



Università  
Ca' Foscari  
Venezia

Master's Degree  
in Language and  
Management to China

Final Thesis

**The impact of  
economic systems'  
dispute over the trade  
market: focus on  
Italian Marble sector**

**Supervisor**

Ch. Prof. Andrea Pontiggia

**Assistant supervisor**

Ch. Prof. Renzo Riccardo Cavalieri

**Graduand**

Ilaria Spinetti

Matriculation number

851462

**Academic Year**

2019 / 2020



<b>Introduction</b>	<b>5</b>
前言	8
<b>Chapter 1: Trade War</b>	<b>14</b>
1.1 Introduction	14
1.2 Trade Protectionism	15
1.3 Previous example of Trade War in History	19
1.4 Present U.S. - China Dispute	21
1.4.1 Chronology	22
1.5 Present E.U. - China Dispute	27
1.5.1 Chronology	29
1.6 Trade War global effects	31
<b>Chapter 2: The Marble Industry</b>	<b>33</b>
2.1 Introduction	33
2.2 Marble Sector in China: Production and Consumption	35
2.3 Marble sector in United States: Production and Consumption	42
2.3.1 Why China matters for American supply of natural stone	43
2.4 The Italian Marble Industry	45
2.4.1 Apuo-Versiliese Marble Varieties	50
2.4.2 Marble applications	56

2.4.3 The importance of stone fairs for the Italian stone sector	57
<b>Chapter 3: Trade War effects on the stone market</b>	<b>61</b>
3.1 Introduction	61
3.2 United States	63
3.3 China	64
3.4 Italy	65
3.4.1 2018 Analysis	65
3.4.2 The effect on the global consumption of Italian marble (2018)	67
3.4.3 2019 Analysis	74
3.4.4 The effect on the global consumption of Italian marble (2019)	76
3.5 Some consideration about the consequences of the Trade War	79
<b>Chapter 4: Direct competitor of the marble industry</b>	<b>82</b>
4.1 Ceramic and artificial stone	82
4.2 Internal weakness of the Italian marble sector	89
<b>Conclusion</b>	<b>92</b>
<b>Sitography</b>	<b>95</b>
<b>Bibliography</b>	<b>99</b>

# Introduction

The purpose of this thesis is to explain the main changes that occurred on the marble market during the two-year period 2018-2019 caused by the Sino-American trade war.

In the present paper, I explain what is a trade war and which are its characteristics, critically illustrating advantages and disadvantages for the market and the countries involved and also including few historical examples to better understand the dynamic that lead to this kind of conflicts. The chronology provides the essential timeline of the events that described the tit for tat between the American president and the Chinese administration.

Moreover, even though it starts with the precise intent of limiting the Chinese economic growth, it soon involved also the rest of the world, with particular regard to European goods. The trade exchange with China and U.S. are essential for both the economies. In 2018 the United States and China accounted alone for 42% of world trade in goods<sup>1</sup>. Being Italy part of European Union, it's clear that its economy suffered for the trade barriers.

---

<sup>1</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?oldid=486357&title=International\\_trade\\_in\\_goods](https://ec.europa.eu/eurostat/statistics-explained/index.php?oldid=486357&title=International_trade_in_goods)

Along with Italian most important sector, as Food and Beverage, Fashion and Automobile, came the Marble Sector, that produced the most valuable and precious stone of the world: Carrara Marble. While some years ago the overall stone production was the prerogative of few countries mainly located in Europe and Asia, now the sector has become rich in various realty that produced and sell their products globally.

This research also includes the focuses of production and consumption of marble for both Chinese and American markets, highlighting how closely the two countries are connected. It goes without saying that for such an internationalised industry, trade barrier were detrimental.

After a brief explanation of the other marble producers in the world there is the focal point: the Italian marble industry. In this section there is the explanation of the sector's characteristics from the historical background to the variety of marble, to the main field of application of this precious stone. Later comes the market analysis of the trade war effects divided by country and period, with reference to the Chinese and American market. The core of these analysis remains the Italian sector.

The thesis also demonstrates the fact that following the trade war many companies, which had previously seen their share in the marble market eroded, have started investing in alternative products. These alternative products are the artificial stones, the ceramic tiles and synthetic quartz. With their cheaper prices and successful marketing campaign they are slowly undermining the Italian leadership in the production of valuable stones. However, the Italian sector also is affected by some internal weaknesses that if are not so much alarming in the short-period, if it doesn't find a way to deal with, could become very detrimental in the long run.

## 前言

自古以来，在世界各地的文明中就一直使用抛光石作装饰用途的传统。但是并非所有的岩石都有观赏价值。为此，它们的结构必须紧凑，以便它们可以被切割或加工而不会破裂，并且它们必须具有良好的外观。石材用于装饰目的的历史可以追溯到史前时期。

大理石的历史始于数千年前，当时埃及和美索不达米亚的古代文明在其中找到了支撑雄伟公共建筑并构成宗教庙宇柱子的理想石材。古希腊拥有丰富的大理石采石场，拥有众多优质的白色大理石。自希腊雕塑和古典建筑的起源以来，大理石的使用就很广泛，首先是从公元前5世纪的雅典卫城的纪念碑和庙宇开始。

罗马人对大理石的偏爱使他们在整个帝国开设采石场，在房屋和公共建筑中插入装饰元素，并向罗马运送大量石板和圆柱，城市的美化。他们的习惯是用小块瓷砖被安排成在地板和墙壁上绘制的马赛克和镶嵌物，而各种石块被雕刻成石棺，喷泉，花瓶或雕刻成胸像和小雕像。

卡拉拉大理石在整个中世纪一直被用作建筑材料，但是在佛罗伦萨的美第奇王朝的赞助下，托斯卡纳的采矿业经历了巨大的发展。中世纪和巴洛克时期的教皇和红衣主教拥有巨大的财富，他们将其用于建造极为精致的教堂和大教堂。



中世纪时期，虽然所有的人认为它是一个黑暗的时代，但是它以艺术和建筑领域的高峰为特征，大理石在伟大的基督教大教堂中窥视，尤其是在地板上。然后，在文艺复兴时期，大理石开始特别在具有一定价值的公共和私人建筑中使用。然后哥特式艺术发现了大理石的出色表现潜力。米兰大教堂就是一个例子。

在17至18世纪的路易十六统治期间，法国大理石行业蓬勃发展。君主拥有从法国，比利时和意大利的采石场中提取的大量最好的大理石。17世纪和18世纪初标志着巴洛克和洛可可时代的顶点。文艺复兴时期建筑的许多特征还可以追溯到巴洛克时期。但是，艺术变得更加详细，需要更多的装饰。在欧洲宫殿的各个部分这一极为详尽的款式显而易见。

与欧洲建筑的其他时期相比，这一时期对大理石和其他石头材料制成的壁炉，喷泉，楼梯和庭院的需求量更大。法国凡尔赛宫和俄罗斯彼得夏宫都使用大理石装饰的巴洛克和洛可可风格的装饰元素。随着新领土的发现和殖民帝国的建立因此从18世纪开始，采石场和贸易商开始在更大的市场上经营。

美国的大理石的流行导致从欧洲大量进口大理石，因为人们相信本地石材的价值低于意大利和希腊。在欧洲和北美，装饰性石材变得很流行，大量的石材被用于装饰建筑物，直到第一次世界大战爆发导致建筑业崩溃。1930年的大萧条打出

了最后一击：在经济匮乏时期，大理石和花岗岩等奢侈品没有市场。1960-80年代的新摩天大楼和城市景观中很少出现传统的建筑材料，包括天然石材，木材和砖块。1970年，建筑师才恢复在建筑项目中使用抛光石材，并设计出新方法将这种实用且引人入胜的覆层材料纳入创新的建筑风格。

大理石是最古老，最美丽的石头之一，其外观和坚固性在古代已广为人知。它可以具有多种形式的条纹和不同的颜色，这些颜色根据岩石中存在的不同材料（例如铁，粘土，沙子，粉砂）而变化；因此，每块大理石板都会产生独特且不可重复的视觉效果。即使在今天，大理石仍被用于建筑，并在家具中因其反射光的特殊方式而备受赞赏，从而产生类似于蜡的透明和半透明的效果。大理石墙，雕像，花瓶，装饰品仍然是室内设计中不可缺少的补充，因为它们还具有为周围环境赋予亮度的独特能力。

意大利是生产优质大理石的无可争议的世界领导者。意大利大理石是一种真正的非凡石材。从罗马帝国到意大利文艺复兴已有数百年的传统，意大利大理石是无与伦比和独特的。意大利大理石艺术家是世界上最好的石材切割师和雕刻师。因此，来自意大利的手工大理石在全世界受到高度赞赏和赞赏。意大利不是欧洲唯一能够在其领土上拥有豪华大理石的國家：西班牙，比利时，法国和希腊也从其采石场中提取了许多独特的产品用于石材市场。

大理石也是雕塑中使用最多的材料，许多艺术家，例如米开朗基罗，多纳泰洛，贝尼尼，卡诺瓦，都将其选作最重要的雕像。米开朗基罗本人在十六世纪初爬上了阿普安阿尔卑斯山的山脉，以从中提取大理石。他的虔诚和大卫是有史以来最受喜爱和著名的雕塑之一。大理石是可以以多种方式呈现的石材：除了经典的白色外，还有具有不同纹理的大理石纹路，具有红色，绿色，黄色，灰色，紫色的阴影。白色大理石被认为是自古以来最有价值的材料。经典认为它是唯一的纯净和有价值的东西，而彩色大理石则被视为不纯的石头，因此，当时建造的大多数纪念碑和雕像都是白色大理石。但是，这种信念只是持续时间很短，很快，彩色大理石也受到赞赏，并用于雕塑和建筑中。最著名和最有价值的大理石类型是卡拉拉大理石，它是均匀的白色，但可能具有细微的灰色和不透明的纹理。

时尚的变化和新兴国家的出现给大理石市场带来了巨大的变化。有一些生产国提供大约开挖的石材块，那些从事大理石加工的国家则对石材进行切割，抛光和精加工，而消费国则购买和安装成品。以意大利为例，它作为石材生产国已有很长的历史，并且在过去的几个世纪中，它已经在加工国家中树立了声誉。今天大理石的主要生产国是埃及，土耳其，伊朗，葡萄牙和意大利。总体而言，世界上开采和使用的大理石数量正在增长。自九十年代以来，中国已成为重要的生产国，最近在加工领域确立了地位。此外，中国大量使用了自己的石材，但被迫从其他国家进口以满足国内需求。美国是重要的生产国和加工国，它主要供应国内

市场，并且进口大量。印度是一个大型生产国，它使用国内市场上开采的大部分石材。但是，在中美之间的关税战之后，国际大理石市场最近遭受了许多损失。尽管意大利是大理石产品生产的领导者，大理石产品出口到世界各地，但意大利大理石行业也遭到了破坏。

中美之间的贸易战是一场贸易争端，开始于2018年，此前美国总统唐纳德·特朗普宣布计划对中国产品加征500亿美元关税。美国总统指责中国从事不正当贸易行为，并被中国政府和公司滥用知识产权。通过这些保护主义措施，美国总统打算保护内部市场，以促进就业。为了报复，中国对超过128种美国产品征收关税，其中最引人注目的是大豆，这是美国对中国的主要出口产品之一。实际上，在美国，由于关税而受到的损害最大的类别之一是农民，他们也不得不要求国家补贴。除了对中国出口产品征收关税外，特朗普总统还对来自世界各地的铝和钢以及来自欧洲的某些产品类别征税。在这种价格上涨的情况下，欧洲直接并且间接遭受了损失。尤其是意大利，除了出口以外，其增长率已经下降了一段时间，其主要生产国的生产遭受了损失，例如汽车工业和食品业。

关税战争破坏了大理石市场以及其他石材。关于每个国家在国际大理石市场上的份额发生了许多变化。此外，由于贸易战，大理石等天然石材面临着陶瓷和人造石材的竞争。处于危机时刻，消费者选择这些材料是因为它们比大理石便宜。

这些廉价材料的崛起是突然的，并且从一开始就成为大理石的直接竞争对手。由于对天然石材出口征收关税，人造石材和瓷砖的贸易蓬勃发展。

因此，本论文的目的是分析国际大理石市场中发生的变化以及造成的损失。我将分析中国和美国的大理石市场及其进出口。我将分析实施保护主义措施的选择是否有效，以及它对关税战争起源于美国的影响。此外，我将尝试了解意大利大理石市场是否因这场贸易战而蒙受了损失，并将分析意大利市场的优势和劣势。我还将根据收集到的数据提供一些有关如何在国际市场上更具竞争力的提示。最后，我将对意大利大理石市场发表自己的看法。

# Chapter 1: Trade War

## 1.1 Introduction

After the collapse of the Soviet Union and communism in the early nineties of the last century, the United States advanced on the assurance that the world would copy them, that it would take the path traced by those who had won the Cold War.

America was the guarantor of a balance based on the freedom of trade and the strength of financial and technological globalisation of production chains. They were the winners of the military, economic and dialogical conflict between east and west. Their mission to bring democracy, freedom, and well-being to at least the rest of the planet was being accomplished. Washington believed that, once Communism and the Soviet Empire collapsed, Russia and China would be definitively Americanised. It didn't happen and it won't happen.

The world is facing fundamental changes in the international order: in recent times, relations between China, the United States and Russia have shown

unprecedented characteristics. In the long run, it is certainly the enormous Chinese economic growth of the late years that underlies everything. Obviously U.S. and Russia didn't expect that China become such an economic superpower, so powerful to lay down the foundations of their status quo. If former U.S. President Barack Obama treated his relationship with China on the basis of a mix of cooperation and containment, current President Donald Trump has chosen total containment in order to prevent Chinese economic growth and status.

## **1.2 Trade Protectionism**

Trade protectionism is a policy developed to defend the domestic industry from the unfair international competition limiting the number of imported goods with tariffs and trade barriers. Trade barriers work on an easy principle: a government introduce some kind of costs on trade exchange that raises the final price or availability of the traded goods. Barriers can be divided into tariffs, which impose additional tax on imports, and non-tariff barriers, which uses other measures to restrict the exchanges. Tariffs would make the domestic product cheaper by comparison, and it would consequently stimulate the domestic market with the resulting increase of employment. A country will

generally undertake protectionist measures with the intent of shielding domestic businesses and jobs from foreign competition<sup>2</sup>.

The direct consequence of trade protectionism is the trade war. A trade war happens when a nation imposes tariffs on imported goods from foreign countries<sup>3</sup>, and the other damaged country retaliate creating new barriers. Trade wars start when one country notice that a competitor nation has unfair trading practices. It could also be a result of a misunderstanding of the widespread benefits of free trade. A trade war that begins in one sector can grow to affect others. Likewise, a trade war that begins between two countries can affect other countries not initially involved in the trade war. As noted above, this import tit-for-tat dispute could be the result of a protectionist tendency. A trade war is different from other actions taken to control international exchanges, such as sanctions, that sometimes also have philanthropic purposes. Instead, the war has always detrimental effects on the trading relationship between two countries and its goals are related exclusively to trade. Besides tariffs, protectionist policies can be implemented limiting import quotas, setting product standards, or implementing government subsidies for processes to discourage outsourcing.

---

<sup>2</sup> <https://www.investopedia.com/terms/t/trade-war.asp>

<sup>3</sup> <https://www.thebalance.com/trade-wars-definition-how-it-affects-you-4159973>



The judgment about trade wars in particular, and protectionism in general, are manifold. In defence of protectionism many people argue that well-crafted policies provide competitive advantages. By blocking or discouraging imports, protective policies preserve and enhance domestic production, which ultimately creates more employment. These policies are at the same time useful to overcome a trade deficit. Additionally, proponents believe that severe tariffs and trade wars may also be the only effective tools to deal with a nation that continues to behave unfairly or unethically in its trading policies.

Critics argue that protectionism often directly hurts the final consumer it is intended to protect long-term by blocking markets and slowing economic growth and cultural exchange. Consumers may begin to have limited choice in the marketplace and may even face shortages if there is no ready domestic substitute for the imported goods. Having to pay more for raw materials hurts manufacturers' profit margins. As a result, trade wars can lead to price increases—with manufactured goods, in particular, becoming more expensive sparking inflation in the local economy overall<sup>4</sup>.

---

<sup>4</sup> <https://www.investopedia.com/terms/t/trade-war.asp>

### Trade War advantages:

- Protects domestic companies from unfair competition
- Control the unfair competition
- Increases demand for domestic goods
- Promotes employment in the domestic market
- Balance trade deficits
- Penalise nation with unethical trade policies
- Give new industry's companies time to develop their competitive advantages<sup>5</sup>, without the foreign competition.

### Trade War disadvantages:

- Increases costs and induces inflation
- Causes marketplace shortages
- Reduce choice for the final consumer
- Reduce comparative advantage
- Slow down international trade
- Slows economic growth
- Hurts diplomatic relations

---

<sup>5</sup> <https://www.thebalance.com/what-is-trade-protectionism-3305896>

- Hurts cultural exchange
- Stock market crash
- Disadvantages both for the producer and the consumer
- If it fails, increase unemployment

### **1.3 Previous example of Trade War in History**

In the Seventeenth Century, colonial powers already fought with each other to maintain the exclusive right to trade with their overseas colony. The British Empire has a long history of such trade battles. A remarkable example can be seen in the opium wars of the Nineteenth Century with China. Opium Wars, were two armed conflicts fought in China between the colonial power of Britain and France against the Qing dynasty. The first Opium War (1839–42) was fought between China and Britain, and the second Opium War (1856–60) was fought by Britain and France against China. In each case the foreign powers were victorious and gained commercial privileges and territorial concessions in China<sup>6</sup>.

Foreign traders (primarily British) had been illegally exporting opium mainly from India to China since the Eighteenth Century, but that trade grew

---

<sup>6</sup> <https://www.britannica.com/topic/Opium-Wars>

dramatically from about 1820. The resulting widespread addiction in China was causing serious social and economic issues there, so the Chinese emperor decreed it to be illegal. Attempts to reach an agreement failed, and the emperor eventually sent troops to confiscate the drugs. However, the British navy prevailed, and China conceded additional entry of foreign trade into the nation.

In 1930, the U.S. established the Smoot-Hawley Tariff Act<sup>7</sup> raising tariffs to protect American farmers from European agricultural products. This Act increased the import duties to almost 40%. At the same time it also raised food prices for Americans who were already suffering from the Great Depression. In response, several nations retaliated against the U.S. imposing their own higher tariffs, and global trade declined worldwide. As America entered the Great Depression, caused greatly by the disastrous trade policies, President Roosevelt began to pass several acts to reduce trade barriers, including the Reciprocal Trade Agreements Act<sup>8</sup>. It is estimated that this trade war reduced international trade by 65%. Moreover it turned a recession into a depression and led to the start of World War II.

---

<sup>7</sup> The Smoot-Hawley Tariff Act was a regulation that put in effect protectionist policies signed by President H. Hoover in 1930. This law was promoted by Senator Reed Smoot and Willis C. Hawley.

<sup>8</sup> The Reciprocal Tariff Act was established in 1945 and regulate the trade agreement between United States and Latin America. In order to facilitate the exchanges between this two countries, President F. D. Roosevelt signed regulation to reduce duties.

## 1.4 Present U.S. - China Dispute

In U.S. a huge part of household product, automobiles and consumer product are imported, as a result it creates a trade deficit. U.S major trade deficit by country is with China and in 2018 it was \$419 billion. President Trump in order to stabilise the trade balance and create more employment started a trade war imposing tariffs. The first categories hit by the tariffs were steel and aluminium from all over the world, Chinese imports and European cars. On march, 2018 President Trump imposed 25% tariffs on steel and 10% aluminium, key industry for automakers and national security in America. American farmers were the main category damaged by the tariffs on European and Chinese imports<sup>9</sup>.

The trade war between China and United States officially started in 2018 as consequence of the duty tariffs and trade barriers imposed by U.S. President Donald Trump against a large number of Chinese products. President Trump accused China of unfair technology theft, intellectual property theft that caused a significant trade imbalance.

---

<sup>9</sup> Chinese government imposed tariffs on importation of American soybean causing an oversupply of product and, consequently, a price increase. World Agricultural Supply and Demand Estimates report that the demand for soybean has dropped 55%. (*"Business Insider"*)

In 2017 the overall value of U.S. imports from China reached \$505 billion. While the exportation to China were worth \$130 billion. The main part of Chinese exportation are goods for the manufacturer sector, or raw material sent to China for the low- cost assembly. With the trade war, besides reducing the trade balance, U.S. President want to limit the transfer of technology and know-how to China. Chinese Government indeed, as a requisite to enter in the Chinese market, requires foreign companies to share technology and their intellectual property. Moreover, Trump Administration aim is to slow down the "Made in China 2025" plan, a programme that would make China world's principal artificial intelligence centre by 2030.

#### **1.4.1 Chronology<sup>10</sup>**

- On January 22, 2018, Trump Administration imposed tariffs on imported Chinese washing machine and solar panels. Actually, China is the world leader in the production of solar panels.
- On March 22, 2018, Trump announced tariffs on \$60 billion of Chinese imports.

---

<sup>10</sup> Chronology data from: <https://www.thebalance.com/trade-wars-definition-how-it-affects-you-4159973>

- On March 23, China announced tariffs on \$3 billion of U.S. fruit, pork meat, recycled aluminium, and steel pipes.
- On March 26, 2018, the administration began negotiations with China. It asked China to reduce tariffs on U.S. automobiles, import more U.S. semiconductors, and grant greater access to its financial sector.
- On April 3, 2018, President Trump threatened a 25% tariff on \$50 billion in Chinese electronics, aerospace, and machinery.
- On April 18, China imposed tariffs on two other U.S. exports: sorghum and Boeing airplanes. It targeted strategic industries located in states that supported Trump in the 2016 election.
- On April 5, 2018, Trump threatened tariffs on \$100 billion more of Chinese imports. It would cover just one-third of U.S. imports from China.
- On April 10, 2018, China announced it would reduce tariffs on imported vehicles. But most automakers find it's cheaper to build in China, regardless of tariffs.

- On May 4, 2018, the administration asked China to reduce the trade deficit by \$200 billion and cut tariffs on U.S. goods by 2020. It asked China to end subsidies to tech companies, stop stealing U.S. intellectual property, and become open to more U.S. investment.
- On May 22, 2018, China agreed to cut tariffs on U.S. auto imports from 25% to 15%.
- On May 29, 2018, the administration said it would target \$50 billion in imports from China. It would also restrict Chinese acquisition of U.S. technology.
- On July 6, 2018, U.S. tariffs went into effect for \$34 billion of Chinese imports. China responded by raising tariffs on U.S. autos to 40%. China also announced tariffs on U.S. agricultural exports. Midwest farmers have been stuck with excess produce and livestock.
- On July 24, 2018, Trump announced he would offer \$12 billion in subsidies to American farmers.



- On August 27, the administration announced a \$4.7 billion bailout.
- On July 11, 2018, the administration announced 10% tariffs on another \$200 billion of Chinese imports. The U.S. also threatened 25% tariffs after January 1, 2019, on a variety of consumer goods, including fish, luggage, tires, handbags, furniture, apparel, and mattresses.
- On August 7, 2018, the administration announced a 25% tariff on \$16 billion worth of Chinese industrial equipment like tractors, plastic tubes, and chemicals. In response, China announced a 25% tariff on \$16 billion worth of U.S. goods, including autos and coal.
- On September 18, 2018, the administration announced tariffs on \$200 billion of Chinese imports. The tariffs were imposed on 5,745 items that include a wide range of electronics, food, tools, and housewares.
- On December 1, 2018, President Trump met with China's President Xi Jinping at the G20 Conference. Trump agreed to delay the 25% tariff increase from January to March.

- On January 18, 2019, China agreed to increase its purchases of U.S. exports and reduce the trade deficit.
- On February 27, 2019, Trump administration dropped the threat of imposing the 25% tariff.
- On May 10, 2019, Trump raised tariffs to 25% on \$200 billion worth of goods. Trump threatened to expand that tariff to an additional \$325 billion of Chinese imports. That would raise prices on basically all Chinese imports.
- On June 1, 2019, China retaliated with a 25% tariff on \$60 billion of U.S. goods. Some investors are also worried China may sell some of its \$1.1 trillion in U.S. debt. That would send interest rates higher and slow the U.S. economy.
- On August 13, 2019, Trump threatened a 10% tariff on Chinese electronics and clothing.
- On August 23, 2019 Chinese Ministry of Finance announced new tariffs on \$75 billion worth of U.S. products.

- On October 11, 2019 United States and China try to arrange an agreement for the "first phase" of a trade deal.
- On January 15, 2020 the US–China Phase One trade deal was finally signed in Washington DC.

## 1.5 Present E.U. - China Dispute

Europe economy strongly rely upon US and Chinese markets.

Regarding the exports to China, the main categories are: aircraft, vehicles, chemicals, machinery and equipment. While Europe mainly imports from China footwear, clothing, machinery, equipment and consumer goods. As a matter of fact China is the E.U.'s biggest importer country and the second-biggest exporter.

Europe is strictly related to U.S. because of their *Transatlantic Trade and Investment Partnership*, a free trade agreement made up in 2013. This pact, contributing to the development and employment on both sides of the Atlantic. Moreover, the EU and the US economies account together for about half the

entire world GDP and for nearly a third of world trade flows<sup>11</sup>. U.S. is Europe 's biggest exporter country and the second biggest importer.

Following charts describe the overall trade exchange with USA:

***EU-USA: Trade in goods 2017-2019, € billions***

<b>Year</b>	<b>EU imports</b>	<b>EU exports</b>	<b>Balance</b>
2017	203.3	324.2	120.9
2018	213.3	351.2	137.9
2019	232.0	384.4	152.5

***EU-USA: Trade in services 2016-2018, € billions***

<b>Year</b>	<b>EU imports</b>	<b>EU exports</b>	<b>Balance</b>
2016	192.5	160.0	-32.4
2017	194.7	172.8	-21.8
2018	196.2	179.4	-16.8

Source: European Commission: [https://ec.europa.eu/energy/topics/international-cooperation/key-partner-countries-and-regions/united-states-america\\_en?redir=1](https://ec.europa.eu/energy/topics/international-cooperation/key-partner-countries-and-regions/united-states-america_en?redir=1)

<sup>11</sup> [https://ec.europa.eu/energy/topics/international-cooperation/key-partner-countries-and-regions/united-states-america\\_en?redir=1](https://ec.europa.eu/energy/topics/international-cooperation/key-partner-countries-and-regions/united-states-america_en?redir=1)

Following charts describe the overall trade exchange with China:

### *EU-China: Trade in goods 2017-2019, € billions*

<b>Year</b>	<b>EU imports</b>	<b>EU exports</b>	<b>Balance</b>
2017	322.7	178.8	-143.9
2018	341.8	188.0	-153.9
2019	362.0	198.3	-163.7

### *EU-China: Trade in services 2016-2018, € billions*

<b>Year</b>	<b>EU imports</b>	<b>EU exports</b>	<b>Balance</b>
2016	29.8	38.6	8.8
2017	29.8	41.5	11.7
2018	30.0	46.6	16.7

Source: European Commission: [https://ec.europa.eu/energy/topics/international-cooperation/key-partner-countries-and-regions/united-states-america\\_en?redir=1](https://ec.europa.eu/energy/topics/international-cooperation/key-partner-countries-and-regions/united-states-america_en?redir=1)

#### **1.5.1 Chronology<sup>12</sup>**

- On March 1, 2018 President Trump announced steel and aluminium tariffs on imports from all countries, including Europe.

---

<sup>12</sup> Chronology data from: <https://www.thebalance.com/trade-wars-definition-how-it-affects-you-4159973>

- On March 7, 2018, the EU threatened put in effect measures against the U.S. to correspond with economic losses suffered due to tariffs. President Trump delayed the steel tariff until May 1, 2018.
- On April 21, 2018, the EU upgraded its trade agreement with Mexico.
- On May 31, 2018, Trump revoked the delay. He imposed the tariff on Canada, Mexico, and the EU.
- On June 21, Germany proposed to end the EU's 10% tax on U.S. auto imports if Trump remove the 25% tariffs on European auto imports. There is already a 25% U.S. tariff on light trucks.
- On June 22, the EU retaliated to the steel tariffs with tariffs on \$3.2 billion of American products.
- On July 17, 2018, the EU signed a trade agreement with Japan.
- On July 25, 2018, the EU and the United States agreed to hold off on any new tariffs, and reassess the steel and aluminium tariffs. The EU agreed to import

more U.S. liquefied natural gas and soybeans, to support American farmers who have lost the Chinese market due to the trade war.

- On April 9, 2019, Trump announced he would impose tariffs on \$11 billion in European imports. The tariffs could raise prices on imported cheese, bicycles, and kitchen knives.

## **1.6 Trade War global effects**

Even though a trade war may improve a nation's trade deficit in the short term, it could cost warring nations their economic growth in the long term.

The United States was engaged in a trade war with China, the EU, Mexico, and Canada. Because of this, the damaged countries have signed new trade agreements with other, excluding America. It is proven that President Trump's attempts at trade protectionism have already hurt the U.S. economy. They raised the prices of automobiles, computer chips, soda and beer, and heavy equipment. Companies have cut jobs because the cost of production with local materials is too excessive. U.S. exporters of agricultural products, bourbon,

cheese, and equipment are suffering as foreign markets disappear under retaliatory tariffs.

Over time, trade wars weaken the protected domestic industry. Without foreign competition, companies within the local industry don't need to innovate. Eventually, the local product would decline in quality compared to foreign-made goods.



# Chapter 2: The Marble Industry

## 2.1 Introduction

The Global natural stones market has changed dramatically since emerging countries started to produce and exports new materials. The processes involved into the extraction of the raw materials and the final sale of the stone block, are developed by three main actors: manufacturer countries, processing countries and consumer countries. The manufacturer countries provide the blocks of raw materials, the processing countries cut, smooth and refine the imported block and the consumer countries just buy and install the final product. Italy for example is always been renowned for the extraction of raw materials but in recent years become leader as a processing country. All along this supply chain is not rare that the manufacturer country is also the consumer country.

In general, the final price for the processed stone is higher than the raw material, so plenty of countries are massively investing in the implementation of technology for the transformation of stone blocks. Some companies also develop partnership to cut down the whole supply chain costs, also creating

multinational corporation and joint ventures. Globally, the biggest marble manufacturers are: China, India, Turkey, Iran, Brazil and Italy. These countries alone express 7/10 of the whole global production.

Since the nineties, China become crucial for the production of marble even if import also big quantities from other countries in order to satisfy the domestic market. Fundamental in the Chinese growth process was been the competitiveness of its price due to low production costs together with lax laws and regulations that allow companies to mine as much as they want without any safety equipment. However, it remains one of the biggest exporters in particular, to the United States, that occupy the first place for the consumption. United States is a big processing country, and the final product is almost completely sell on the domestic market. In recent years India has gaining growing importance for the extraction of the raw material because of its booming economy.

With regard to the international exchange, the biggest exporter countries, in order, are: China, Italy, Turkey, India, Brazil, Spain and Portugal, whereas the biggest importer countries are: China, United States, South Korea, Germany, India, and France. Along with the overall growth of the natural stone sector came also the environmental issues.

Nowadays stone material as marble are considered to be unsustainable materials as they are non-renewable resources and have very energy intensive manufacturing processes. As these materials need to be extracted, the impact which they cause upon the environment is irreversible, particularly in terms of water and air pollution<sup>13</sup>. Moreover, it makes irreparable damages to the landscape. During the whole production process economic losses strictly rely upon the quantity of waste material, that usually is greater than the marketable stone. Currently, companies are investing to develop technologies to make more sustainable the production cycle. The utilisation of diamond wire saw can reduce the overall waste of raw material. The water used in the process of extraction could be filtered and reused. In India and China are trying to put in effect some initiatives to increase the work condition in the quarries.

## **2.2 Marble Sector in China: Production and Consumption**

Along with its economic escalation, the Chinese stone industry has developed rapidly over the past decades, making China the world's largest stone market, not only in production but also consumption<sup>14</sup>. Stone is mainly

---

<sup>13</sup> <https://www.capital-qpc.com.au/how-sustainable-is-it-granite-marble-and-concrete/>

<sup>14</sup> <https://freightservices.greencarrier.com/china-in-focus-transport-and-logistics-in-the-stone-industry/>

excavated from three provinces in China. There are the Fujian and Guangdong provinces in the south and the Shandong province in the east. The Fujian province is the largest with more than 80% of all Chinese stone products being processed there. Most of our stone factory customers in China are in Shuitou and Quanzhou in the Fujian province<sup>15</sup>.

From 1900 to 1949 there were less than 100 family owned fabrication shops in China. However in the last 70 years, that number grown exponentially- with more than 27,400 stone companies throughout the country today, which employ roughly 5.5 million of workers<sup>16</sup>. After 1949 China take part two successive treaty growths: between 1980-90 and another between 1991-2001. During the first decade, China marble industry developed rapidly. By introducing advanced stone processing equipment from foreign manufacturers, the country's production improved significantly. Stone was no longer conceived exclusively as construction material, but also as a decorative material. During this period were established the foundation for China to become one of the world's largest stone producing countries. During the second decade of growth, the professional stone companies from Taiwan and other countries began to take part in the blossoming market. After completing original capital

---

<sup>15</sup> <https://blog.greencarrier.com/china-in-focus-transport-and-logistics-in-the-stone-industry/>

<sup>16</sup> [http://digital.bnppmedia.com/publication/?i=267886&article\\_id=2234464&view=articleBrowser](http://digital.bnppmedia.com/publication/?i=267886&article_id=2234464&view=articleBrowser)

accumulation, some of the major enterprises of China started to branch out nationwide. By doing so, China's marble industry reached a new level and began to become attractive to the rest of the world.

As a result of these two decades China quickly became one of the world's largest stone producer, exporter and consumer. Since then, China's stone industry has had a continuous and rapid development. Regulation and improvement of stone mining were continuously revised within China, and from 2000-2011 many small companies that didn't meet industry standards were closed. In these circumstances many large-scale companies gained more development potential, thus increasing the industrial concentration ratio. During that decade stone quarrying operations adopted mechanical sawing systems mainly, instead of blasting and drilling. Outdated methods had been forbidden and eliminated, while automated stone processing was developed. Large and medium-sized enterprises realized waste water recycling mechanisms and have also made progress in the comprehensive use of stone waste and residue. Artificial stone or mosaic products made from stone waste have also successfully developed<sup>17</sup>.

---

<sup>17</sup> [http://digital.bnppmedia.com/publication/?i=267886&article\\_id=2234464&view=articleBrowser](http://digital.bnppmedia.com/publication/?i=267886&article_id=2234464&view=articleBrowser)

Although the stone industry in China has developed rapidly over the past 30 years (1980th), many of the stone factories are still family-run workshops. But due to the implementation of new environmental protection policies affecting the stone producers and the costs that follow, many family workshops are forced to close because they cannot afford to meet the new policies. Meanwhile, bigger stone enterprises have the potential to improve their equipment, technologies and designs to lead the stone industry towards a more sustainable future. This has resulted in Chinese stone products becoming more competitive on the global market, and also to China importing huge amounts of marble. A great part of the demand for stone in China has always been for the domestic market, but with the new position on the global market, the country itself cannot meet its own demand. In this circumstances, the stone is imported from other countries to be processed in China and then consumed or exported to other countries<sup>18</sup>.

Up until 2000th, most stone-processing operations were done with hand tools. Around 2011, the development and manufacturing of stone equipment grew rapidly. Chinese stone producers developed and applied a series of mechanical equipment with proprietary intellectual property rights, such as stone sawing, automatic polishing, discs sawing and block loading machines.

---

<sup>18</sup> <https://blog.greencarrier.com/china-in-focus-transport-and-logistics-in-the-stone-industry/>

China-made stone processing machines not only can satisfy the demand of domestic stone processing , but also can be exported to foreign countries. Advanced stone-processing equipment as the diamond wire saws began to be used by large stone enterprises in order to satisfy the requirement from international manufacturers and consumers. Some companies even adopted Computer Aided-Design (CAD) machinery in processing complex products and designing artistic stone pieces. Some companies also set up creative stone design centers in order to enhance the innovative ability of their designers, as well as to constantly propel the upgrade of stone products<sup>19</sup>.

During years many factors directly influenced the growth of the stone market in China, without these element there wouldn't be any sort of changes. Thanks to the continuous improvement of the level of urbanisation in Central and Western China its level of stone production and consumption increased. Urbanisation and regional economic development contributed to sustain growth. The level of technology and equipment has advanced, improving the quality of stone produced in China. With the development of stone quarrying and processing machinery, new technology has become more and more popular, especially abroad. Moreover the development of China resulted in a building boom. Consumption, investment and export accelerated the economic

---

<sup>19</sup> [http://digital.bnppmedia.com/publication/?i=267886&article\\_id=2234464&view=articleBrowser](http://digital.bnppmedia.com/publication/?i=267886&article_id=2234464&view=articleBrowser)

development. China pushed forward the process of urbanisation and increased the investments on fixed assets and public facilities, so the housing demand created the demand for stone products. The per capita housing area of Chinese people is increasing, consumption level are also raising and the decoration industry has developed rapidly<sup>20</sup>.

With regard to the importation of White Italian Marble, we can assume that is one of the most purchased variety of marble. Nevertheless, Chinese consumer also appreciate coloured variety of marble. They prefer yellow marble for the symbolic connection with the legendary Emperor Huang Di (黄帝), the Yellow Emperor; and red marble because is considered a lucky colour in China emblem of wealthiness and happiness, moreover, is the traditional colour of the Han population.

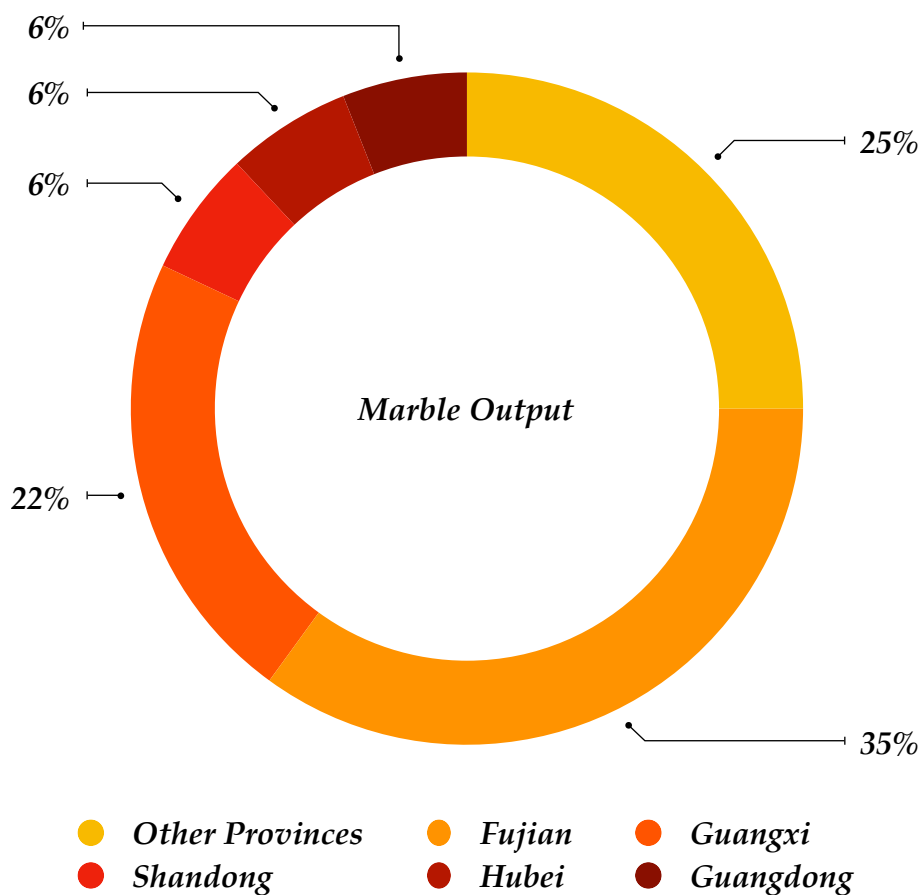
In general, Chinese people really esteem the stone as a raw material, because of its durability, hardness and solidity. The large-scale construction projects are the main application field of marble. In China, the marble consumption increases annually among the constructions of airports, public squares, luxury hotels, and private properties. The White Carrara marble is considered a high-end material, very luxury and expensive, so the Chinese tendency is to

---

<sup>20</sup> [http://digital.bnppmedia.com/publication/?i=267886&article\\_id=2234464&view=articleBrowser](http://digital.bnppmedia.com/publication/?i=267886&article_id=2234464&view=articleBrowser)

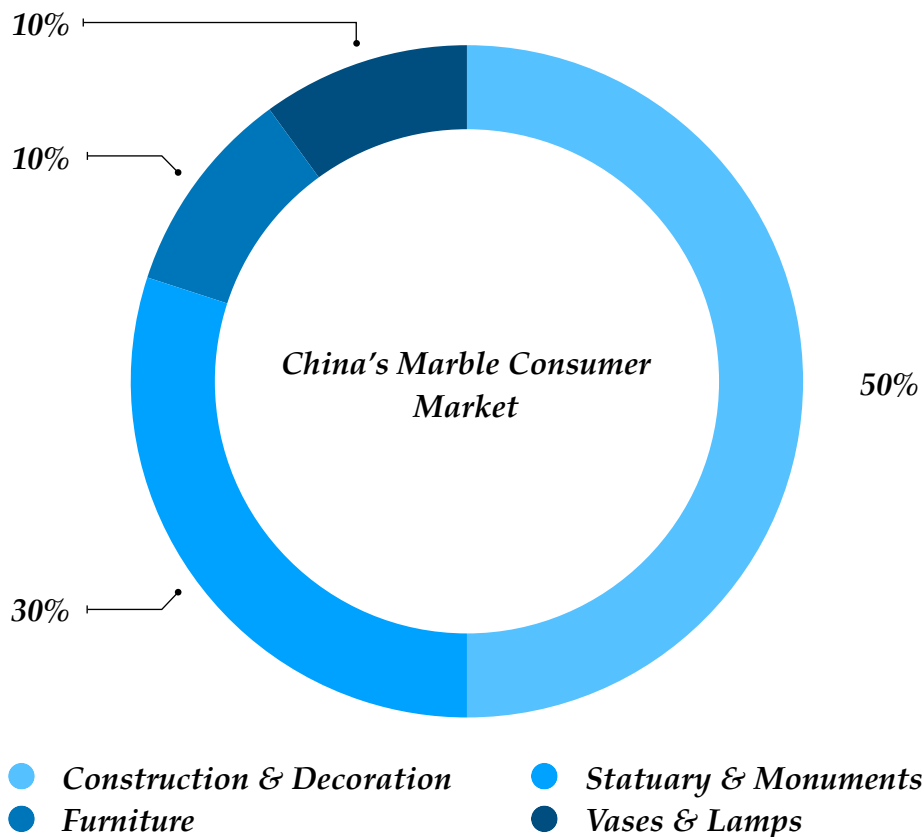


substitutes the Italian stone with the white marble from Greece and Turkey that is less precious and consequently cheaper. White Marble in China is mainly used as interior design for bathrooms and pavements, rarely is employed for sculptures and exterior design. Above all Beige marble is the most popular in China, which takes about 50% of the market. White marble and black marble also have high consumptions, as Chinese soil is rich in these two kinds of marble<sup>21</sup>.



Data: <https://daxueconsulting.com/the-marble-market-in-china/>

<sup>21</sup> <https://daxueconsulting.com/the-marble-market-in-china/>



Data: <https://daxueconsulting.com/the-marble-market-in-china/>

### 2.3 Marble sector in United States: Production and Consumption

The United States is the world top consumer of dimension stone, that is the natural stone that has been selected and finished to blocks, importing almost the 90% of all the marble used in the building sector. At the same time, it was ranked as 18th in the world for marble production. In the United States, the

major marble-producing areas are found in the states of Alabama, Colorado, Montana, Tennessee, Texas, and Vermont. The most well-known group of American marble are The Danby marbles quarried in Vermont. The main factor that drive the demand for foreign marble is the price. Stone from local quarries does tend to be more expensive because the country doesn't have the infrastructure in place to meet the high level of demand. So, the country is forced to import a massive quantity of marble from abroad. The main exporter of marble for the American market is China. Most of the marble quarried in the U.S. is used for indoor solution as walls, floors, and kitchen countertops. While foreign marble is both used for big constructions, as buildings and monuments and interior design.

### **2.3.1 Why China matters for American supply of natural stone**

The natural stone is one of the key elements when talking about the building industry and the design sector. This particular material is sourced from all over the world. While shipping does impact its cost, regulations surrounding the process of extracting have an even greater impact on the final price of natural stone<sup>22</sup>. While in the US, there are strict regulations on natural stone extraction,

---

<sup>22</sup> <https://www.bmmagazine.co.uk/business/5-ways-the-u-s-china-trade-war-is-having-an-effect-on-natural-stone-prices/>

it has a vast supply of natural stones that range from shiny veined marble to sleek and rugged granite. However, in China, regulations on this process are lax, allowing companies to mine as much as they want. This means that there is a greater supply of natural stone available in China, making them more affordable than their American counterparts, despite the additional shipping costs<sup>23</sup>. China is notoriously lax when it comes to developing and then enforcing environmental laws. This means the companies that mine natural stones in China have virtually free rein when it comes to how and how much they extract natural stones from the Earth. On the other hand, the United States imposes tough rules and regulations on extracting natural stones, from dictating how much each company can mine to restricting access to natural stone rich areas of the country<sup>24</sup>.

In this circumstances China has a much larger supply of natural stones to meet the growing demand generated by American homeowners and home improvement retailers. For the past several years, the American economy has been booming and because of the new found wealth, many homeowners have decided to perform home improvement projects that include installing natural stone countertops. Finally, China has much more undeveloped land to extract

---

<sup>23</sup> <https://www.bmmagazine.co.uk/business/5-ways-the-u-s-china-trade-war-is-having-an-effect-on-natural-stone-prices/>

<sup>24</sup> <https://www.bbntimes.com/companies/how-a-trade-war-with-china-can-affect-natural-stone-prices>

natural stones, which means it can meet the growing demand produced by American interests. With the growing demand for natural stone in the US, the availability from the Chinese market will directly influence natural stone pricing. The tariffs associated with the US-China trade war have highlighted the impact the Chinese market has on the US natural stone industry.

## **2.4 The Italian Marble Industry**

Marble is a unique and natural material, which preserves and at the time enhance the charm of time and the value of the territory from which it is extracted. The colour, the streaks, the particular shine, the possibility of working it in many different ways make it a material that has always been loved by artists, architects and designers. When it comes to marble, one cannot but immediately think of Italy.

The first population to open quarries in Italy were the Romans, that, at the end of the I century B.C., started to mine marble in the ancient Etruscan city of Luni, around the existing city of Carrara. They were used to mine a kind of marble that they called "Marmor Lunense" to the realisation of buildings, statue and sarcophagus. From the V century the mining activity suffered a period of stagnation following the barbarian invasions. Later, with the greater diffusion of

Christianity, marble was requested in large quantities for the construction of religious buildings and for their interior furnishings. XIV century, the interest in marble decoration was recovered and is in this period that the greatest masterpieces were born. During the Renaissance Michelangelo himself was used to go to Carrara quarries to personally choose the blocks for his artwork. Since then, were founded a multitude of new quarries in Italy and the mining activity become fully developed.

Since the antiquity the Italian marble was considered by artists, sculptor and architect as one of the best materials for the production of objects, sculpture, building and monuments. All over the world you can easily admire examples of manufactures produced with Italian marble. It's due to the fact that, from the beginning, it is always be conceived as synonymous of excellence and elegance. Despite the limited production, if compared with countries like China and United States, this kind of stone still continue to have a prominent position both on the market and on consumers' mind. Italy represent the leading European producer and occupies the sixth place overall in the world ranking of the sector, without mentioning its consolidated leadership in the production and distribution of sectoral machines and plants. It employs very advanced conditions of "know-how" and professionalism, being always able to make the difference for the acquisition of high-level design and executive orders.

The tendency of the stone sector is to operate in different districts because the stone companies usually concentrate themselves all along the zone of the quarries. The Italian marble sector is composed by eleven different districts: the Apuo-Versiliese District, the Venetian District, the Lombard District, the Trentine Stones District, Custonaci District, Orosei Marble District, Apulian Stone District, Lusema Stone District, Verbano-Cusio-Ossola District, South Tyrol Natural Stone district and the Ausoni Mountains-Tiburina District. The most relevant of them is the Apuo-Versiliese district. In this specific area is produced the renowned "Carrara Marble" that is one of the finest and most famous variety of White Marble. This specific stone is characterised by a high grade of homogeneity with few light grey veins that grant the stone an extraordinary brightness and whiteness. For this reason, is worldwide well-appreciated. With reference to the Italian market, as demonstrates the charts below, the Apuo-Versiliese district is also the main district either for the exportation of raw and processed material.

**EXPORT - Processed Materials - Ateco CG237 - € values in**

	<b>1st Semester</b>	<b>1st Semester</b>	<b>Var. %</b>
	<b>2018</b>	<b>2019</b>	<b>2018-2019</b>
<b>Apuo-Versiliese District</b>	227.782.997	216.934.724	-4,76%
<b>Venetian District</b>	216.634.682	208.916.632	-3,56%
<b>Lombard District</b>	48.276.503	45.518.380	-5,71%
<b>Trentine Stones District</b>	15.190.574	15.338.256	0,97%
<b>Custonaci District</b>	16.218.177	13.826.935	-14,74%
<b>Ausoni Mountains-Tiburtina District</b>	23.464.866	12.984.609	-44,66%
<b>South Tyrol Natural Stone District</b>	11.123.749	10.870.426	-2,28%
<b>Verbano-Cusio-Ossola District</b>	11.031.038	10.328.280	-6,37%
<b>Luserna Stone District</b>	8.455.219	8.116.397	-4,01%
<b>Apulian Stone District</b>	3.996.433	2.533.653	-36,60%
<b>Orosei Marble District</b>	615.014	575.861	-6,37%
<b>Other Districts</b>	119.844.530	113.936.240	-4,93%
<b>Italy</b>	<b>702.633.782</b>	<b>659.880.393</b>	<b>-6,08%</b>

Source: ISTAT data processed by IMM (Internazionale Marmo Macchine)



**EXPORT - Raw Materials - Ateco BB081 - € values in millions**

	<b>1st Semester</b>	<b>1st Semester</b>	<b>Var. %</b>
	<b>2018</b>	<b>2019</b>	<b>2018-2019</b>
<b>Apuo-Versiliese District</b>	125.516.187	136.566.225	8,80%
<b>Lombard District</b>	33.429.314	38.335.553	14,68%
<b>Venetian District</b>	26.743.743	23.737.674	-11,24%
<b>Ausoni Mountains-Tiburtina District</b>	9.479.630	9.509.513	0,32%
<b>Luserna Stone District</b>	8.011.644	8.844.010	10,39%
<b>Orosei Marble District</b>	9.931.815	6.244.255	-37,13%
<b>South Tyrol Natural Stone District</b>	5.665.906	6.191.147	9,27%
<b>Trentine Stones District</b>	4.444.255	4.725.683	6,33%
<b>Verbano-Cusio-Ossola District</b>	4.692.474	4.333.467	-7,65%
<b>Custonaci District</b>	2.810.996	3.212.018	14,27%
<b>Apulian Stone District</b>	5.239.411	3.169.334	-39,51%
<b>Other Districts</b>	45.913.688	47.695.599	3,88%
<b>Italy</b>	<b>281.879.063</b>	<b>292.564.478</b>	<b>3,79%</b>

Source: ISTAT data processed by IMM (Internazionale Marmo Macchine)

### 2.4.1 Apuo-Versiliese Marble Varieties

Exists seven major commercial variety of marble caved in the Apuo-Versiliese District: Carrara White Marble, Veined Marble, Bardiglio Marble, Nuvolato<sup>25</sup> Apuano Marble, Arabesque Marble, Statuary Marble and Calacatta Marble.

The Carrara White Marble<sup>(a)</sup>, also called “Ordinary White”, it is the most well-known variety of Apuo-Versiliese District: characteristically it’s homogeneous, with a saccharoidal texture<sup>26</sup> and a compact medium-fine grain. Colour varies from white to pearly white to light grey ground. It has shining grains and smoky grey veins which run through the stone in certain areas. It represents the least expensive and most common marble and has five different commercial categories, in order of value: C, C/D, D, Current and Building<sup>27</sup>.

Veined Marble<sup>(b)</sup> is also called “Veined White Carrara”, is the second most excavated marble in the Apuan Alps. This type is a mid-grained, pearl-white to

---

<sup>25</sup> *Nuvolato*: something that has cloud like spots.

<sup>26</sup> in geology, “*having or being a fine granular texture like that of sugar lumps*”. (Merriam-Webster)

<sup>27</sup> <https://www.litosonline.com/en/article/different-varieties-marble-carrara>

light grey in colour, with a regular network of dark grey veins that usually follow a particular direction<sup>28</sup>.

Bardiglio Marble<sup>(c)</sup> is a fine-grained variety characterised by a grey colour due to abundant cryptocrystalline pyrite. It has several, usually dark grey to blackish veins. The name of this family comes from a derivation of the Spanish word “pardo”, which is the colour dark grey, that also refers to a cloudy sky<sup>29</sup>.

Nuvolato Apuano Marble<sup>(d)</sup> is a fine to medium-grained variety with a white-grey background crossed by numerous darker shades, light grey to whitish veins, and irregular strips which create elaborated designs<sup>30</sup>.

Arabesque Marble<sup>(e)</sup> is a kind of “breccia”<sup>31</sup> with veins that draw real arabesques of different colours on a white-whitish groundmass. The veins may be grey, yellowish, purplish, brownish, and tend to be intertwined<sup>32</sup>. The veins pattern is very accentuated in the *Brouillé* variety, while appears in straight and parallel lines in the *Cipollino Zebrato* variety<sup>33</sup>.

---

<sup>28</sup> <https://www.litosonline.com/en/article/different-varieties-marble-carrara>

<sup>29</sup> Idem

<sup>30</sup> Idem

<sup>31</sup> type of clastic sedimentary rock.

<sup>32</sup> <https://www.litosonline.com/en/article/different-varieties-marble-carrara>

<sup>33</sup> [http://www.geoingegneria.eu/area\\_download/materiale/II%20Marmo%20di%20Carrara%20.pdf](http://www.geoingegneria.eu/area_download/materiale/II%20Marmo%20di%20Carrara%20.pdf)

Statuary Marble<sup>(f)</sup> is probably the finest and famous kind of Carrara marbles. Its unique combination of white-ivory to light yellow-cream colour, crystalline structure, purity and chisel “workability” makes it a peculiar material for sculptures and artistic works, although it is obviously used in many other applications. The veins are absent or extremely limited and very light in colour. Veins can also be large and frequent, ranging in colour range from gold to grey. The production of statuary is much lower than the ordinary white and is quite limited, increasing its economic value<sup>34</sup>. There is a variety of Statuary that has a very accentuated veins pattern and is called *Veined Statuary White*<sup>35</sup>.

The Calacatta Marble<sup>(g)</sup> is a breccia with very light white-yellow marble clasts. Its name derives from the locality Calacatta, where this variety is mostly exploited. Veining and overall aspect, depending greatly on the cutting orientation, are sometimes dramatic, giving the Calacatta a distinctive pattern which makes it recognisable with respect to all the other varieties. Together with the Statuary, it represents another precious and valuable kind of marble, rare to be found and excavated only in the Apuo-Versiliese district.

---

<sup>34</sup> <https://www.litosonline.com/en/article/different-varieties-marble-carrara>

<sup>35</sup> [http://www.georingegneria.eu/area\\_download/materiale/II%20Marmo%20di%20Carrara%20.pdf](http://www.georingegneria.eu/area_download/materiale/II%20Marmo%20di%20Carrara%20.pdf)



*(a) Carrara "C" White Marble (SA.GE.VAN Marmi srl)*



*(b) Veined Marble (SA.GE.VAN Marmi srl)*



*(c) Bardiglio Marble (SA.GE.VAN Marmi srl)*



*(d) Nuvolato Apuano Marble (Marmi Carrara srl)*



*(e) Arabesque Marble (CMP Commercio Marmi Pregiati Srl)*



*(f) Statuary Marble (SA.GE.VAN Marmi srl)*





(g) *Calacatta Marble (SA.GE.VAN Marmi srl)*

#### **2.4.2 Marble applications**

The main field of application for White marbles are:

- Arts: creation of sculpture, decorations, monuments, reliefs and architecture.
- Construction industry: pavements, building covering, walls covering, doors, pillars, chimneys, stairs, columns, terraces and windowsills.



- Urban planning: fountains, sidewalks, squares, roads, benches and sculpture's bases.
- Furniture and objects: interior design, vases, lamps, tables, kitchen countertops and flowerpots.
- Manufacturing: the remaining of the mining activity became powders that are used in various sector that includes: the beauty treatment, personal hygiene, paper production, food industry, paint industry, plastics and rubber production.

#### **2.4.3 The importance of stone fairs for the Italian stone sector**

If we exclude traditional sales channels, as regards the sale of material at an international level, e-commerce is fundamental, it allows you to easily reach consumers from all over the world, and trade fairs, which are the most captivating reality of the whole sector.

Every year the main fairs in the marble sector, both Italian and foreign, represent a meeting point between supply and demand. These are very important events for the stone sector operators who can thus find raw, semi-

finished and finished products and machinery and technologies useful for marble processing.

Exhibitors make available to customers all the news of the sector while architects, engineers and visitors can choose between the different qualities, processes and innovations in the sector. In all the fairs it is usually possible to find blocks and slabs of natural materials in different formats from all over the world; machinery for stone processing and transformation: from simple laboratory ones to those used for the extraction of blocks and processing of slabs up to the means that deal with the disposal of marble; all the basic tools for working marble, granite and stones of various kinds; all those innovations in the design and architecture sector that make granite unique.

Attending the trade fair allows operators to learn about new products and technologies, see how the competition makes new products, find new ideas and inspirations and get to know other suppliers.

World leader of the stone fair is Marmomac, the Verona marble fair. For over fifty years it has been connecting sector operators through updates and latest trends in both the technical and design departments. This fair represents excellence in the stone industry and a reference point not only in Italy, but in the

main countries of the world. In fact, in this annual event, producers can showcase the novelties of production, cutting-edge machinery and the most innovative technologies. In this fair, therefore, anyone interested in the sector can find the right solution, whether it is raw material or machines for working and finishing the stone, up to the latest news in granite. Over the years, the Marmomac has become a reference point in the stone industry for specialists in the sector, marble experts and buyers of all nationalities. The event offers a wide range of exhibitions of marble, granite and machinery that every year attracts those who work in this sector or deal with interior designers. The fact that Italy hosts such an important event for the worldwide stone sector consolidate even more the leadership that Italy has in the marble sector.

In the world every year different marble fairs are organised which over time become a constant for all the operators in the sector. In January, the TISE The International Surface Event, the largest North American event of stone and tile floor coverings, is held in Las Vegas. Prestigious is the BAU fair held in Munich, Germany, also in January. It is the most important construction exhibition in Europe and is configured as an innovative pole in the construction sector and every year hosts builders, architects, engineers and fabricators from all over the world. The Vitoria Stone Fair is held in Vitoria in Brazil in February. One of the most important fairs dedicated to marble and natural stone. Brazilian stone is

increasingly in demand in the sector so this pole has developed a lot over time. The Middle East Stone is also prestigious, held in November in Dubai. This is the premier event in the Middle East and North Africa region for natural stone, marble and granite with processes, technologies and design innovations included. Here every year regional, local and international producers and buyers meet to find the best solutions and opportunities in the natural stone sector. In March there is the most important stone fair for the Asian countries and is the Xiamen Stone Fair , that is held in Xiamen, China.

# Chapter 3: Trade War effects on the stone market

## 3.1 Introduction

The marble and stone industry is characterised by a substantially constant global development with a growth rate higher than that of the economic system considered as a whole: in the last twenty years, the volume of materials extracted and processed has tripled, rising from 51 million tons in 1998 to 153 million in 2018. All countries contributed to the phenomenon, obviously with different quantitative contributions, among which those of India and China emerged in first position.

During the late part of 2018, the Trump administration announced plans to impose a series of tariffs on more than \$200 billion of goods coming from China. Natural stones including granite, marble, travertine, and quartz have all been hit with tariffs thanks to the US-China trade war. The 25% tariffs have drastically reduced the marble imports. The 'Phase 1' trade deal relieved the industry the increase to 30%, however the industry has already felt the impact. While the "Phase One" agreement tried to alleviate the effects on the trade war

on natural stone, prices continue to be high. It follows that the pressure of supply has found greater distribution opportunities on domestic markets, less conditioned by the growing political and customs difficulties that have affected the stagnation of international stone traffic or worse, have directly damaged it. International exchanges, despite the unfavourable economic situation, remain the pillar of the marble economy. In comparison with other sectors connected to the building industry, the balance of the marble sector remains competitive, with a marginally improved ratio compared to other stones, in particular granite that was the most damaged.

We must emphasise that the most important role in the international environment is always played by the quantitative exchange, even before that in value exchange. Among the main features of the international exchanges that have been consolidating over time, we must mention the confirmation of another significant reality in the sector, despite the context of the aforementioned economic difficulties: the majority of world consumption continues to refer to materials extracted and processed in countries other than the one where it is installed, fuelling activities of great economic value in the field of services, transportation and infrastructures.

## 3.2 United States

Prior to the early 2000s, marbles were considered niche and exclusive. This was largely due to a limited number of imports. However, in the early 2000s countries like Brazil and China began importing marble, essentially flooding the market. This brought the cost down significantly, making some varieties affordable for the everyday buyer. This happened at the same time as the housing bubble, causing the demand for marble to skyrocket, lowering the prices. As imports begin to decrease again as a result of the tariffs and duties, the price is being driven back up. With the tariffs and duties from the US-China trade war, imports from China prices increase, making imported marble competitive with natural stone sourced domestically. Additionally, domestic suppliers have also increased prices to match the demand for their products. With many vendors raising prices to accommodate the tariffs and imbalance between supply and demand, many natural stone retailers simply cannot afford to accommodate the higher cost of product. This has resulted in smaller companies either passing these higher costs on to their consumers or finding other ways to reduce costs.

It must be added that the 2018 stone import remained almost unchanged in value, with about three billion dollars, while it recorded a strong contraction in

volume, in the order of one fifth, with a consequent specular elevation of the average price, which reached the new maximum of over 50 dollars per equivalent square meter, but almost equal to that of 2017: this means that the hypothesis of protectionist policies in favour of local production, induced diversified effects in imports in 2018, which penalised the purchases of products with a lower unit value the most.

### **3.3 China**

As a result of trade war China imported substantially -33% less worked marble. Moreover, the drop in natural stone exports from China has had resulted in less supply being available. This drop in supply has been balanced by increased imports from other countries like India, Turkey, and Vietnam. When the USA exports for 2019 are examined it is seen that China has lost some market share and Turkey had the biggest share with 29% while China just has 23% of share. Obviously when there is less supply and growing demand, prices increase.

It has become evident to marble exporters around the world during the last four years that China is no longer buying as many blocks as before, and it is not



because of increased local production. China, during its peak growth period, accounted for around 50% of the world demand for natural stone. Even with slower economic growth, but now with much higher per-capita income level, it will still remain the most important market for marble and for many stone mining companies.

China, in 2018, reduced the overall quantities imported from Italy, while maintaining high values, with a consequent increase in the average unit value. The decrease in imports of Italian materials involved both raw and finished marbles. On the latter, it should be noted that there was a simultaneous increase in value of 27.6%, which brought the average unit value to € 646/ton.

## **3.4 Italy**

### **3.4.1 2018 Analysis**

The year 2018 showed a general decline in Italian exports of stone material compared to the values recorded in 2017. As already highlighted in the previous quarters, the reduction in exports continued throughout the year, without major differences and without major seasonal effects. The final statistics on the

quantity exported in 2018 is 3.421.162 tons with a total value of 1.899.315.458 €, down respectively by 11.78% and 4.56% if compared with the values of 2017.

During 2018, 1.915.611 tons of marble including blocks, slabs and finished products were exported for a total value of 1.301.860.277 €. However, the positive trend of the average unit value continues, passing for blocks and slabs of marble from € 280/ton in 2017 to € 297/ton in 2018 and for processed products from € 1262/ton to € 1391/ton.

The average unit value of the overall exported Italian stone material has gone, in the last year, from € 513/ton to € 555/ton, recording an increase of 8.2%. The increase in the average unit value in 2018 confirms a trend that has already been underway for some years, demonstrating the greater added value that Italian natural stone is able to guarantee on international markets.

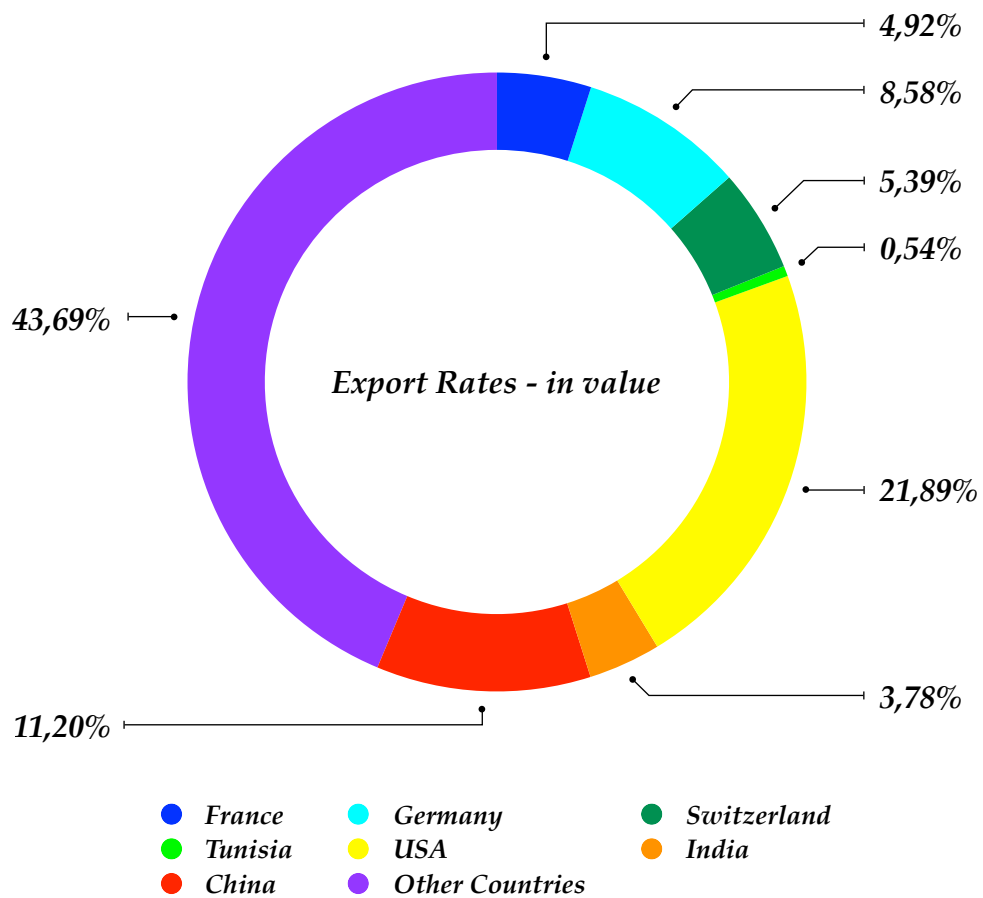
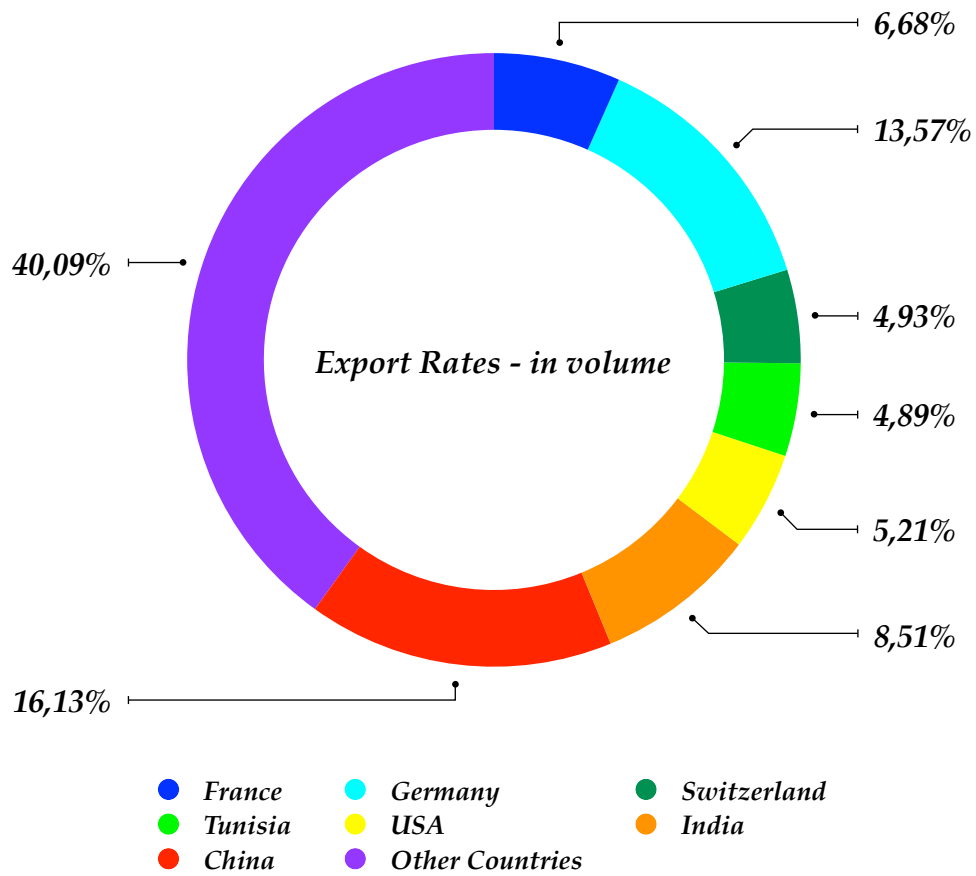
### Stones Export Rates 2017/2018

Italy /All Countries	Export					
	2017		2018		2017/2018 % diff.	
Jan-Dec 2017/2018	Ton	Euro	Ton	Euro	% Q.ty	% Val.
<b>Marble Blocks &amp; Slabs</b>	1.431.932	400.710.219	1.245.005	369.248.317	-13,05%	-7,85%
<b>Granite Blocks &amp; Slabs</b>	118.838	35.101.614	127.319	34.498.048	7,14%	-1,72%
<b>Processed Marble</b>	767.501	968.849.262	670.606	932.611.960	-12,62%	-3,74%
<b>Processed Granite</b>	473.406	487.861.872	475.941	470.049.566	0,54%	-3,65%
<b>Other</b>	122.866	30.513.054	116.563	31.385.586	-5,13%	2,86%
<b>TOT.</b>	<b>2.914.543</b>	<b>1.923.036.021</b>	<b>2.635.434</b>	<b>1.837.793.477</b>	<b>-9,58%</b>	<b>-4,43%</b>

Source: ISTAT data processed by IMM (Internazionale Marmo Macchine)

#### 3.4.2 The effect on the global consumption of Italian marble (2018)

The seven leading markets for Italian stone exports in 2018 were France, Germany, Switzerland, Tunisia, United States, India and China. In 2018, 2.038.913 tons were exported to these seven countries for a value of 1.052.312.831 €, corresponding to 59.91% of the quantities and 56.32% of the value of all Italian stone exports.



Source: ISTAT data processed by IMM (Internazionale Marmo Macchine)

By comparing the quotas expressed in quantity and those in value, it is easy to deduce that the average unit value of materials destined for the United States is significantly higher than for the other countries considered.

The United States confirmed itself, also in 2018, as the main market, by value, for Italian stone with exports of 177.413 tons for a value of 409.091.121€. The US market, in 2018, suffered a reduction of 8.46% in quantities and 2.6% in value.

The Chinese market is in first place for quantities and second for the value of goods, respectively of 548.919 tons and 209.256.218€, down compared to 2017 by 9.32% and 1.5%. During 2018 there was an increase in the average unit value of products directed to the Chinese market, reaching € 381 /ton, an increase of 8.63% compared to 2017.

Italian exports to the Indian market, in 2018, fell by 32.69% in quantity and by 22.43% in value. Exports of raw marble saw a significant reduction, equal to 35.14% in quantity and 34.44% in value, if compared with those of the previous year. On the other hand, there is a totally opposite trend with regard to processed marble, which records an important growth with 16.272 tons for a value of 15.991.789 €, increasing respectively by 49.67% and 83.12%. The

average unit value of Italian marble products stands at € 983 / ton, an increase of 22.35% compared to 2017.

Hong Kong suffered a decline of 25.19% in quantity and 26.82% in value, with total imports equal to 22 million euros.

Strong drops are also recorded on the South Korean market, which compared to 2017, recorded less than 32.22% in imported quantities and less than 21.54% in value.

There is a different trend in the flow of goods directed to the Indonesian market: compared to substantially unchanged quantities compared to 2017, there is an increase in the total value that reaches 25.95 million euros, a growth of 7.53% compared to 2017.

Important export growth rates are recorded towards the Malaysian market, with an increase in quantities of 76.19% and a value of 109.25%.

Exports to Singapore in 2018 increased by 27.34% in quantity and 19.85% in value.

Export to Thailand recorded a growth of 7.55% in quantity and a strong variation in value, equal to 39.68%.

On the European continent, the largest share of Italian exports is held by Germany, which in 2018 imported 461.972 tons of Italian stone material for a value of 160.2 million euros, respectively down by 12.26% and up by 1,75%. In 2018, the processed Italian marble exported to Germany amounted to 16.926 tons for a value of 26.457.763 euros, respectively, a decrease of 8% and an increase of 3.2%. Germany was the second market in terms of quantity and third in value for Italian stone exports in 2018.

There was a decrease in exported quantities accompanied, however, by an increase in the overall value with a consequent increase of 16% in the average unit value.

Exports to France increased, compared to 2017, both in quantity and in value and in 2018 reached 227.163 tons equal to 92 million euros.

Exports to Switzerland are stable in terms of quantities, equal to 167.632 tons, while they suffer a slight decrease of 2.32% in value, which stands at 100.800.640€.

In 2018, exports to North Africa amounted to 434.878 tons for a total value of 88.598.682 euros, respectively a decrease of 19.83% and an increase of 7.35%.

The main market, in terms of quantity, is the Tunisian one, where, however, there are significant decreases in both quantity and value (-37.88% and -28.61%).

There are important positive changes affecting both the quantities and the value (29.04% and 40.31%) of the goods exported to the Egyptian market, while exports to Algeria fall by 19.79% in quantities at the same time as a significant increase of 30.74% in value.

The Middle East area has been an important market for Italian natural stones for many years and in 2018, with a value of 180.6 million euros, it represented 9.67% of the value of Italian stone exports.

In 2018, exports to Qatar recorded significant increases in both quantities and value, respectively 16.72% and 14.67%; this trend, already highlighted in the previous quarters, has led the total value of Italian stone goods to reach 31.3 million euros and an average unit value of € 963/ton.

Conversely, the trend of exports to the United Arab Emirates, which decreased both in quantity and in value, by 25.15% and 29.62% respectively.



Saudi Arabia records a 4.61% decrease in the quantity imported from Italy which simultaneously grows by 12.28% in value reaching 40.160.523 euros, with an average unit value rising to € 597 / ton.

### Stones Export Rates 2018/2019

Italy /All Countries	Export					
	2018		2019		2018/2019 % diff.	
Jan-Dec 2017/2018	Ton	Euro	Ton	Euro	% Q.ty	% Val.
<b>Marble Blocks &amp; Slabs</b>	923.803	270.993.204	883.705	285.601.313	-4,34%	5,39%
<b>Granite Blocks &amp; Slabs</b>	98.128	26.287.573	89.411	26.084.385	-8,88%	-0,77%
<b>Processed Marble</b>	501.625	676.229.180	433.393	614.362.315	-13,6%	-9,15%
<b>Processed Granite</b>	361.794	349.421.737	348.664	346.075.650	-3,63%	-0,96%
<b>Other</b>	90.725	23.961.418	95.388	25.246.340	5,14%	5,36%
<b>TOT.</b>	<b>1.976.075</b>	<b>1.346.893.112</b>	<b>1.850.561</b>	<b>1.297.370.003</b>	<b>-6,35%</b>	<b>-3,68%</b>

Source: ISTAT data processed by IMM (Internazionale Marmo Macchine)

### 3.4.3 2019 Analysis

The data of the Italian export of marble in 2019, released by ISTAT, confirm an overall decrease in both quantities and values; 1.850.561 tons of products exported in the current year compared to 1.976.076 tons exported in the same period last year (-6.35%) for corresponding values of € 346.075.650 in 2019 compared to € 349.421.737 2018 (-3.68%).

As already highlighted, the decline in processed marble is equal to -13.60% in quantity and -9.15% in value; a substantial confirmation of what was reported in the analysis of the data relating to the 2018 and which testifies to the climate of great uncertainty that reigns in the main industrial economies due to the tariffs' imposition.

Of course, it cannot be denied that the landscape is quite differentiated and if some buyers continue to show good commercial effervescence such as China (+12.01%), France (+12.30%), Austria (+4.76%), others show significant contractions in their purchases of Italian products starting from the USA (-4.51%) to continue with the more negative data of India (-10.26%), Saudi Arabia (-12.21%) and UK (-18.4%).

The trends in consumption are mainly justified by political reasons with the USA increasingly tempted by protectionist measures which generate uncertainty and doubts in the sector operators. Therefore, the non-brilliant moment of the Made in Italy product is confirmed, due, as already mentioned, to the political events of some priority markets.

### Italy Export - Partner Countries (first 10)

	2018		2019		2018/2019 % diff.	
	Ton	Euro	Ton	Euro	% Q.ty	% Val.
<b>USA</b>	89.431	194.017.121	76.736	185.805.477	-14,2%	-4,2%
<b>China</b>	281.275	109.814.607	284.874	119.967.968	1,3%	9,2%
<b>Germany</b>	269.196	81.930.612	276.218	80.475.858	2,6%	-1,8%
<b>France</b>	127.782	48.631.179	141.327	55.393.777	10,6%	13,9%
<b>Switzerland</b>	81.349	48.502.859	76.146	46.774.258	-6,4%	-3,6%
<b>India</b>	147.353	36.387.618	140.984	32.288.829	-4,3%	-11,3%
<b>UK</b>	38.037	30.893.270	17.331	26.090.148	-54,4%	-15,5%
<b>United Arab Emirates</b>	23.915	23.924.363	21.891	20.267.763	-8,5%	-15,3%
<b>Canada</b>	11.160	20.442.971	9.497	19.591.612	-14,9%	-4,2%
<b>Saudi Arabia</b>	35.814	20.045.437	29.687	19.141.935	-17,1%	-4,5%
<b>TOT.</b>	<b>1.105.312</b>	<b>614.590.037</b>	<b>1.074.691</b>	<b>605.797.625</b>	<b>-2,8%</b>	<b>-1,43%</b>

Source: ISTAT data processed by IMM (Internazionale Marmo Macchine)

#### **3.4.4 The effect on the global consumption of Italian marble (2019)**

The United States was the first reference market for exporters of Italian natural stone also in the first half of 2019: the value of Italian goods sold overseas reached € 185.8 million, down (-4.2%) compared to same period of 2018. At the same time the quantities exported have suffered a substantial decrease (-14.2%), stopping at 76.736 tons. During the period in question there was an appreciation of the average unit value (+ 11.6%) which reached € 2.421 / ton. Traditionally, it is the processed materials that drive exports to the United States. Specifically, marble finished products, which despite the 12.1% decrease in quantities that stop at 51,635 tons, underwent an increase of 9.1% in the average unit value (€ 2.683/ton) which mitigated the decrease in value overall (-4.2%) equal to 138.56 million euros. Processed marbles are exported to the United States for a value higher than the sum of the other main partner countries, in the first half of 2019 there was a decrease in value (-4.2%) accompanied by a decrease in quantity (-12.1%) , the average unit value in the first half of the year reached € 2.683/ton.

Direct exports to Canada (9th partner country by value) saw a decrease in the total value, of 19.59 million euros (-4.2%), due to a reduction in exported quantities (-14,9%). Also in this case, the leading products are processed

marbles whose exports have suffered a slowdown in quantity and value, respectively by 22.1% and 15.4%, while processed in granite have seen a decrease of 2.3% of quantities and an extraordinary increase of 19.3% in total value.

In the first half of the year, China was the second largest market for Italian natural stone, with an export value of 119.97 million euros, an increase of 9.2%. The increase also affected the total quantities (1.3%) which reached 284.874 tons. Marble in blocks and slabs drove exports with 259.144 tons (+3.1%). The total value reached 107.21 million euros, up 13%, driven by the 9.6% increase in the value of a single marble unit which reached € 414/ton. Processed marbles are the second most important item in the group of goods exported to China and during this first semester they underwent a significant contraction which involved quantity (-22%) and overall value (-17.9% ).

The data relating to exports to India (6th partner country by value) shows that in 2019 there was a decline in the quantities exported by 4.3% and in value by 11.3%. Raw marbles, the main product exported to India, decreased slightly by 0.6% in quantity (137.085 tons) and by 7.6% in value, equal to 25.37 million euros. The decline also involves marble products, the quantity stops at 3.594 tons (-59.6%) and the total value drops to 6.36 million euros. The important

increase (+91.6%) of the average unit value of € 1.770/ton should be emphasised.

As regards exports of raw marble, China and India are the first reference markets: during the first half of the year there was a recovery in exports to the Chinese market with an increase of 13% in value and 3.1% in quantities . On the other hand, exports to the Indian market are decreasing with a decrease of 7.6% in value and 0.6% in quantities.

Germany occupies the third position and in the first six months of the year 276.218 tons of stone materials (+2.6%) were exported for a total value of 80.47 million euros, in a 1.8% scale

In the first half of the year there was a significant decline in exports to the United Kingdom, a 22.8% reduction in exports of processed marble, which are worth 14.48 million euros.

On the other hand, the decline in exports to Turkey continues, in the first half of the year there was a reduction of 26.8% in quantities (5.364 tons) and 2.7% in value for 4.66 million euros.

### **3.5 Some consideration about the consequences of the Trade War**

Analysing the data of 2018-2019 biennium, the following scenario has been clearly revealed. On the side of the international demand for stone products, Italy is the first market for natural stone in the US while China is in second place position with a demand worth almost 2 billion euros.

China, for the ornamental stone sector, is therefore the main world player both on the side of supply, almost exclusively of processed marble, both on the demand side, almost exclusively of raw material. In fact, China has always been able to count on competitiveness in its growth process: resulting from the possibility of containing prices thanks to low production costs. Moreover big part of its competitiveness is the result of not very stringent regulations relating to safety and the reduction of the environmental impact of productive processes.

However, "Made in Italy" stone remains synonymous with excellence in the world and when it comes to finished products of value and luxury market, the Italian stone has no competitors.

It is therefore clear that as regards the period that involved the American protectionist twist and the subsequent application of duties on the international market, in this case the years 2018 and 2019, the marble trade has not undergone considerable alterations, at least as regards the request for Italian marble in the world. The taxes imposed by both parties, although they have largely affected consumer goods and to a lesser extent what is the trade in stones, have in fact created anomalies in the market that affected the international trade dynamics.

We have seen that in this tit for tat between China and U.S. the nation that have most emerged victorious is certainly Turkey which has recovered market share thanks to the detriment of China and indirectly affected the demand for Italian marble. India, promptly seized the opportunity being able to fill the void left by China with regard to the Asian marble market. The Brazil benefits from the fact that the United States have applied to the country to meet its marble demand, having heavily taxed the nearby Mexican and Canadian markets.

Thanks to its added value that has always distinguished it, Italian marble has nevertheless been able to defend itself appropriately in such a complicated circumstance. Italy has emerged almost uninjured from this difficult economic situation thanks, above all, to the rise in unit prices of the marble blocks that



have managed to cushion the blow of the decrease in import and export data. In the short term, we see that the total losses due to the burdens that were caused by the imposition of duties have been adequately contained thanks to the increase in value. This defence strategy seems almost suggesting that the overall decrease is entirely due to a situation of economic stagnation that has been going on for years.

From this point of view, the Italian companies and the management of the entire sector would have no responsibility in the face of the declines that have occurred, but the only one incriminated would be the unfavourable economic situation.

But can we say in the long term that this is a winning strategy?

# Chapter 4: Direct competitor of the marble industry

## 4.1 Ceramic and artificial stone

Analysing the peculiarities of the Italian stone sector, we find an enormous availability of high-quality raw materials, the famous Carrara marble and a multitude of others variety appreciated all over the world. In addition to this availability of material is added an extraordinary excellence in the processing that comes from experience and tradition preserved thanks to the circulation from father to son over the centuries. The Tuscan technology sector for the processing of natural stone is also a flagship for all Italian mechanics. To all this is added a natural propensity of companies in the stone sector towards the internationalisation that has allowed the sector to grow even during the crisis period world economy after 2008. Just think that on average exports affect turnover total of stone companies about 50%, but for some companies this percentage also increase up to 90%.

However all this seems not to be enough in such a highly competitive market, constantly flooded by a multitude of new mergers, in particular from the developing countries, and new material and technologies that are trying to

weaken the leadership of natural stones in the construction sector. This sector alone absorbs the greatest part of the marble output and take the first place as consumption. In fact, in the building industry, one of the most used valuable stones is marble. More and more customers are oriented towards this stone for the covering of several types of surfaces, floor, walls and to the increasingly requested decorations as well as the creation of unique furnishing accessories able to combine functionality and design.

Foreign competition does not practice wait-and-see strategies. In several countries it makes use of a considerable inclination to invest, supported by a political leadership capable to understand the driving force that the sector is able to demonstrate, especially in areas characterised by a lack of adequate alternatives; and therefore, to provide it with efficient infrastructures and beneficial incentives. This, in compliance with the strategy of promoting appropriate initiatives in the professional, economic and financial

If from an international point of view, we have highlighted the central role of China in trade global natural stone, from an inter-sectorial point of view, the main competing sector for the natural stone is the ceramic one and the artificial stone produced in this country. Italy was one of the main exporters of world of ceramic tiles for construction: in first place among world exporters until 2011,

after being overtaken by China, it maintained second place, achieving a significant increase in the share of world exports.

These ceramic tiles and artificial stones, exploits a price advantage over ornamental stone but also on an advantage deriving from greater resistance and durability compared to thick stone material described as a delicate material in interior design and difficult to apply both in the case of floors covering that in the case of applications on building facades.

Strong sectoral investments in marketing have persuaded Architects and Interior Designers on the advantages that the use of ceramic material can behave. Lately they also become emissary of this message to the final customers by inducing them often to prefer the ceramic material to the purity of marbles. A separate case is the artificial stone which adds the beauty of the ceramic the qualities of natural stones, doing it so remarkably well that it is often difficult even for an operator of the sector to distinguish a stone "Real" from a "fake".

As is well known, the United States has always been the reference market for processed stone materials and for this reason they have also become the first market for imports of synthetic stone. As has already been shown on, the rise of this type of material has been sudden and has immediately become a direct

competitor of natural stone slabs. Obviously being China the first world producer of artificial stone and being U.S. the first consumer, also imports and exports of this material were damaged from the U.S. custom barriers.

As a result of the duties imposed on imports of Chinese artificial stone, there was a change at the top of the supplier countries with a consequent decrease in imports in the first months of 2019. Imports of Chinese artificial stone, in fact, went from over 285 million dollars in the first half of 2018 to just under 46 million (-83.9%) in 2019. The imported quantity fell with a drop of 82.8%. The consequence of the slowdown in Chinese imports is the increase in imports from other partner countries. The same situation that occurs with the trade of marble also happens for the artificial stones. India became the leading supplier of artificial stone to the United States.

Furthermore, there was a considerable growth in imports of artificial slabs from Turkey (+225.9% quantity, +200% value), South Korea (+336.6% quantity, +220.6% value), Italy (+144% quantity, +135% value) and Taiwan (+10.848% quantity, +7.931% value).

## U.S. Artificial Stone Import

	2018		2019		2018/2019 % diff.	
	m <sup>2</sup>	Dollars	m <sup>2</sup>	Dollars	% Q.ty	% Val.
<b>India</b>	26.779	20.153.821	160.012	117.095.522	497,5%	481%
<b>Spain</b>	73.888	87.782.211	99.644	111.961.848	34,9%	27,5%
<b>China</b>	354.153	285.716.174	60.994	45.906.921	-82,8%	-83,9%
<b>Canada</b>	27.858	33.352.678	33.077	43.849.197	18,7%	31,5%
<b>Turkey</b>	12.572	11.828.237	40.977	35.487.582	225,9%	200%
<b>Vietnam</b>	21.828	28.012.350	29.275	32.258.780	34,1%	15,2%
<b>Israel</b>	36,054	43.208.881	26.992	31.592.554	-25,1%	-26,9%
<b>Italy</b>	9.009	10.708.750	21.987	25.192.443	144,1%	135,3%
<b>South Korea</b>	2.848	3.776.956	13.291	12.107.948	366,6%	220,6%
<b>Taiwan</b>	72	102.692	7.863	8.228.690	10.848,8%	7.913%
<b>TOT.</b>	<b>529.043,054</b>	<b>524.642.750</b>	<b>494.112</b>	<b>463.681.485</b>	<b>-9,4%</b>	<b>-8,7%</b>

Source: ISTAT data processed by IMM (Internazionale Marmo Macchine)

From the analysis clearly emerge the fact that there was a rearrangement of supplies that saw the origin of the products, which were once Chinese, changed. It happens in favour of Asian countries such as India, Vietnam, South Korea and Taiwan which quickly entered the American market also thanks to the slight reduction in unit sales prices, thanks to the tariffs on Chinese goods.

The Italian stone export also has a strong competitor in synthetic quartz, especially on the US market, where imports of this material increased in the

period 2011-2017 at an average annual rate of 16.92%, up to 1.8 billion euros, thus strengthening its market share especially in some specific applications, such as coatings for kitchen tops.

Although the U.S. administration's imposition of customs tariffs of up to 25% on this type of materials from China (the world's leading exporter) in the near future, the indirect effects that will have on exports of Italian processed marble are not easily predictable as these policies are designed to favour American companies, therefore any producers of synthetic quartz operating on American soil will benefit directly, as well as the Canadian and Spanish producers (respectively second and third exporter to the USA of synthetic quartz). It should be noted that the very strong marketing campaigns undertaken in the sector, combined with a lower price and some technical characteristics advertised as improvements compared to those of natural stone, have contributed to the rapid spread of these materials among professionals and final consumers, with consequent damage to the image of the marble works. In 2017, the total value of synthetic quartz imported into the world reached approximately 5.3 billion euros.



*Real Marble (SA.GE.VAN Marmi srl)*



*Artificial Stone (indiamart.com)*



*Ceramic Tile (indiamart.com)*



*Synthetic Quartz (indiamart.com)*



## **4.2 Internal weakness of the Italian marble sector**

The trade war, the new types of ceramics and the increasingly massive use of artificial stones are just some of the many obstacles that the marble sector faces and will face in the future. Furthermore, fierce competition arises from such a highly internationalised sector. It is therefore necessary that each country deal and knows how to overcome its internal weaknesses, in order to show itself at its best condition in the competitive environment. The Italian stone sector, although the acknowledged international leadership, also has strong weaknesses that must be resolved as soon as possible.

Among those weaknesses of the Italian marble sector, there is a scarce propensity of companies to collaborate with each other and create an efficient network.

This results in the absence of a collective vision of the sector and creates obstacles in the development of really effective policies of intervention. Just think that, even today, there is no “Carrara marble” brand. The existence of a trademark implies compliance with a code of conduct by the group that uses it, and at the same time, a traceability system to certify what has actually been extracted and processed in Italy.

Moreover the tendency to act individually leads operators to reject any shared code of behaviour and the scarce propensity to collaborate means that any form of traceability is abandoned. Traceability involve a control and an inter-company communication system between the different stages of the supply chain, from the moments of manufacturing of intermediate products, up to the final product.

Another weakness is the low level of investments made by companies in marketing and communication, especially if we compare it with that of competing sectors, such as that of ceramic and porcelain stoneware, which on the other hand do not fail to emphasise in their campaigns, the higher resistance than ceramic materials and how delicate marble and natural stone are e difficult to lay.

Finally, a weakness is the environmental impact that the sector inevitably has with the stone extraction, especially during the excavation phase. The solution exist and is the creation of shared value through greater attention to the environment and greater investments in research and development that can develop new sectors and create fertile ground for creation of new businesses and new jobs. Moreover developing new technologies can, more than anything else, reduce the environmental impact of marble extraction. Some sectors that

appear to be promising, including for the creation of future jobs, are that of design and waste improvement for the creation of new products with a view to circular economy. A fundamental role plays the formation that guarantees the passage intergenerational without loss of skills.

### Swot Analysis

Strenght	Weakness
<ul style="list-style-type: none"> <li>• Great availability of valuable stones;</li> <li>• Leadership in processing stones;</li> <li>• Advanced processing technologies;</li> <li>• High level of internationalisation;</li> <li>• Sector consolidated experience over the centuries.</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of a systemic vision of the sector;</li> <li>• Absence of a trademark and the property right;</li> <li>• Low level investment in marketing and communication;</li> <li>• High environmental impact.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Creation of a trademark;</li> <li>• Production of new material from stone waste in a perspective of circular economy;</li> <li>• Creation of a Design District with the collaboration between companies, academies, marble schools and research centers;</li> <li>• Strengthening of sector through the creation of shared value and consequent Social Licence to operate;</li> <li>• Natural Stone Design Workshop;</li> <li>• Training opportunities to safeguard the intergenerational passage of knowledge in the field of artistic manufacture of marbles;</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of a “Social Licence to operate”;</li> <li>• Ceramic tiles and synthetic stone fierce competition;</li> <li>• Competition of countries with low or absent environmental regulation;</li> <li>• Competition of countries with low or absent labor regulation.</li> </ul>

## Conclusion

The challenge with China is on everyone's mind in the United States.

However, the overall impression is that this is a debate that is exclusive to the American and Chinese establishments: Europe appears indifferent, sometimes even extraneous to how it will evolve. It is the sign of the ongoing shift of the centre of world equilibrium from the Atlantic sea to the Pacific but also of the crisis that the European Union is experiencing not only in adopting a foreign policy but also in imagining itself involved in some way, in the research for the new international order. Understanding the terms of the ongoing confrontation between Washington and Beijing is however also fundamental for Europeans.

While Europe was asleep and while America was just waking up, the Communist China, it strengthened its muscles in free trade but on the basis of revisionist objectives, aimed at bringing itself, the Chinese nation, back to the centre of the world balances that are at the base today of Xi Jinping's thinking. The perception of a Chinese strategy by European governments has meant that in this context, Europe did not yield to the pressure of Beijing to create a united front against Trump's protectionism.

In addition, American investments in China that were close to zero forty years ago rose to \$ 256 billion in the spring of 2018, according to data from the National Committee on US-China relations. For some large American corporations, the share of turnover achieved in the Chinese market is very high compared to total sales, in some cases even close to 65% (Qualcomm Inc.). So even for the big business of the United States, protectionism and Trump's trade war were a disaster.

The damages on the international market have occurred and have had enormous consequences on a global level. However, a key element emerges, the United States from which protectionist measures first started were the ones most damaged. This is emblematic of the fact that nowadays, as a consequence of globalisation, the national economies of all countries are so closely linked by interdependent relationships that the implementation of protectionist policies can have only one effect: harmful.

The International Monetary Fund, in the World economic outlook presented on October 15, 2019, downwards its estimates on world growth, bringing them to the lowest levels since the financial crisis. In 2019, global gross domestic product will rise by 3%, 0.2 percentage points lower than the July forecast and 0.3 points lower than the April forecast. That means that great turbulence in the

global market are expected for the following years if the two most influential countries in world China and United States doesn't find a way to co-exists and, optimistically, collaborate.

However, we must remember that the Atlantic balance, shaped in the Twentieth century between Europe and the United States and strengthened toward two world wars is challenged by the shift of economic and geopolitical forces towards Asia. In this perspective Europe for first, have to overcome its internal disagreements, and then, once solved, could try to recover the international status quo that seems lose for too long by now. To conclude, in my opinion, with the European influence re-established internationally, the markets could benefit from a stability, given by a stronger European presence, capable of effectively addressing all those elements of instability, such as armed conflicts, trade wars, pandemics, which non infrequently arise and which negatively influence the overall world growth.

## Sitography

<https://daxueconsulting.com/the-marble-market-in-china/>

<https://www.britannica.com/topic/Opium-Wars>

<https://www.thebalance.com/trade-wars-definition-how-it-affects-you-4159973>

<http://www.marmonews.it/it/2019/04/25/sintesi-del-30-rapporto-marmo-e-pietre-nel-mondo/>

<http://carraramarmotec.com/language/it/stone-sector-tutti-i-numeri-sul-commercio-internazionale-del-marmo-e-un-focus-sullinnovazione-nel-settore-lapideo-presentati-nelledizione-2018-del-report-statistico-annuale-di-imm/>

<https://www.istat.it/storage/rapporto-annuale/2019/Rapportoannuale2019.pdf>

<http://www.marmonews.it/it/category/statistiche/>

[http://digital.bnppmedia.com/display\\_article.php?id=2234464&view=267886](http://digital.bnppmedia.com/display_article.php?id=2234464&view=267886)

<https://www.ilfattoquotidiano.it/2019/10/15/pil-fondo-monetario-taglia-le-stime-di-crescita-mondiale-per-il-2019-3-mai-cosi-male-dalla-crisi-finanziaria-del-2008-2009/5516107/>

<https://www.litosonline.com/en/article/different-varieties-marble-carrara>

<https://www.businessinsider.com>

[https://ec.europa.eu/info/index\\_en](https://ec.europa.eu/info/index_en)

<https://www.bbntimes.com/companies/how-a-trade-war-with-china-can-affect-natural-stone-prices>

<https://www.bmmagazine.co.uk/business/5-ways-the-u-s-china-trade-war-is-having-an-effect-on-natural-stone-prices/>

<https://stonext.com.tr/turkish-natural-stone-sector/>



<https://www.aefi.it/it/news/commercio-internazionale-nel-settore-lapideo-imm-presenta-stone-sector-2019/>

<https://www.regione.toscana.it/>

<https://revenuesandprofits.com/how-the-u-s-china-trade-war-is-affecting-the-natural-stone-market/>

<https://www.bbc.com/news/business-45789669>

<https://www.litosonline.com/en/article/prospects-stone-industry-world-2019>

<https://www.stonefair.org.cn/cn/>

<https://www.investopedia.com/terms/t/trade-war.asp>

<https://www.stonefair.org.cn/about/news.asp?ID=301>

<https://blog.greencarrier.com/china-in-focus-transport-and-logistics-in-the-stone-industry/>

<https://www.nytimes.com/2019/06/18/business/economy/global-economy-trade-war.html>

<https://www.nature.com/news/policy-four-gaps-in-china-s-new-environmental-law-1.16736>

<https://www.investopedia.com/articles/economics/08/tariff-trade-barrier-basics.asp>

<https://www.britannica.com/topic/opium-trade>

<https://www.capital-qpc.com.au/how-sustainable-is-it-granite-marble-and-concrete/>

# Bibliography

CELLINI, Roberto. *Politica Economica: Introduzione Ai Modelli Fondamentali*.

McGraw-Hill Education, 2019.

DE GIORGI, Laura, and Guido Samarani. *La Cina e La Storia: Dal Tardo Impero Ad*

*Oggi*. Carocci, 2005.

ONNIS, Barbara. *La Cina Nelle Relazioni Internazionali: Dalle Guerre Dell'oppio a*

*Oggi*. Carocci, 2016.

PAOLA, Blasi, *Il Marmo di Carrara: aspetti geologici, merceologici e minerari*, in

"[geoingegneria.eu](http://www.geoingegneria.eu)", 1998, [http://www.geoingegneria.eu/area\\_download/](http://www.geoingegneria.eu/area_download/materiale/Il%20Marmo%20di%20Carrara%20.pdf)

[materiale/Il%20Marmo%20di%20Carrara%20.pdf](http://www.geoingegneria.eu/area_download/materiale/Il%20Marmo%20di%20Carrara%20.pdf), 10/08/2020

PRICE, Monica T., *Atlante Delle Pietre Decorative: Guida Tecnica Illustrata*. Hoepli,

2008.

TAINO, Danilo. *Scacco All'Europa: La Guerra Fredda Tra Cina e USA per Il Nuovo*

*Ordine Mondiale*. Solferino, 2019.

VESCOVI, T. (2018). *International Marketing To China*. New York, United States:

McGraw-Hill Education

*XXIX Rapporto marmo e pietre nel mondo*, Casa di Edizioni Aldus, Carrara 2018.