	113.160.158	6,9	4,8

Table 9 Finished granite export of Turkey in recent years (İMMİB)

Country	January-May 2006		January-May 2007		% changing	
	(kg.)	(USD)	(kg)	(USD)	(kg)	(USD)
Russia	673.232	639.797	941.417	964.296	39,8	50,7
Azerbaijan	261.192	311.114	893.688	797.983	242,2	156,5
Germany	1.851.779	128.429	6.061.794	422.375	227,4	228,9
Cyprus	300.778	255.223	500.779	382.441	66,5	49,9
Georgia	80.817	96.053	247.059	322.800	205,7	236,1
Iraq	436.111	290.548	194.274	273.813	55,5	5,8
Algeria	-	-	207.450	254.321	100,0	100,0
Libya	85	1.492	156.829	252.642	184.404,8	16.832,7
Holland	2.328.603	248.247	1.933.159	241.788	17,0	2,6
Ghana	-	-	160.260	233.550	100,0	100,0
Other	1.841.092	744.035	3.022.233	1.364.941	64,2	83,5
Total	673.232	639.797	941.417	964.296	39,8	50,7

In recent years, the advancement of marble processing technology has resulted in an improvement in the quality of finished products, due to the fact that processing time and loss at production have been minimized. Yet despite of such technological advancement, Turkey has fallen short of reaching its capacity target.

The major markets for overall stones (marble, granite and other stones) are primarily; Europe Italy, Spain, Germany, United Kingdom, The Netherlands and Belgium; The Middle East; Israel, Saudi Arabia and Kuwait, The Far East; Taiwan, China, Hong Kong, Singapore and USA.

Turkey's marble industry commits to a profitable future for both foreign and domestic investors due to the very rich resources in terms of variety and quantity. Its importance will continue in the international markets by extending mutual relations with foreign countries in both technological and trade fields.

As seen from Figure 1, Turkey's total marble export was 805 billion \$ in 2005, yet is about 960 billion \$ in 2006.

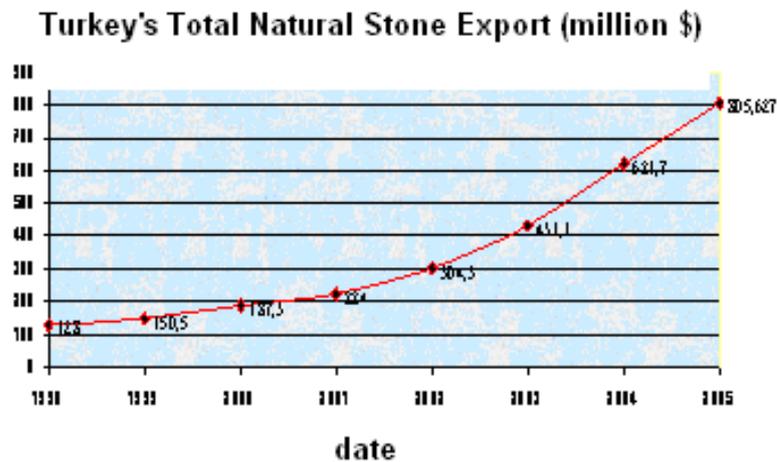


Figure1 Total marble export of Turkey (İMMİB)

### 3. TURKEY AND THE OTHER COUNTRIES IN THE MARBLE INDUSTRY

Turkey is a well known marble supplier in the USA. Turkey's stone blocks, slabs and tiles exported to the USA are perceived to be of good quality and sold at competitive prices. The US market prefers light cream/brown colors, and Turkish marble is lighter in color than stone from Mexico or Peru. Turkey is perceived to have better pricing than Italy, Israel or Mexico, but higher pricing than China. Turkey is perceived to have lost some competitiveness due to currency exchange fluctuations/over-valuation. Moreover, the US market identified specific problems with Turkish suppliers' reliability and professionalism.

The key purchase criteria for natural stone are product color/texture/look, pricing and supplier reliability. Product; being a natural product, the stone's characteristics vary by country, by quarry, and often even by location within a quarry. The market looks for specific color/texture/finish that are provided mainly by the quarry and also by the processing (filling, surface treatment). Within product characteristics, color is the key differentiating factor. In general, buyers do not care if a product is from Turkey, Italy, Mexico, Peru, etc. They are looking for a particular grade of color (e.g., cream, beige, nocce, chocolate, etc.) and for a specific texture/look. Pricing, relatively similar products are often available from several countries, but some suppliers have lower prices (e.g., due to currency variations, cost of production, etc.).

Italy sets the standard in terms of product and service quality. Italy has been exporting stone for the longest time. Specific comments made about Italy include, consistency of quality (product and service), excellent timeliness of shipments, quality of communications (if there is a problem, the Italians provide information about it and suggest solutions and alternatives) and a ability to follow special instructions. In general, positive comments were also made in the USA about Brazil's granites and marbles: Such as "Brazil is getting close to Italy in terms of professionalism and reliability" (European Commission, 2001).

Turkey has expanded its stone output, and exports large quantities of marble to the USA. Proven stone reserves in Turkey are huge and the country is increasingly playing an important role in the world's natural stone market. Reportedly, Turkey already exports more natural stone finished products than Italy in terms of volume to the USA. Turkey is known mainly for its marble (i.e. travertine marble). According to industry sources, Turkey's producers have invested heavily in modern equipment.

Although Turkey produces many types and colors of marble (e.g., brown, red, black, etc.); all USA consumers immediately focus on Turkey's cream (light brown/beige) travertine. In general, Turkey's cream-colored travertine is perceived to be of lower quality than that of Italy, but very competitive in terms of quality and price with travertine from Mexico, Peru, Israel, etc. Its lighter color and lower prices are deemed to be very attractive and more in line with current US consumer taste. Several consumers feel that Turkey has stone products other than cream travertine but is not aggressively promoting them. One consumer firm is promoting a silver travertine from Turkey.

Interviewees in the US had positive comments about Turkey's marble suppliers. US fabricators, specifiers and consumers are familiar with Turkish travertine, and consider it to be of good value. Turkish travertine is of lighter color than stone available from Mexico and Peru; so the US market prefers Turkey's lighter brown. Israel offers similar products but its prices are less competitive. Mexico was more competitive but now Turkey has better prices. However, there is a feeling that Turkey is affected by exchange rate fluctuations and currency over-valuation (USAID, 2007).

According to a recent article in Italy's "Giornale del Marmo", Turkey's average prices for finished marble products are lower than Italy's, but higher than China's. The article indicates that, in 2004, Italy's average marble export price was US \$40/m<sup>2</sup>, compared with \$26/m<sup>2</sup> for Turkey, \$24/m<sup>2</sup> for Portugal and \$14/m<sup>2</sup> for China.

Specific negative comments/criticism were made in the USA related to Turkey's products (based on interviewees): "Color matching of filling for travertine is poor". Other countries typically do a better job at selecting and applying filling colors and materials. Turkey's packaging of tiles is mediocre. Marble tiles (packed in cardboard boxes) should be shrink wrapped, as boxes often get wet during shipping. "Turkey could learn from Brazil's tile packaging". Turkey is focusing on tiles and paying little attention to slabs. However, there is a market for slabs that could be addressed. Turkey's tile makers prefer to sell 18x18 tiles. According to specific interviewees, the US market prefers 12x12 and 16x16 inch tiles.

Specific negative comments/criticism were made in the USA related to Turkey's logistics (based on a small sample of interviewees). Some Turkish suppliers are too small and they hold orders until they can ship several container to the seaport in order to reduce their average shipping costs. Suppliers face occasional delays with internal transportation (to the Turkish port), usually due to weather problems in central Turkey.

Specific negative comments/criticism were made in the USA related to Turkey's customer service (based on a small sample of interviewees). Challenging language difficulties with personnel in Turkey, especially with smaller suppliers. Turkish suppliers often do not follow

instructions, “The same issues happen repeatedly, No learning curve”, “Counterparts forget right away and do not learn from experience”.

#### 4. CONCLUSION

According to some researches indicated that Turkey could benefit from reducing the degree of intermediation (less distribution steps), and exporting higher value-added products, such as fabricated stone products. However, these suggestions must be considered very carefully.

- What would be the impact of increasing direct sales (e.g., to retailers or fabricators) on Turkey’s future sales to importers and distributors, who still control a large portion of the exports market?
- What is the financial impact on the suppliers of eliminating the intermediaries?
- Who will finance the inventory?
- Who will warehouse it for delivery further down the distribution chain?
- Who will be responsible for selling marble?
- What is the real potential fabrication in Turkey?

A few interviewees in the USA indicated that Turkey lacks a national stone industry association. According to these interviewees, other countries (e.g., Italy, India, Brazil, Spain, the US, China, Canada) have national organizations (i.e., ABIROCHAS in Brazil; the American Marble Institute; the Canadian Stone Association; etc.) that serve as central sources of information, lobbying, problem resolution agencies, marketing entities, etc.

However; Turkey needs to be careful that a National Stone Association should benefit Turkish suppliers and not add to their costs without a commensurate benefit. Its focus should be in supporting the development of Turkey’s stone industry, improving its competitiveness and promoting its markets.

Turkey’s marble sector should review, study and address, (as appropriate), the comments made by interviewees marble exporters about selling.

Turkey ought to take care of following issues;

- Organizational issues:  
Analysis for the design and formation of a Natural Stone Association. Financial analysis of the opportunity to change the distribution and market focus in the USA (to reduce intermediaries; to fabricate in Turkey).
- Product related issues:  
Color matching for fillings; tile packaging; tile sizes; analysis of the market attractiveness for slabs versus tiles (product mix focus); analysis of the supply and market potential for other color stones.
- Logistics issues:  
Consolidation to reduce costs delays in shipping, to reduce delays in road transport to Turkish ports due to weather and bad roads.
- Customer service issues:  
Language problems, problems following instructions and learning curve.

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