



PAGEV

Turkish Plastics Processing Machinery Industry Follow-Up Report - 2020/4



PAGEV

TURKISH PLASTICS PROCESSING MACHINERY INDUSTRY FOLLOW-UP REPORT

2020 / 4

**PREFACE**

The plastic industry is one of the most important actors of the Turkish economy. Today, the contribution of the plastics industry to the country's economy is gradually increasing with the total production exceeding 9 million tons, and 35 billion dollars' worth of turnover, the approaching direct exports of 5 billion dollars and the annual growth of 12% for the last 10 years.

Our industry, with its production capacity, has reached the second place in Europe and the sixth place in the world. As PAGEV, we continue to lead the industry successfully in the framework of the "Unifying Power" mission of the Turkish Plastics Industry.

We also know that having the right and reliable data and information is the most important part of the solution when we sign the indispensability of Plastics in our lives and sign our work to tackle our industrial problems with concrete steps based on scientific evidence. In this direction we constantly investigate, collect new data, compile, and report them. We present our reports that we believe are important for the development of our industry and our booklets containing important information to the plastics industry representatives, stakeholders, and public institutions.

As PAGEV, we prepared a report set that will contribute to the industry in a serious way in the face of our long and dedicated researches. With our reports, we made booklets with the comments of our expert reporters about the point where the Turkish Plastics Industry is in the right and reliable light, common problems and what should be the search for concrete solutions. We believe that our reports and information set will benefit all our stakeholders, especially our members, and will guide the plastics world. At the same time, we are pleased that our public institutions have reached the most up-to-date and accurate information about the plastics industry.

On the other hand, with our sector reports in English, we think that our colleagues will be able to share the potential of our country's plastics industry with the most up-to-date business partners in the global marketplace.

Hereby, presenting our current reports and information files relating with our industry, we would like to thank all our colleagues who have contributed to this day's achievement of our industry, who has taken a position as a locomotive mission in the development of our country.

**Best regards,
Yavuz EROĞLU
PAGEV President**

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**EXECUTIVE SUMMARY**

In the last 5 years covering the years 2015 - 2019, the plastics industry has invested an average of 850 million dollars in machinery and equipment per year. In this period, presses and other machines shared 341% of total investments, injection 21%, extrusion 17%, thermoforming 5%, blow molding 2% and parts and components 14% .

The machinery industry is having troubled days due to the decrease in the investment appetite and the deterioration of the supply chain. Turkish plastics processing machinery industry supplies certain machinery components by imports. This situation, especially observed in high capacity machines, negatively affects machine manufacturer companies due to the deterioration of the global supply chain.

In the first four months of 2019, 141 million dollars of production, 154 million dollars of imports, 55 million dollars of exports and 240 million dollars of domestic sales (machinery investment of the plastics industry) has been realized.

In this period, industry gave 99 million dollars of foreign trade deficit and 64% of the investment has been met by imports.

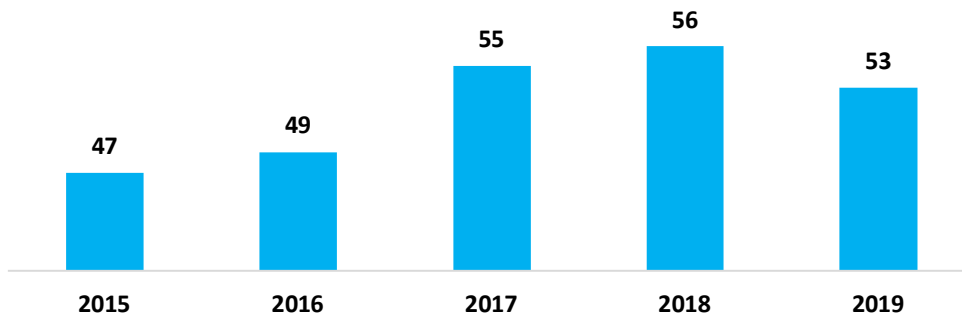
At the end of 2020, plastic processing machinery production is expected to be 423 million dollars, imports 461 million dollars, exports 165 million dollars, domestic sales 719 million dollars. In this period, the industry is expected to give 296 million dollars of foreign trade deficit.



1. GLOBAL PLASTICS PROCESSING MACHINES INDUSTRY

1.1. TOTAL TRADE VOLUME

The world total trade volume of plastics processing machines realized as 50 billion dollars as of 2019. Total trade volume increased by CAGR Of 3,1% between 2015- 2019 period.



Graphic 1: Global Plastics Processing Machines Total Trade Volume (Billion \$)

Source: ITC Trade Statistics

1.2. IMPORTS

The world total plastics processing machines imports, which were 24 billion dollars in 2015, increased by CAGR of 3,2% during 2015 – 2019 period and realized as 26 billion dollars in 2019. The 51,4 % of world total imports are conducted by the top 10 importer countries in 2019

USA, China, India, Germany and Mexico are the five top importer countries having share of 38% in total world imports. Turkey is amongst the 20 top importer countries with a share of 2,3% in 2019

Importers	2015	2019	% Share	CAGR % 2019/2015
USA	3.095	3.233	12,0	1,1
China	2.503	2.960	10,9	4,3
India	737	1.392	5,1	17,2
Germany	1.228	1.360	5,0	2,6
Mexico	1.101	1.219	4,5	2,6
Viet Nam	715	1.124	4,2	12,0
Thailand	820	681	2,5	-4,6
Japan	531	656	2,4	5,4

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Canada	568	641	2,4	3,1
Indonesia	632	636	2,4	0,1
10 Countries Total	11.930	13.900	51,4	3,9
Other Countries	11.925	13.132	48,6	2,4
World Total	23.855	27.032	100,0	3,2
Turkey	482	625	2,3	6,7

Table 1: Global Plastics Processing Machines Imports by Countries (Million \$)

Source : ITC, International Trade Center

1.3. EXPORTS

The world total plastics processing machines exports, which were 23 billion dollars in 2015, increased by CAGR of 3,1% during 2015 – 2019 period and realized as 26 billion dollars in 2019. The 51,4 % of world total imports are realised by the top 10 importer countries in 2019.

Germany, China, Japan, Italy and USA are the top five exporter countries having total share of 65% in total world exports. Turkey is amongst the 20 top exporter countries with a share of 2,1% in 2019

Exporters	2015	2019	% Share	CAGR % 2019/2015
Germany	5.239	5.637	21,4	1,8
China	3.517	5.014	19,0	9,3
Japan	2.117	2.606	9,9	5,3
Italy	2.145	2.371	9,0	2,5
USA	1.611	1.473	5,6	-2,2
Taiwan	1.122	1.012	3,8	-2,5
Canada	903	905	3,4	0,1
France	835	839	3,2	0,1
Austria	602	756	2,9	5,9
S.Korea	645	638	2,4	-0,3
10 Countries Total	18.736	21.252	80,7	3,2
Other Countries	4.568	5.096	19,3	2,8
World Total	23.303	26.348	100,0	3,1
Turkey	569	548	2,1	-0,9

Table 2: Global Plastics Processing Machines Exports by Countries (Million \$)

Source : ITC, International Trade Center

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1.4. SUPPLY AND DEMAND IN GLOBAL PLASTICS PROCESSING INDUSTRY

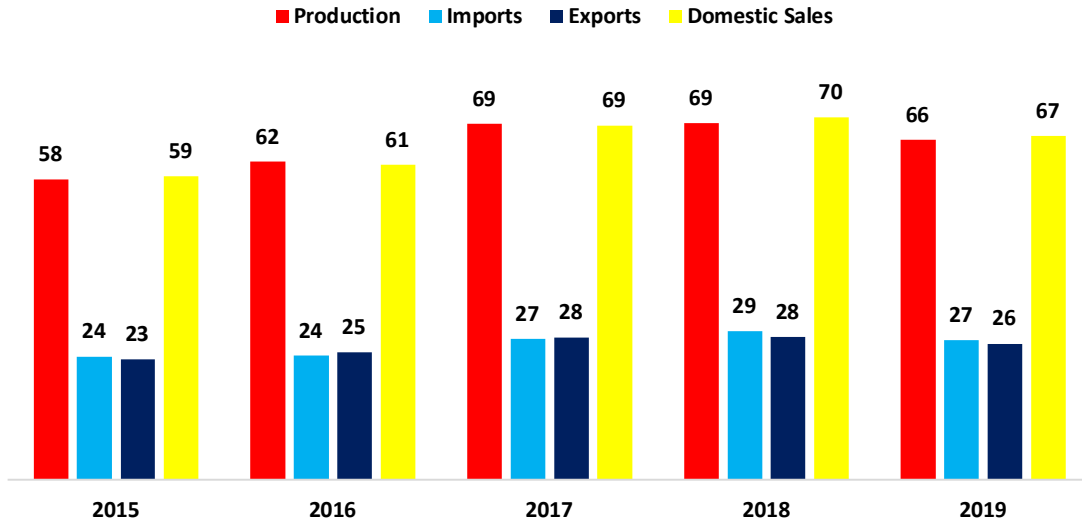
66 billion dollars of production, 27 billion dollars of imports, 26 billion dollars of exports and 67 billion dollars of domestic sales (machinery and parts and components investments of global plastics industry) have been realized In 2019.

The annual average increase in production, exports and domestic sales realized as 3,1% and imports by 3,1% during 2015 – 2019 period.

	2015	2016	2017	2018	2019	CAGR % 2019/2015
Production	58	62	69	69	66	3,1
Imports	24	24	27	29	27	3,2
Exports	23	25	28	28	26	3,1
Domestic Sales	59	61	69	70	67	3,1

Table 3: Global Plastics Processing Machines Supply and Demand (Billion \$)

Source : ITC, International Trade Center



Graphic 2: Global Plastics Processing Machines Supply and Demand (Billion \$)

Source: ITC Trade Statistics



2. TURKISH PLASTICS PROCESSING MACHINERY INDUSTRY

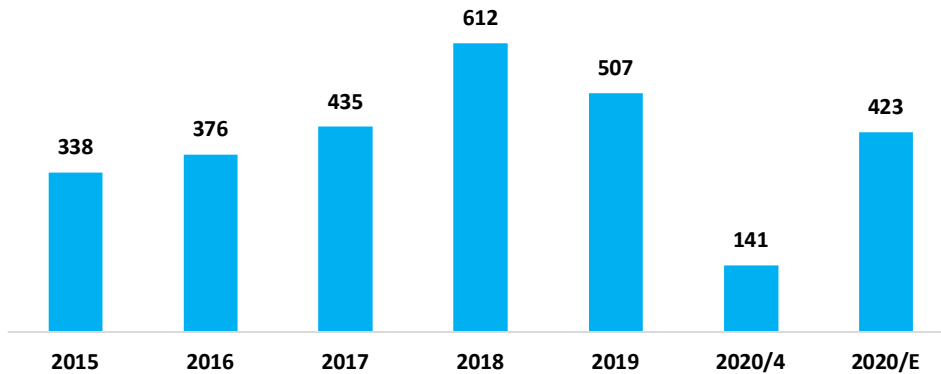
2.1. NUMBER OF COMPANIES

Almost 600 companies are manufacturing plastics processing machines and parts and components in Turkey. About 78% of the companies are operating in Istanbul. Izmir shares 6% Ankara and Bursa 3% and Kocaeli 2% in total manufacturers.

2.2. PRODUCTION

The production of plastic processing machines in Turkey after reaching its maximum level in 2018 by 612 million dollars, has entered in declining trend for the last two years.

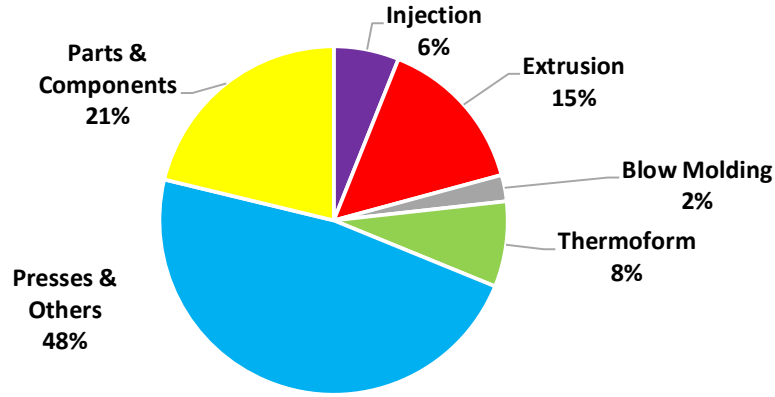
Total production which realized as 141 million dollars in the 4 months of 2020, is expected to reach to 423 million dollars at the end of 2020 decreasing by 17% with respect to 2019.



Graphic 3: Plastics Processing Machines Production (Million \$)

Source: Turk Stat & ITC Trade Statistics

In the first 4 months of 2020, injection machines accounted for 6% extrusion machines 15%, blow molding machines 2%, thermoforming machines 8%, presses and other machines 48% and parts and components 21% of total plastic processing machines production.



Graphic 4: Share of Machines in Total Production (2020/4)

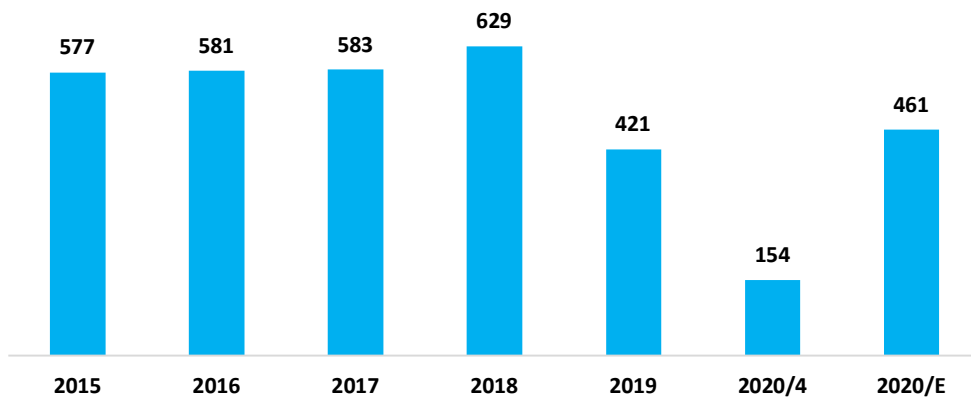
Source: Turk Stat & ITC Trade Statistics

2.3. FOREIGN TRADE

2.3.1. IMPORTS

Imports of plastic processing machines which reached to its maximum level in 2018 by 629 million dollars, has entered declining trend for the last two years.

Total imports which realized as 154 million dollars in the 4 months of 2020, is expected to reach to 461 million dollars at the end of 2020 increasing by 10% with respect to 2019.



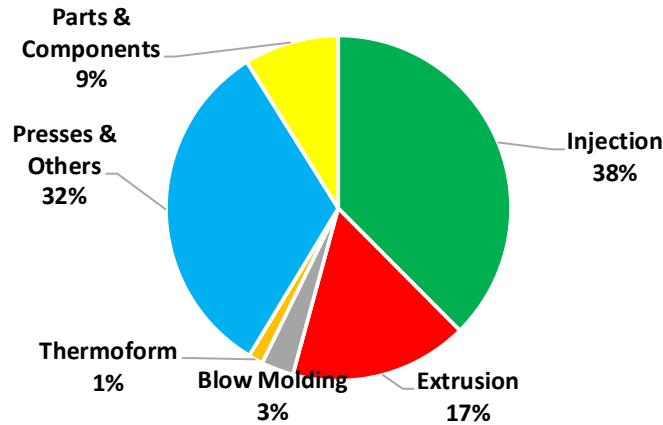
Graphic 5: Plastics Processing Machines Imports (Million \$)

Source: Turk Stat & ITC Trade Statistics

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In the 4 months of 2020, injection machines accounted for 38% extrusion machines 17%, blow molding machines 3%, thermoforming machines 1%, presses and other machines 32% and parts and components 9% of total plastic processing machines imports.



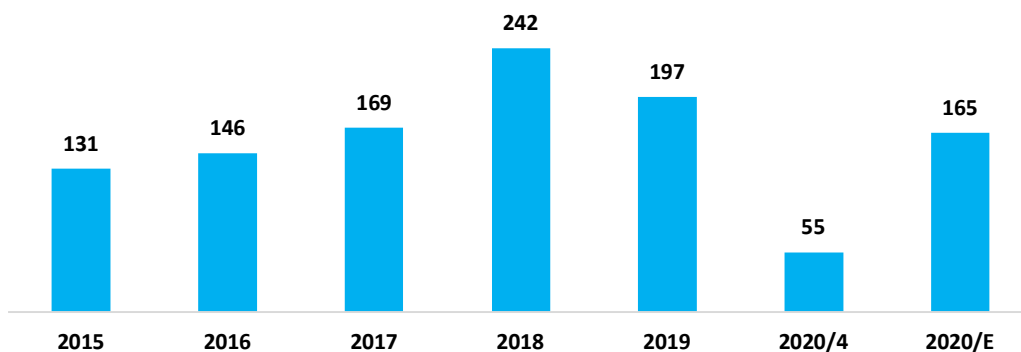
Graphic 6: Share of Machines in Total Imports (2020/4)

Source: Turk Stat & ITC Trade Statistics

2.3.2. EXPORTS

Exports of plastic processing machines which reached to its maximum level in 2018 by 242 million dollars, has entered declining trend for the last two years.

Total exports which realized as 55 million dollars in the 4 months of 2020, is expected to reach to 165 million dollars at the end of 2020 decreasing by 16% with respect to 2019.



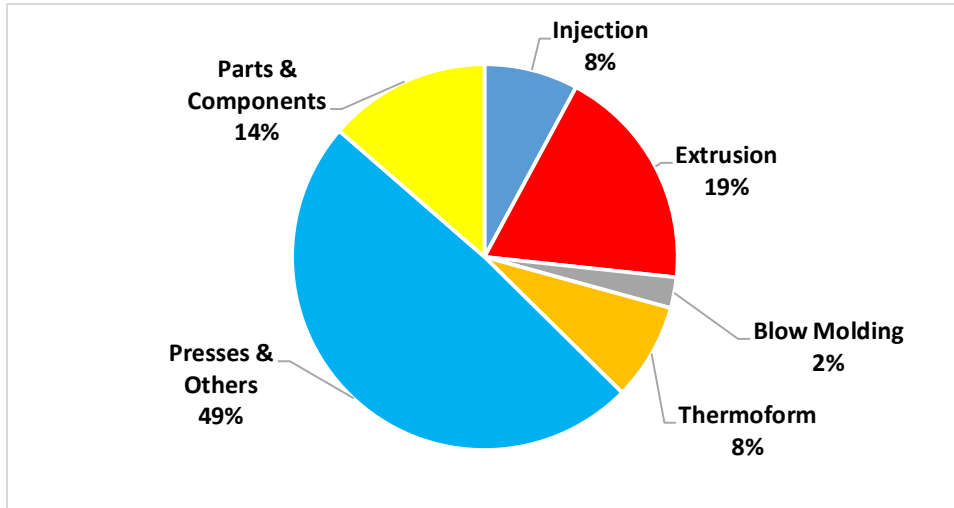
Graphic 7: Plastics Processing Machines Exports (Million \$)

Source: Turk Stat & ITC Trade Statistics

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In this period, injection machines accounted for 8% extrusion machines 19%, blow molding machines 2%, thermoforming machines 8%, presses and other machines 49% and parts and components 14% of total plastic processing machines exports.

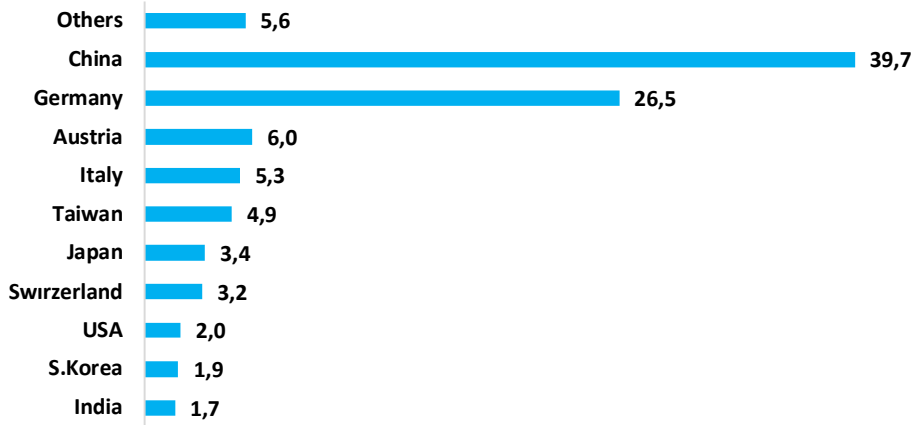


Graphic 8: Share of Machines in Total Machine Exports (2020/4)

Source: Turk Stat & ITC Trade Statistics

2.3.3. FOREIGN TRADE BY COUNTRIES

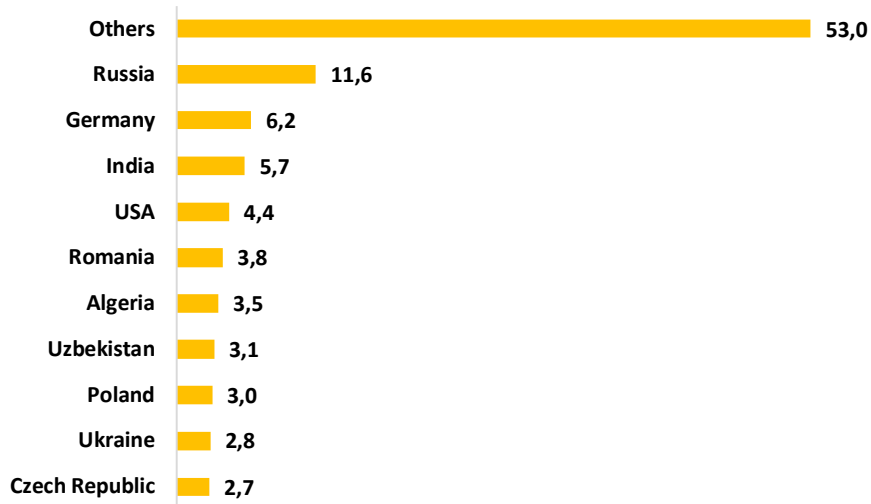
In the 4 months of 2020, imports of plastic processing machines and parts and components from 10 countries accounted for 94,4 % of total imports. In this period China, Germany, Austria, Italy, and Taiwan formed the first five import partners of Turkey. The share of these 5 countries in total imports accounted about 83%.



Graphic 9: Plastic Processing Machines Imports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

On the other hand, about 47% of total exports of plastic processing machines and parts destined to 10 countries accounted in this period. In the first 4 months of 2020, the Russian Federation, Germany and India formed the first three export partners of Turkey. The share of these 3 countries in total exports realized as 24%.



Graphic 10: Plastic Processing Machines Exports by Countries (% Share)(2020/4)

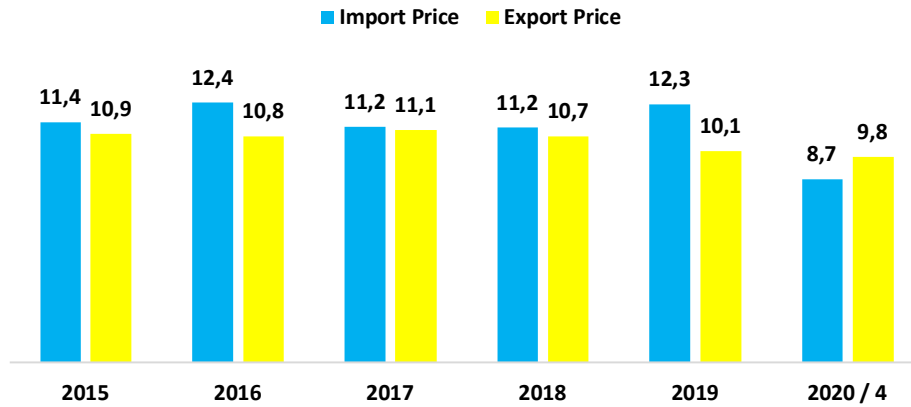
Source: Turk Stat & ITC Trade Statistics

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2.3.4. IMPORT AND EXPORT PRICES

In the 4 months of 2020, average unit import prices of plastics processing machines realized as 8,7 \$/Kg, decreasing by 29% with respect to 2019.



Graphic 11: Import and Export Unit Prices (\$/Kg)

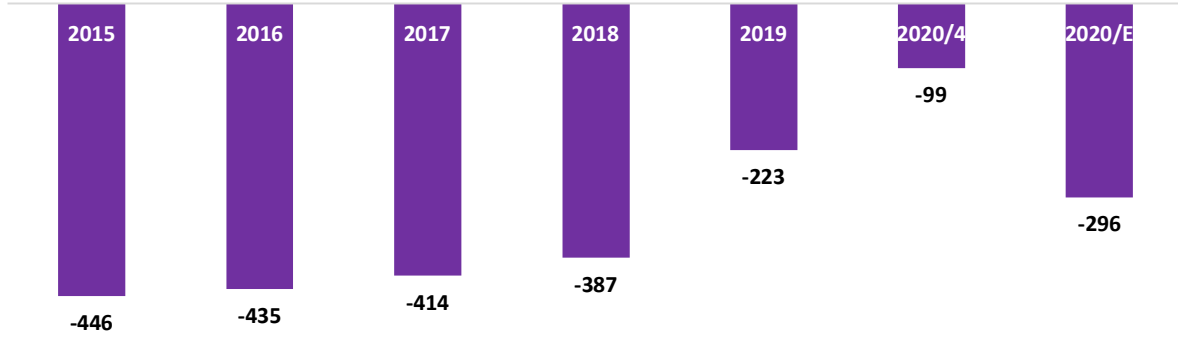
Source: Turk Stat & ITC Trade Statistics

In the 4 months of 2020, average unit export prices of plastics processing machines realized as 9,8 \$/Kg, decreasing by 3% with respect to 2019.

In this period, the average unit export prices realized 11% below the unit import prices .

2.3.5. FOREIGN TRADE DEFICIT

Foreign trade deficit of plastic processing machines which was 446 million dollars in 2015 has entered declining trend for the last five years. The foreign trade deficit is realized as 99 million dollars in the four months of 2020 is expected to be around 296 million dollars at the end of 2020 increasing by 33% with respect to 2019.



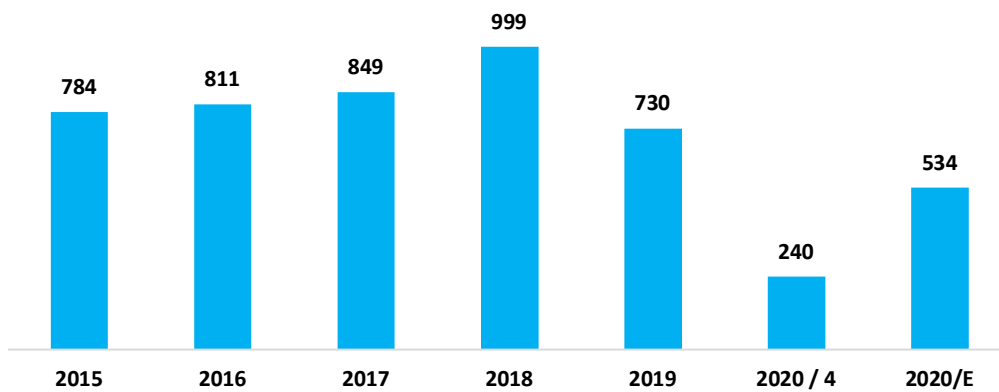
Graphic 12: Foreign Trade Deficit in Plastics Processing Machines (Million \$)

Source: Turk Stat & ITC Trade Statistics

3. DOMESTIC SALES (MACHINERY INVESTMENTS OF PLASTICS INDUSTRY)

Domestic sales (machinery investments of the plastics industry) of plastic processing machines which reached to its maximum level in 2018 by 999 million dollars have a declining trend for the last 2 years.

Domestic sales which realized as 240 million dollars in the first 4 months of 2020 are expected to increase to 534 million dollars at the end of 2020 decreasing by 27% with respect to 2019.



Graphic 13: Plastics Processing Machines Domestic Sales (Million \$)

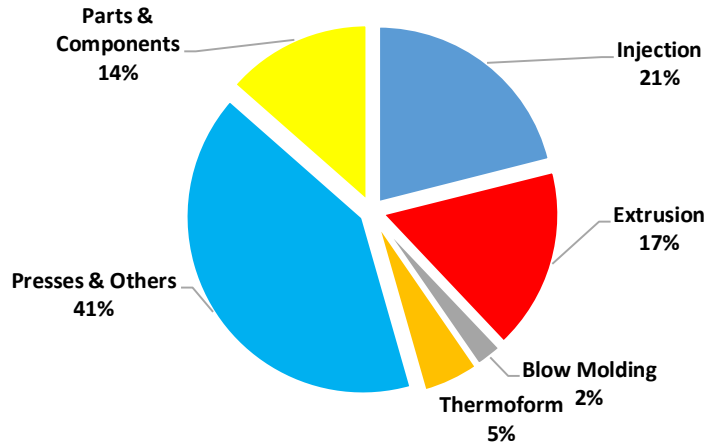
Source: Turk Stat & ITC Trade Statistics

In the last 5 years covering the years 2015 - 2019, the plastics industry has invested an average of 850 million dollars in machinery and equipment per year. In this period, presses and other

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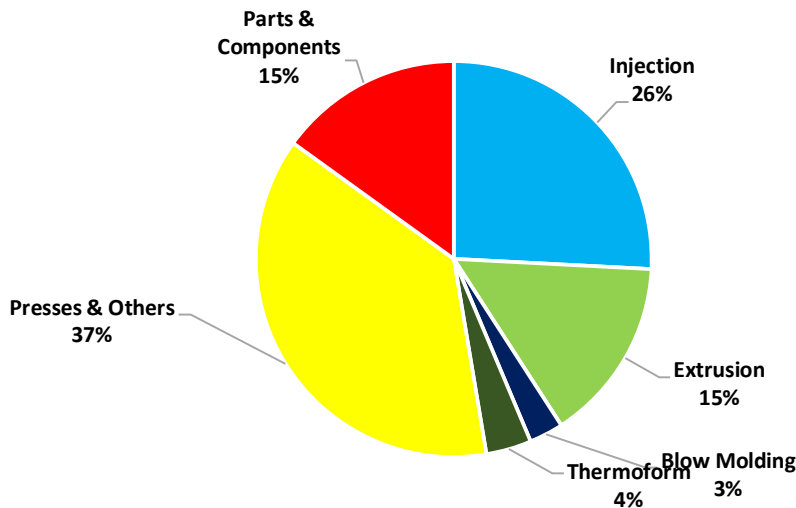
machines shared 341% of total investments, injection 21%, extrusion 17%, thermoforming 5%, blow molding 2% and parts and components 14% .



Graphic 14: Breakdown of Machinery Investments of Plastics Industry for the Last 5 Years

Source: Turk Stat & ITC Trade Statistics

In the first 4 months of 2020, the machinery investments of the plastics industry formed by 37% presses and other machines, 26% by injection, 15% by extrusion, 3% by blow molding machines, 4% by thermoforming machines and 15% by parts and components.



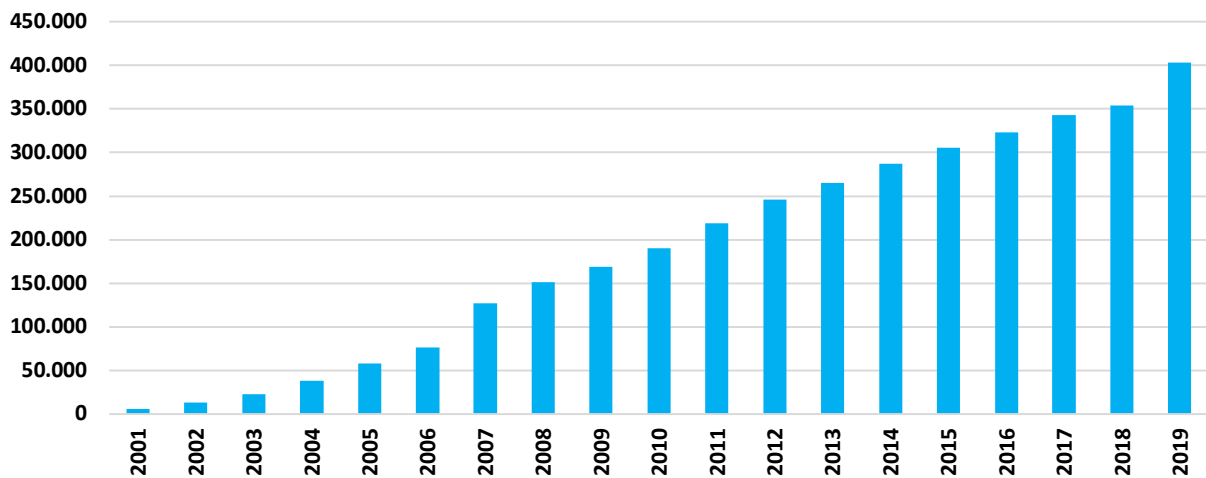
Graphic 15: Breakdown of Machinery Investments of Plastics Industry (2020/4)

Source: Turk Stat & ITC Trade Statistics



4. MACHINERY PARK OF PLASTICS INDUSTRY

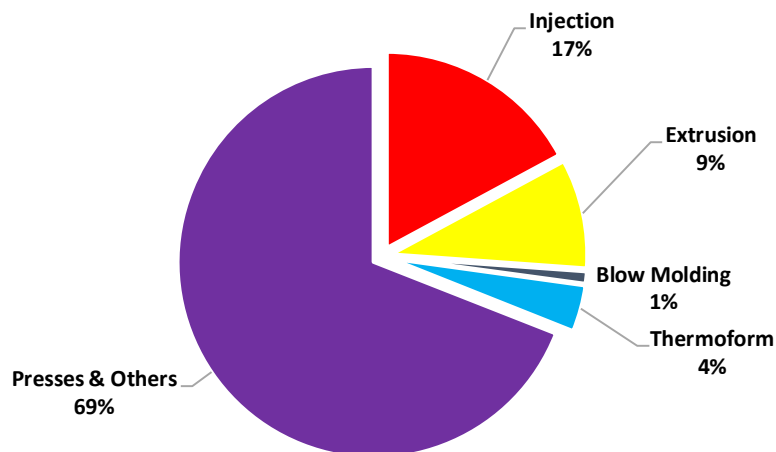
The process capacity of Turkish plastics industry, which had 2.5 million tons of processing capacity and 5.688 machine parks in 2001, reached to 9,5 million tons by 2019. The machinery park of the industry realized as about 403 thousand units in this period.



Graphic 16: Plastics Industry Machinery Park

Source: Turk Stat & ITC Trade Statistics

As of the first four months of 2020, 17% of the Turkish plastics processing machinery park consists of injection, 9% extrusion, 1% blow molding, 4% thermoform and 69% presses and other machines.



Graphic 17: Machinery Park of Plastics Industry by Machine Types

Source: Turk Stat & ITC Trade Statistics

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As of the first four months of 2020, 39% of the total processing machinery park of the Turkish plastics industry is sold by domestic producers while 61% of it has been imported.

Machinery Group	Units			% Share	
	Production	Imports	Total Park	Production	Imports
Injection Machines	5.963	63.114	69.077	9	91
Extrusion Machines	4.957	31.229	36.186	14	86
Blow Molding Machines	611	3.506	4.117	15	85
Thermoform Machines	5.825	9.582	15.407	38	62
Presses and Other Machines	139.076	138.933	278.009	50	50
Total	156.431	246.364	402.794	39	61

Table 4: Machinery Park of Plastics Industry as of April 2020

Source: Turk Stat & ITC Trade Statistics

Share of imported machines in total machine park realized as; 91% in injection machines, 86% in extrusion machines, 85% in blowing machines, 62% in thermoforming machines and 50% in presses and other machines.

In other words, the share of domestically produced machineries within the total park is 9% in injection machines, 14% in extrusion machines, 15% in blow molding machines, 38% in thermoforming machines and 50% in presses and other machines.

10 countries share 96.5% of total imported injection machines park. China shared 43.7%, Germany 18.1%, Italy 9.6%, %8.9 Taiwan and Austria 6.2% in the imported machines park.

Injection		Extrusion		Blow Molding		Thermoform	
Countries	% Share	Countries	% Share	Countries	% Share	Countries	% Share
China	43.7	China	63.3	Italy	30.5	Germany	21.0
Germany	18.1	Germany	13.8	Germany	21.5	China	18.8
Italy	9.6	Italy	7.3	China	9.4	Italy	14.9
Taiwan	8.9	Taiwan	4.3	France	8.4	Taiwan	10.0
Austria	6.2	Austria	3.9	Japan	7.2	France	5.7
Switzerland	2.8	S.Korea	1.6	Taiwan	4.5	Israel	5.1
France	2.7	India	1.1	UK	4.0	Switzerland	4.5
Japan	2.4	Japan	0.8	Switzerland	3.5	USA	4.2
S.Korea	1.2	USA	0.8	Austria	3.0	S.Korea	3.4
India	0.9	UK	0.7	Belgium	2.8	Austria	2.8
10 Countries	96.5	10 Countries	97.5	10 Countries	94.9	10 Countries	90.4
Others	3.5	Others	2.5	Others	5.1	Others	9.6

Table 5: Imported Machinery Park by Countries

Source: Turk Stat & ITC Trade Statistics

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10 countries shared 97,5% in imported extrusion machinery park while, 63.3% of the park is made up of China, 13.8 % of Germany, 7.3% of Italy, 4.3% of Taiwan and 3.9% of Austrian machinery.

10 countries shared 94.9% in imported blow molding machinery park while, 30.5% of the park is made up of Italy, 21.5 % of Germany, 9.4% of China, 8.4% of Italy and 7.2% of Japanese machinery.

10 countries shared 90,4% in imported thermoform machinery park while, 21% of the park is made up of Germany, 18.8 % of China, 14.9% of Italy, 10% of Taiwan and 5.7% of France machinery.

5. SUPPLY AND DEMAND AND 2020 EXPECTATIONS

5.1. TOTAL INDUSTRY

In the first four months of 2019, 141 million dollars of production, 154 million dollars of imports, 55 million dollars of exports and 240 million dollars of domestic sales (machinery investment of the plastics industry) has been realized.

	2015	2019	2020/4	2020 / E	% Increase (E) 2019/2018
Production	338	507	141	423	-16
Imports	577	421	154	461	9
Exports	131	197	55	165	-17
Domestic Sales	784	730	240	719	-1
Foreign Trade Deficit	-446	-223	-99	-296	32
Imports/ Domestic Sales (%)	74	58	64	64	

Table 6: Plastics Processing Machines Supply & Demand Balance (Million \$)

Source: Turk Stat & ITC Trade Statistics

In this period, industry gave 99 million dollars of foreign trade deficit and 64% of the investment has been met by imports.

At the end of 2020, plastic processing machinery production is expected to be 423 million dollars, imports 461 million dollars, exports 165 million dollars, domestic sales 719 million dollars. In this period, the industry is expected to give 296 million dollars of foreign trade deficit.

5.2. PLASTICS INJECTION MACHINES

In the first four months of 2020, 9 million dollars of production, 58 million dollars of imports, 4 million dollars of exports and 62 million dollars of domestic sales (Injection machines investment

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of the plastics industry) has been realized in plastics injection machines. In this period 93% of the injection machines investment of the industry has been met by imports.

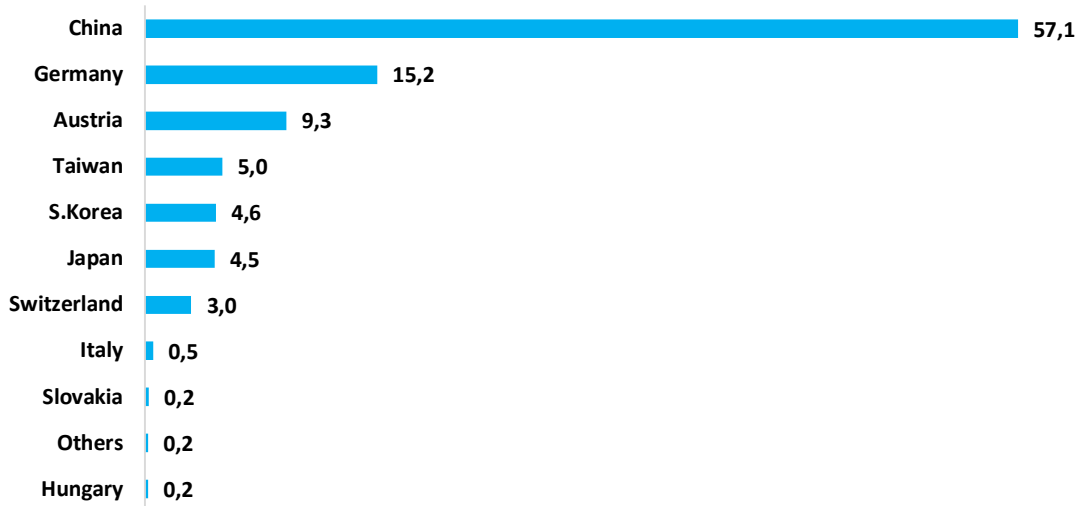
At the end of 2020, plastic injection machinery production is expected to be 26 million dollars, imports 173 million dollars, exports 13 million dollars, domestic sales 186 million dollars. In this period, the industry is expected to give 160 million dollars of foreign trade deficit.

	2015	2019	2020/4	2020 / E	% Increase (E) 2019/2018
Production	16	34	9	26	-23
Imports	192	101	58	173	71
Exports	8	17	4	13	-23
Domestic Sales	200	118	62	186	58
Foreign Trade Deficit	-184	-84	-53	-160	90
Imports/ Domestic Sales (%)	96	86	93	93	

Table 7: Injection Machines Supply & Demand Balance (Million \$)

Source: Turk Stat & ITC Trade Statistics

In the first four months of 2020, injection machines imports from the first 10 countries accounted to 99% of total imports. China received a share of 57, Germany 15% and Austria 9% in total imports.

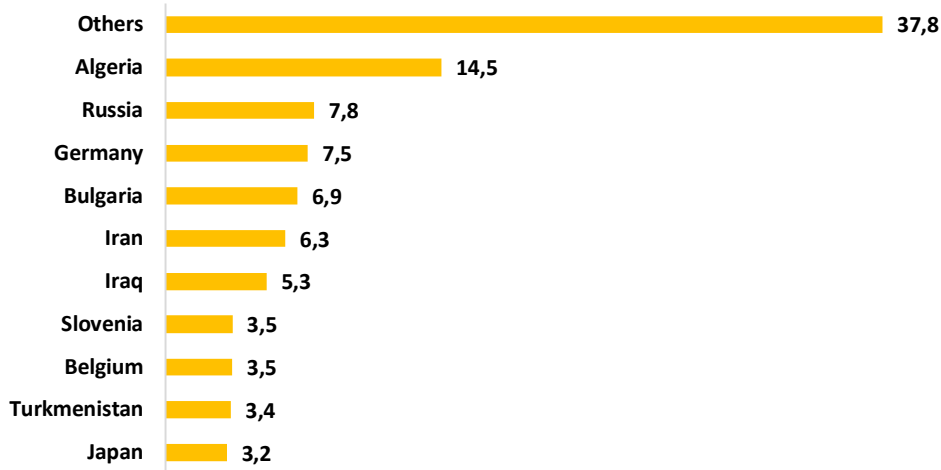


Graphic 18: Plastic Injection Machines Imports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

In the same period, 62% of the exports of plastics injection machines destined to 10 countries. Algeria, Russia, and Germany with a total of 31% share, have been the biggest markets to which Turkey has exported plastics injection machines.

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**Graphic 19: Plastic Injection Machines Exports by Countries (% Share)(2020/4)**

Source: Turk Stat & ITC Trade Statistics

5.3. PLASTICS EXTRUSION MACHINES

In the first four months of 2020, 21 million dollars of production, 26 million dollars of imports, 10 million dollars of exports and 36 million dollars of domestic sales (extrusion machines investment of plastics industry) were realized in the plastics extrusion machines. In the same period, foreign trade deficit of extrusion machines realized as 15 million dollars. 71 % of the domestic sales (extrusion machines investment of the industry) was met by imports.

At the end of 2020, 62 million dollars of production, 77 million dollars of imports, 31 million dollars of exports, 108 million dollars of domestic sales and 46 million dollars of foreign trade deficit are expected in extrusion machines industry.

	2015	2019	2020/4	2020 / E	% Increase (E) 2019/2018
Production	61	79	21	62	-21
Imports	111	62	26	77	24
Exports	30	39	10	31	-21
Domestic Sales	142	102	36	108	6
Foreign Trade Deficit	-81	-23	-15	-46	102
Imports/ Domestic Sales (%)	79	61	71	71	

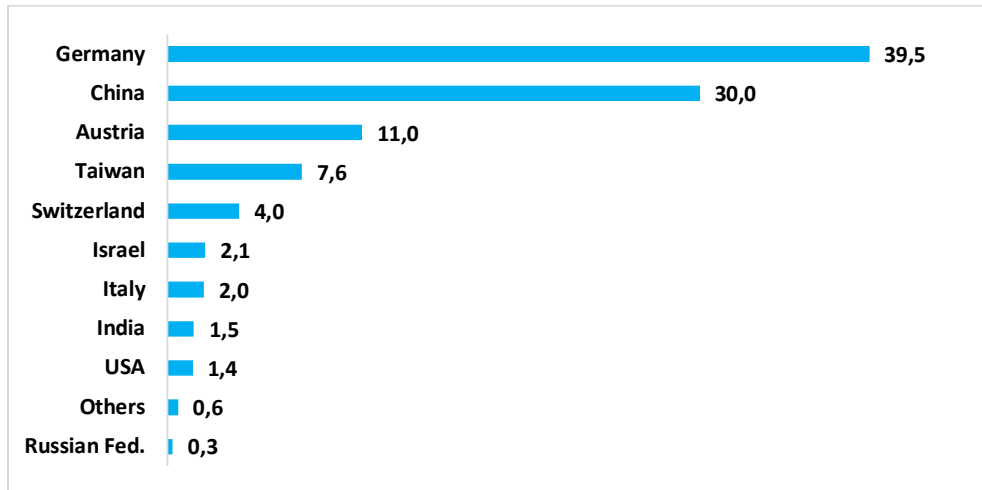
Table 8: Supply & Demand Balance in Extrusion Machines (Million \$)

Source: Turk Stat & ITC Trade Statistics

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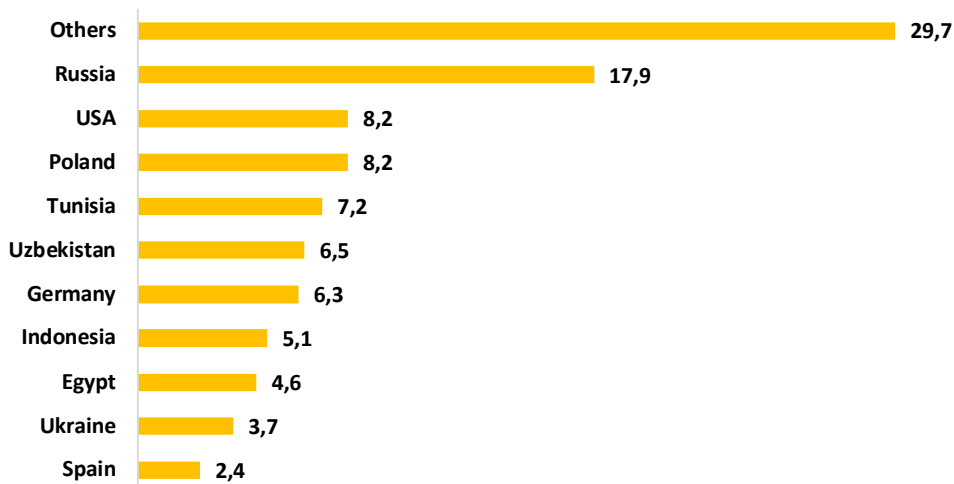
In the first four months of 2020, 99% of the total imports of plastic extrusion machines were made from 10 countries. Germany accounted for 40%, China 30% and Austria 11% of total imports.



Graphic 20: Plastic Extrusion Machines Imports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

In the same period, 70% of the plastic extrusion machines exports were realized to 10 countries, while the Russian Federation, USA and Poland and accounted for a 41% share of the plastic extrusion machines exports, forming the top 4 export markets.



Graphic 21: Plastic Extrusion Machines Exports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

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5.4. BLOW MOLDING MACHINES

In the first four months of 2020, 4 million dollars of production, 5 million dollars of imports, about 1 million dollars of exports and 7 million dollars of domestic market sales (blow molding machines investment of plastics industry) were realized. The industry gave 3 million dollars of foreign trade deficit in this period. 69 % of the blow molding machines investment were met by imports.

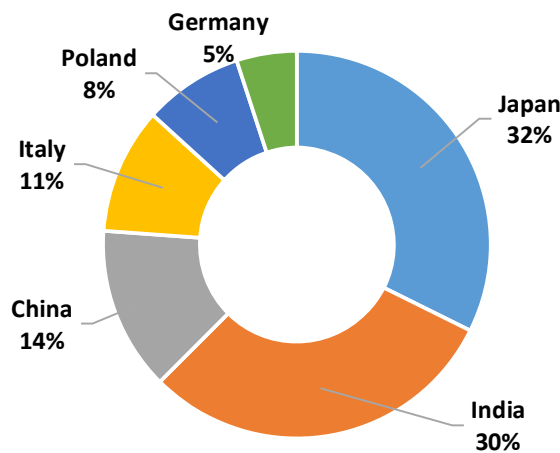
At the end of 2020, the production of plastic blow molding machines is expected to increase to 11 million dollars, imports to 14 million dollars, exports to 4 million dollars, domestic sales to 20 million dollars and the sector is expected to give a foreign trade deficit of 10 million dollars.

	2015	2019	2020/4	2020 / E	% Increase (E) 2019/2018
Production	1	5	4	11	112
Imports	17	12	5	14	18
Exports	1	2	1	4	112
Domestic Sales	18	15	7	20	37
Foreign Trade Deficit	-17	-10	-3	-10	-1
Imports/ Domestic Sales (%)	95	80	69	69	

Table 9: Supply & Demand Balance in Blow Molding Machines (Million \$)

Source: Turk Stat & ITC Trade Statistics

In the first four months of 2020, Turkey imported blow molding machines only from 9 countries and Japan received 32%, India 30% China 14% and Italy 11% in total blow molding machines imports.



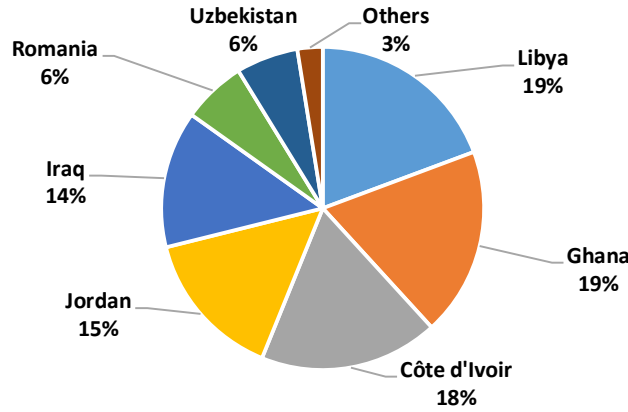
Graphic 22: Plastic Blow Molding Machines Imports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

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In this period, Turkey realized 97% of exports of blow molding machines to 10 countries and Ghana, Libya, and Cote d’Ivoire as the main export partners shared 56% of total exports .



Graphic 23: Plastic Blow Molding Machines Exports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

5.5. THERMOFORM MACHINES

In the first four months of 2020, 11 million dollars of production, 2 million dollars of imports, 4 million dollars of exports and 9 million dollars of domestic market sales (thermoform machines investment of plastics industry) realized. On the other hand, foreign trade surplus of thermoform machines realized as 2 million dollars in this period. 24% of the domestic sales (thermoform machines investment of the industry) was provided by imports in the same period.

At the end of 2020, production of plastic thermoforming machines is expected to increase to 34 million dollars, imports to 6 million dollars, exports to 13 million dollars, domestic sales to 26 million dollars and foreign trade surplus to 7 million dollars.

	2015	2019	2020/4	2020 / E	% Increase (E) 2019/2018
Production	30	44	11	34	-24
Imports	9	6	2	6	10
Exports	12	18	4	13	-24
Domestic Sales	28	32	9	26	-18
Foreign Trade Deficit	3	12	2	7	-41
Imports/ Domestic Sales (%)	34	18	24	24	

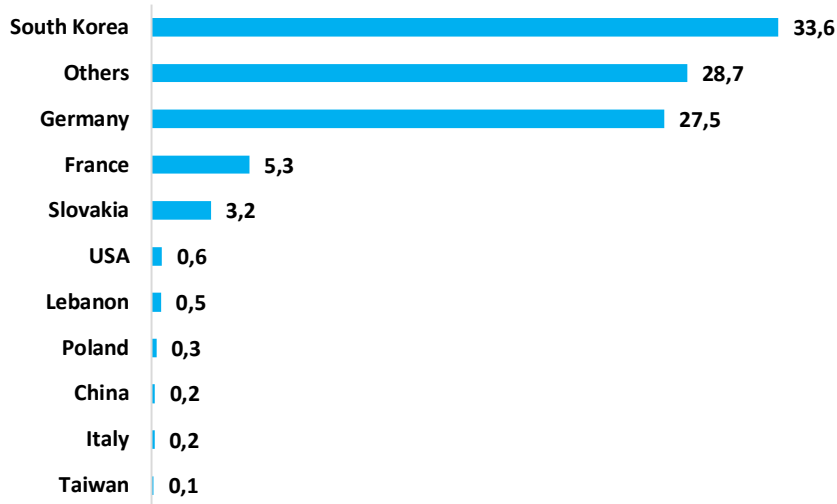
Table 10: Supply & Demand Balance in Thermoform Machines (Million \$)

Source: Turk Stat & ITC Trade Statistics

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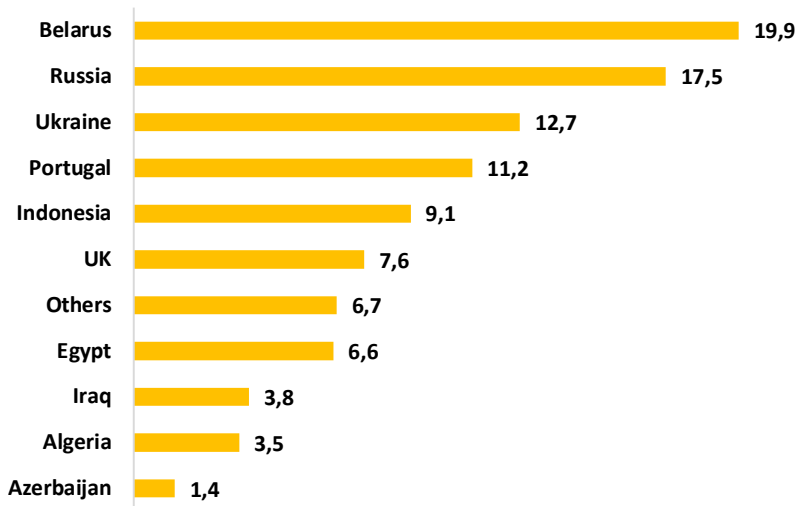
In the first 4 months of 2020, 71% of the imports of thermoforming machines realized from 10 countries 34% of which was from South Korea, 28% from Germany, 5% from France and 3% from Slovakia.



Graphic 24: Plastic Thermoforming Machines Imports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

In the same period, 92% of total thermoforming machines exports destined to 10 countries and Belarus, Russia, Ukraine, and Portugal formed the top 4 export markets having 62 % share in total exports.



Graphic 25: Plastic Thermoforming Machines Exports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

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5.6. PRESSES AND OTHER MACHINES

In the first 4 months of 2020, 67 million dollars of production, 50 million dollars of imports, 27 million dollars of exports and 90 million dollars of domestic market sales (presses and other machines investment of plastics industry) realized in presses and other machines industry. In this period foreign trade deficit realized as 23 million dollars. In this period, 55% of the domestic sales (presses and other machines investment of the industry) was provided by imports.

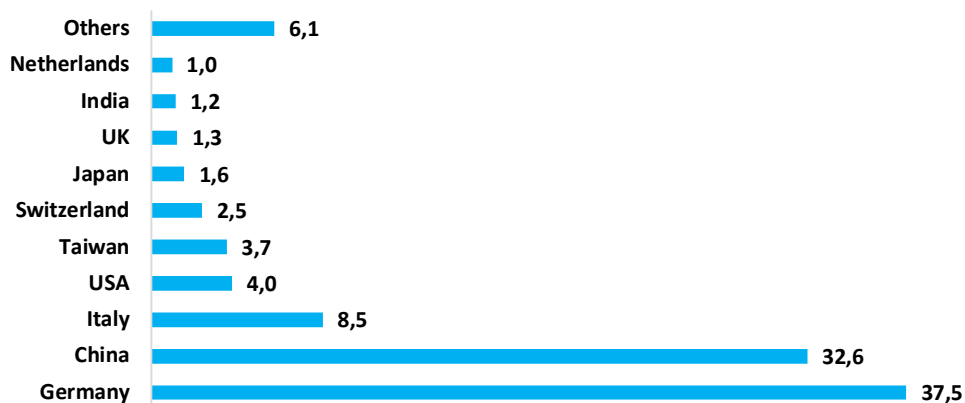
At the end of 2020, production of presses and other machines is expected to increase to 202 million dollars, imports to 149 million dollars, exports to 81 million dollars, domestic sales to 270 million dollars and the sector is expected to have a foreign trade deficit of 69 million dollars.

	2015	2019	2020/4	2020 / E	% Increase (E) 2019/2018
Production	152	235	67	202	-14
Imports	204	202	50	149	-26
Exports	61	94	27	81	-14
Domestic Sales	296	343	90	270	-21
Foreign Trade Deficit	-144	-108	-23	-69	-36
Imports/ Domestic Sales (%)	69	59	55	55	

Table 11: Supply & Demand Balance in Presses and Other Machines (Million \$)

Source: Turk Stat & ITC Trade Statistics

In the first 4 months of 2020, imports from 10 countries accounted for 94% of the total presses and other machines imports. Germany, China, and Italy accounted for approximately 80% of the total presses’ imports.



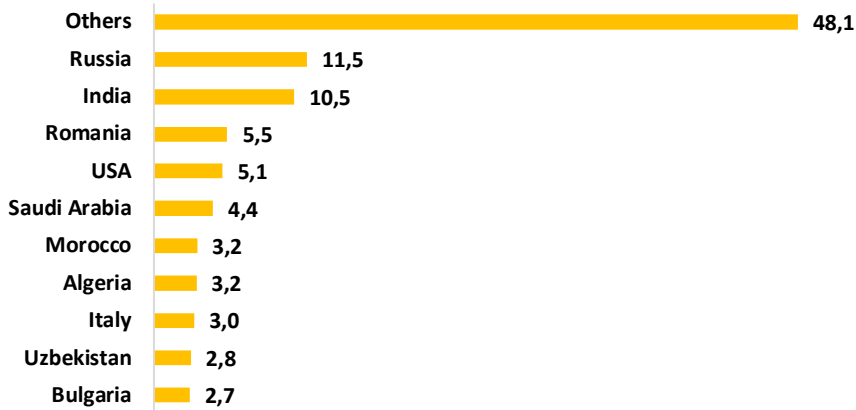
Graphic 26: Presses and Other Machines Imports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

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In this period, 52% of total presses exports were realized to 10 countries. Exports to Russia and India accounted for 23% of total exports.



Graphic 27: Presses and Other Machines Exports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

5.7. PARTS & COMPONENTS

In the first 4 months of 2020, 30 million dollars of production, 14 million dollars of imports, 7 million dollars of exports and 36 million dollars of domestic market sales were realized in the parts and components sector. In this period, foreign trade deficit was 6 million dollars and 38% of parts and components investment of the industry was met by imports.

At the end of 2020, production is expected to increase to 90 million dollars, imports to 41 million dollars, exports to 22 million dollars, domestic sales to 108 million dollars and the sector is expected to have a foreign trade deficit of 18 million dollars.

	2015	2019	2020/4	2020 / E	% Increase (E) 2019/2018
Production	77	110	30	90	-19
Imports	42	38	14	41	8
Exports	19	28	7	22	-19
Domestic Sales	100	121	36	108	-10
Foreign Trade Deficit	-23	-10	-6	-18	76
Imports/ Domestic Sales (%)	42	32	38	38	

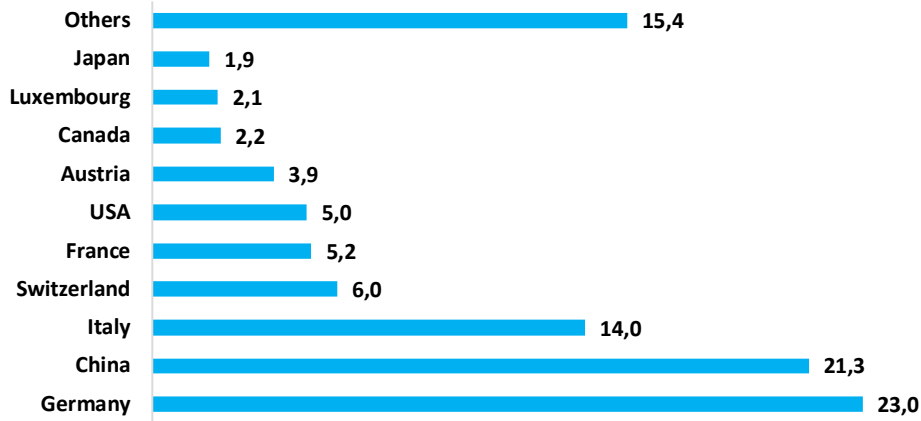
Table 12: Supply & Demand Balance in Parts and Components (Million \$)

Source: Turk Stat & ITC Trade Statistics

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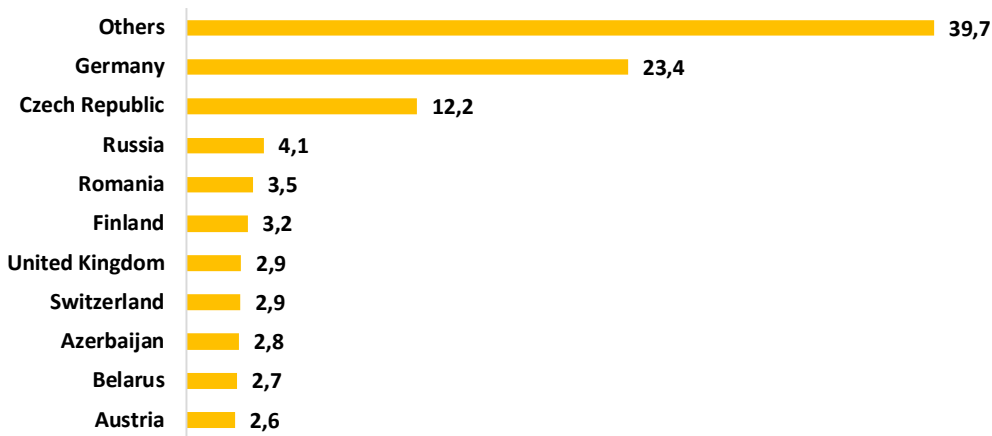
In the first 4 months of 2020, parts and components imports from 10 countries constituted 85% of total imports. Germany, China, and Italy accounted for 67% of total parts imports.



Graphic 28: Presses and Other Machines Imports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics

In the same period, 60% of total parts and component exports were realized to 10 countries. Germany and Czech Republic as the top export partners have a total of 35% share in total exports.



Graphic 29: Presses and Other Machines Exports by Countries (% Share)(2020/4)

Source: Turk Stat & ITC Trade Statistics



6. MAIN PROBLEMS OF THE INDUSTRY

General problems in the machinery manufacturing industry, can also be applied to the plastic processing machines industry. In addition to these general problems, the major problems faced by the plastics processing machines can be summarized as follows.

- There is no national strategy for plastic processing machines. The sector has no specific vision
- Turkey, as for plastic processing machinery has a profoundly serious investing plastics industry. Thus, Turkey is one of the world's most important market in this area. But 70% of the market is dominated by imported machines.
- The developments in the plastics processing machines and their accessories and parts industry, despite significantly developing the plastics industry and the propensity to invest following the similar pattern, is under constant pressure of the cheap imports conducted in China. Imports receives a higher margin in sharing the increasing demand.
- The lack of a state strategy for the plastic processing machinery sector, adequate protection of domestic producers and provide competitive advantages of plastic products manufacturer, they choose the second-hand imports of machinery.
- There is a serious place problem in the sector. Machine and component manufacturers generally operate in physically small and inadequate spaces. If they want to move to larger places, they must bury already limited working capital in high rent. The need for organized and rent-free industrial land is at an advanced stage in the sector.
- Turkey is a net importer in the plastics processing machines trade and machines exported are far from providing high added value when compared their unit prices.
- R - D, P & D, industrial design, and product development efforts are insufficient in the industry.
- Patents and trademark investments are not enough in the industry.
- Industry's international technical compliance is insufficient.
- Equity capital and working capital of the companies are inadequate.
- Energy costs are high.
- The industry needs for the marketing customer relationship management.

7. SUGGESTIONS

The PAGEV Value Chain relationship, which is supported by a strategic decision with the added value, employment and multiplier effect created by the domestic production, is especially important for our machinery / equipment and mold industry. Without these, net foreign currency inflows could not be provided to the country, and technology security and business sustainability

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would be a problem. With a strategic decision, domestic production should be supported by the added value, employment, and multiplier effect it creates.

Although there are support mechanisms such as R&D Centers of the Public, Technological Product Experience Certificate, Technology Development Zones, Technological Product Investment Support Program, Design Center Support Program, Technology, and Innovation Support Program, more are needed.

The purchase of locally produced machines in public should not be left with only 15%. If necessary, it must be made compulsory. Tax supports should also be brought to companies that purchase domestic goods.

Preventing unfair competition and protecting domestic production, poor quality / unhealthy machine entries and market surveillance should be done. These audit institutions should be established within our body. It is possible to list the things to be done as follows.

i. Review of Product Standards

In order to increase the quality of the domestic market and to expand the target markets in exports, it is necessary to comply with the Machinery Directives of the European Union and make necessary arrangements.

ii. Cooperation in Market Audit and Surveillance Activities

In order to get expert opinion about the sector and to follow up-to-date trends, it will be beneficial to participate in sectoral collaborations that can provide neutral opinion to the market audit and surveillance organization.

iii. Establishing Control Points at Customs

The import of products that do not comply with the directives / standards from third world countries reduces domestic production quality and endangers user safety. For this reason, as in the European Union countries, inspection should start from customs. Standards that should be prevented at customs should be determined and products that do not comply with the standards should not be allowed to enter the country. Declarations stating the technical suitability of the products should be inspected in customs procedures.

**iv. Creating a Banned Company Database**

As applied in the European Union, all customs points must have access to this database. Providing the list of currently banned companies owned by the European Union and adding it to the database will also contribute positively to customs inspections.

v. Establishing a Product and Performance Oriented Incentive Mechanism

The product-oriented incentive application in the sector should continue in detail. In addition, the incentive should be performance oriented. (For example, the opportunity to exchange foreign currency more specifically for the exporter, the increase of R&D incentives)

vi. The Industry Land Need of the Sector Should Be Solved

Firms that produce added value with R&D should be provided with 49 years of lease-free allocation, owned by the state, in areas where they can employ quality and not far from the cities. Machinery and parts manufacturers generally operate in physically small and inadequate spaces. When they want to move to larger places, they must bury their already limited working capital in the land with high rent. The sector urgently needs an industrial land that is organized and away from rent.

vii. Firm's Financial Needs Should Be Solved

Firms' financing needs should be supported by an increasing Exim bank activity abroad and an incentive financing model at home. (R&D and capacity to create added value may be performance criteria). On the other hand, industrial banking and project finance should be developed domestically.

viii. Improving Vocational Education

In order to improve Vocational Education, quality oriented, applied education should be targeted. Supporting technicians from abroad, facilitating access to information and building a Center of Excellence.

ix. Establishment of Common Service Providers in Overseas Export Markets

In countries where the machinery is exported, cooperation should be made where Turkish SMEs will provide common technical services to their customers. Exporter Union resources should be mobilized for the necessary financing.

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**x. Prevention of Unfair Competition**

In order to prevent unfair competition, cooperation should be established with non-governmental organizations such as PAGEV, and standards and supervision mechanisms for entry into the sector should be established.

xi. Creation of Workplace and Machine Database

Registration of workplace (product number of employees, etc.) and machine features (age, brand, country of purchase, etc.) in the machine manufacturing sector, by tightening the workplace and product inspections, will reduce the number of companies operating in the sector.



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