





PRFFACE

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 "Unifiyng 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 of 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 of 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

-EXECUTIVE SUMMARY-

In the last 5 years covering the years 2014 - 2018, 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 37% of total investments, injection 22%, extrusion 18%, thermoforming 4%, blow molding 2% and parts and components 17%.

In the first half of 2019, 229 million dollars of production, 174 million dollars of imports, 97 million dollars of exports and 306 million dollars of domestic sales (machinery investment of the plastics industry) has been realized.

In this period, industry gave 77 million dollars of foreign trade deficit and 57% of the investment has been met by imports and export covarage of imports realised as 56%

At the end of 2019, plastic processing machinery production is expected to be 457 million dollars, imports 348 million dollars, exports 194 million dollars, domestic sales 611 million dollars. In this period, the industry is expected to give 154 million dollars of foreign trade deficit.

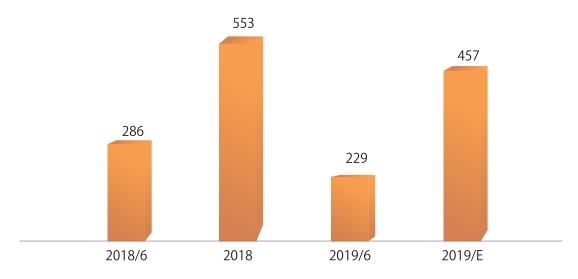
CONTENTS

| 1. | PROI | DUCTION | 01 |
|----|------|--|-------|
| 2. | FORE | IGN TRADE | 02-06 |
| | 2.1. | IMPORTS | 02 |
| | 2.2. | EXPORTS | 03 |
| | 2.3. | FOREIGN TRADE BY COUNTRIES | 04 |
| | 2.4. | IMPORT AND EXPORT PRICES | 05 |
| | 2.5. | FOREIGN TRADE DEFICIT | 06 |
| 3. | DOM | ESTIC SALES (MACHINERY INVESTMENTS OF PLASTICS INDUSTRY) | 07-08 |
| 4. | MAC | HINERY PARK | 09-11 |
| 5. | SUPF | PLY AND DEMAND AND 2019 EXPECTATIONS | 11-21 |
| | 5.1. | TOTAL PLASTICS PROCESSING MACHINES | 11 |
| | 5.2. | INJECTION MACHINES | 12-13 |
| | 5.3. | EXTRUSION MACHINES | 13-14 |
| | 5.4. | BLOW MOLDING MACHINES | 15 |
| | 5.5. | TERMOFORMING MACHINES | 16-17 |
| | 5.6. | PRESSES AND OTHER MACHINES | 18-19 |
| | 5.7. | PARTS AND COMPONENTS | 20-21 |
| 6. | MAII | I PROBLEMS OF THE INDUSTRY | 22 |



Production of plastic processing machines which was 286 million dollars in the first half of 2018 realised as 229 million dollar in the first half of 2019 decreasing by 20% with respect to the same perid of the previous period. If the

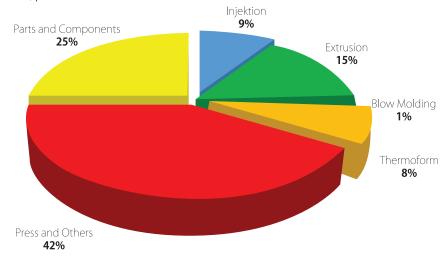
same trend continious, production is expected to realise as around 457 milion dollars at the end of 2019, decreasing by 17%.



Graphic 1: Plastics Processing Machines Production (Million \$)Source: TurkStat & ITC Trade Statistics

In this period, injection machines accounted for 9%, extrusion machines 15%, blow molding machines 1%, thermoforming machines 8%, presses and other machines

42 % and parts and components 25% of total plastic processing machines production.



Graphic 2: Share of Machines in Total Production (2019/6)

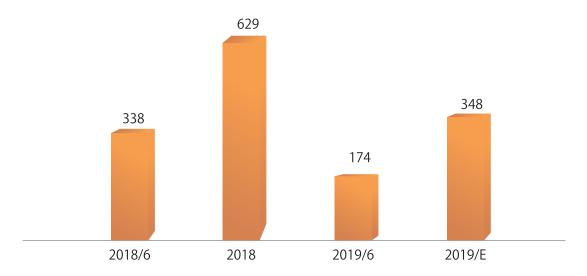
Source: TurkStat & ITC Trade Statistics



2.1. IMPORTS

Imports of plastic processing machines which was 338 million dollars in the first half of 2018 realised as 174 million dollars in the first half of 2019 decreasing by 48% with respect to the same period of the previous period. If the

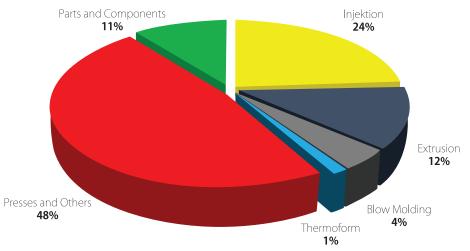
same trend continious, imports are expected to realise as around 348 milion dollars at the end of 2019 decreasing by 48%.



Graphic 3: Peer Period Comparision of Plastics Processing Machines Imports (Million \$) Source: TurkStat & ITC Trade Statistics

In this period, injection machines accounted for 24%, extrusion machines 12%, blow molding machines 4%, thermoforming machines 1%, presses and other machines

48% and parts and components 11% of total plastic processing machines imports.



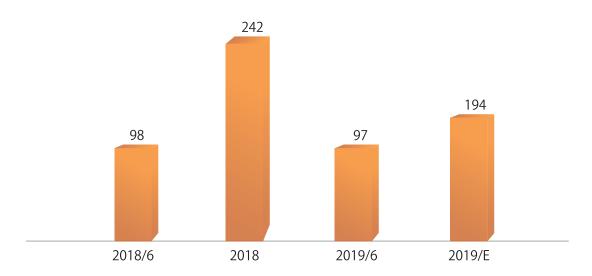
Graphic 4: Share of Machines in Total Machine Imports (2019/6) Source: TurkStat & ITC Trade Statistics

2. FOREIGN TRADE

2.2. EXPORTS

Exports of plastic processing machines which was 98 million dollars in the first half of 2018 realised as 97 million dollars in the first half of 2019 decreasing by 1%. If the same

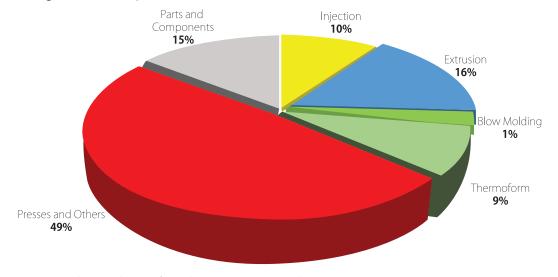
trend continious, exports are expected to realise as around 194 milion dollars at the end of 2019 decreasing by 20% with respect to the same period of the previous period.



Graphic 5: Peer Period Comparision of Plastics Processing Machines Exports (Million \$) Source: TurkStat & ITC Trade Statistics

In this period, injection machines accounted for 10%, extrusion machines 16%, blow molding machines 1%, thermoforming machines 9%, presses and other machines

49% and parts and components 15% of total plastic processing machines exports.



Graphic 6: Share of Machines in Total Machine Exports (2019/6) Source: TurkStat & ITC Trade Statistics



2.3. FOREIGN TRADE BY COUNTRIES

In the first half of 2019, plastics processing machines and parts and components imports from the 10 main countries constituted the 93% of the total imports. Germany, China and Italy are the first 3 countries from which Turkey imports plastics processing machines most. These countries shared 66% of imports on value base.

On the other hand, exports to the 10 main countries received a share of 52% on value base in the first half of 2019. The first 3 countries to which Turkey has conducted plastics processing machines exports in this period are India, Russian Federation and Algeria. These countries shared 25% of exports.

| | Imports | | | Ехр | orts |
|--------------------|---------|-----------|--------------------|---------|-----------|
| Countries | 1000 \$ | % - Share | Countries | 1000 \$ | % - Share |
| Germany | 54,731 | 31 | India | 8,679 | 9 |
| China | 48,814 | 27 | Russian Fed. | 8,653 | 9 |
| Italy | 14,077 | 8 | Algeria | 5,379 | 6 |
| Japan | 14,022 | 8 | Iraq | 5,027 | 5 |
| Austria | 12,124 | 7 | Bulgaria | 4,487 | 5 |
| Taiwan | 7,242 | 4 | Germany | 4,460 | 5 |
| France | 5,639 | 3 | Iran | 3,829 | 4 |
| USA | 3,471 | 2 | Spain | 3,399 | 4 |
| India | 2,505 | 1 | Uzbekhistan | 3,313 | 3 |
| South Korea | 2,492 | 1.4 | Romania | 3,196 | 3 |
| Total 10 Countries | 165,118 | 93 | Total 10 Countries | 50,422 | 52 |
| Others | 13,275 | 7 | Others | 46,623 | 48 |
| Total | 178,393 | 100 | Total | 97,045 | 100 |

Table 1: Plastics Processing Machines Foreign Trade by Countries (2019/6)
Source: TurkStat & ITC Trade Statistics



2.4. IMPORT AND EXPORT PRICES

In the first half of 2019, average unit import prices of plastics processing machines and parts and components realized as 11.7 \$/kg, increasing by 4% with respect to 2018.



Grafik 7: Import and Export Unit Prices (\$/Kg) Source: TurkStat & ITC Trade Statistics

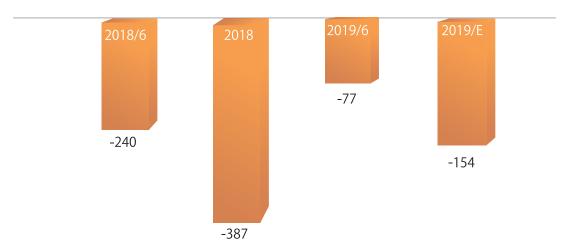
In the first half of 2019, average unit export prices of plastics processing machines and parts and components realized as 9.7 \$/kg, decreasing by 9% with respect to 2018. In this

period, the average unit export prices realised 17% below the the unit import prices.

2.5. FOREIGN TRADE DEFICIT

Foreign trade deficit of plastic processing machines which was 240 million dollars in the first half of 2018 realised as 77 million dollars in the first half of 2019 decreasing by 68% with respect to the peer period of 2018. If the same trend

continious, foreign trade deficit is expected to realise as around 154 milion dollars at the end of 2019 decreasing by 60% with respect to the same perid of the previous year.

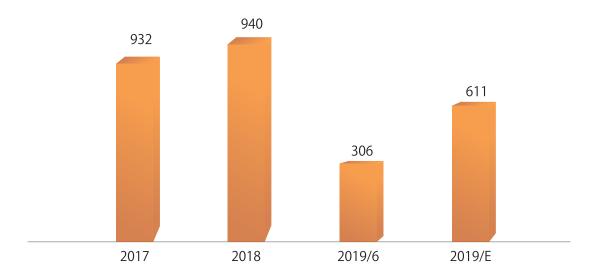


Graphic 8: Foreign Trade Deficit in Plastics Processing Machines (Million \$) Source: TurkStat & ITC Trade Statistics

3. DOMESTIC SALES (MACHINERY INVESTMENTS OF PLASTICS INDUSTRY)

Domestic sales (machinery investments of the plastics industry) of plastic processing machines which was 526 million dollars in the first half of 2018 realised as 306 million dollars in the first half of 2019 decreasing by 42% with

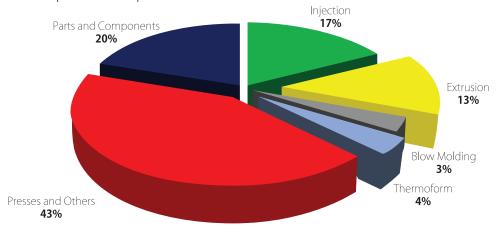
respect to the peer period of 2018. If the same trend continious, domestic sales are expected to realise as around 611 milion dollars at the end of 2019 decreasing by 35% with respect to the same period of the previous year.



Graphic 9: Peer Period Comparision of Plastics Processing Machines Domestic Sales (Million \$) Source: TurkStat & ITC Trade Statistics

The share of presses and other machines realized as 43%, injections 17%, extrusion13%, blow molding 3%, thermoform 4% and parts and components 20% in the

total machinery investment of the plastics industry in the first half of 2019.

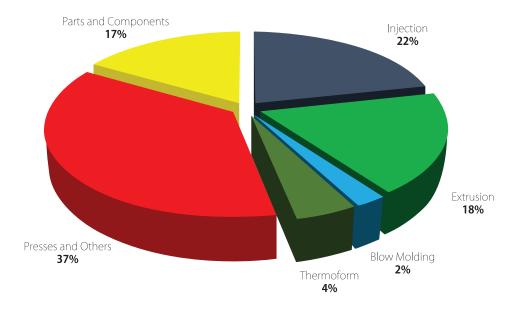


Graphic 10: Breakdown of Machinery Investments of Plastics Industry (2019/6)
Source: TurkStat & ITC Trade Statistics

3. DOMESTIC SALES (MACHINERY INVESTMENTS OF PLASTICS INDUSTRY)

In the last 5 years covering the years 2014 - 2018, 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 37% of total investments, injection 22%, extrusion 18%, thermoforming 4%, blow molding 2% and parts and components 17%.



Graphic 11: Breakdown of Machinery Investments of Plastics Industry for the Last 5 Years Source: TurkStat & ITC Trade Statistics



As of the first half of 2019, 31% of the total processing machinery park of the Turkish plastics industry is sold by domestic producers while 69% of it has been imported.

| | Units | | % Share | | |
|----------------------------|------------------------|---------|------------|------------|---------|
| Machinery Group | Domestic Production | Imports | Total Park | Production | Imports |
| Injection Machines | 4,824 | 63,616 | 68,440 | 7 | 93 |
| Extrusion Machines | 4,797 | 31,532 | 36,329 | 13 | 87 |
| Blow Molding Machines | 590 | 3.806 | 4,396 | 13 | 87 |
| Thermoform Machines | 5,604 | 10,055 | 15,659 | 36 | 64 |
| Presses and Other Machines | 94,889 | 136,825 | 231,714 | 41 | 59 |
| Total | 110,703 | 245,835 | 356,538 | 31 | 69 |

Table 2: Machinery Park of Plastics Industry

Source: TurkStat & ITC Trade Statistics

Share of imported machines in total machine park realised as; 93% in injection machines, 87% in extrusion machines, 87% in blowing machines, 64% in thermoforming machines and 59% in presses and other machines.

In other words, the share of domesticaly produced machineries within the total park is; 7% in injection machines, 13% in extrusion machines, 13% in blow molding machines, 36% in thermoforming machines and 41% in presses and other machines.

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



| Injed | tion | Extru | usion | Blow M | olding | Therm | oform |
|--------------|---------|--------------|---------|--------------|---------|--------------|---------|
| 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 3: Imported Machinery Park By Countries

Source: TurkStat & ITC Trade Statistics

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 France and 7.2% of Japanian machinery.

10 countries shared 90.4% in imported thermoform machinery park while, 21% of the park is made up of Germany, 18.8 % of Chaina, 14.9% of Italy, 10% of Taiwan and 5.7% of France machinery.



5.1. TOTAL INDUSTRY

In the first half of 2019, 229 million dollars of production, 174 million dollars of imports, 97 million dollars of exports

and 306 million dollars of domestic sales (machinery investment of the plastics industry) has been realized.

| | 2018/6 | 2018 | 2019/6 | 2019/E | % Increase 2019 / 2018 (6 M) | % Increase (E) 2019 / 2018 |
|------------------------------|--------|------|-------------|--------|------------------------------------|-------------------------------|
| Production | 286 | 553 | 229 | 457 | -20 | -17 |
| Imports | 338 | 629 | 174 | 348 | -48 | - 45 |
| Exports | 98 | 242 | 97 | 194 | -1 | -20 |
| Domestic Sales | 526 | 940 | 306 | 611 | - 42 | - 35 |
| Foreign Trade Deficit | -240 | -387 | - 77 | -154 | -68 | -60 |
| Imports / Domestic Sales (%) | 64 | 67 | 57 | 57 | | |
| Exports / Imports (%) | 29 | 39 | 56 | 56 | | |

Table 4: Plastics Processing Machines Supply & Demand Balance (Million \$) Source: TurkStat & ITC Trade Statistics

In this period, industry gave 77 million dollars of foreign trade deficit and 57% of the investment has been met by imports and export covarage of imports realised as 56%. At the end of 2019, plastic processing machinery productionis expected to be 457 million dollars, imports 348 million dollars, exports 194 million dollars, domestic

sales 611 million dollars. In this period, the industry is expected to give 154 million dollars of foreign trade deficit.

5.2. PLASTICS INJECTION MACHINES

In the first half of 2019, 21 million dollars of production, 42 million dollars of imports, 10 million dollars of exports and 54 million dollars of domestic sales (Injection machines investment of the plastics industry) has been realized in plastics injection machines.

In this period 78% of the investment has been met by imports and export covarage of imports realised as 23%.

At the end of 2019, plastic injection machinery production is expected to be 43 million dollars, imports 84 million dollars, exports 19 million dollars, domestic sales 108 million dollars. In this period, the industry is expected to give 65 million dollars of foreign trade deficit.

| | 2018/6 | 2018 | 2019/6 | 2019/E | % Increase 2019 / 2018 (6 M) | % Increase 2019 / 2018 (E) |
|------------------------------|-------------|------|--------|-----------------|------------------------------------|----------------------------------|
| Production | 8 | 36 | 21 | 43 | 168 | 18 |
| Imports | 49 | 163 | 42 | 84 | -14 | -48 |
| Exports | 4 | 16 | 10 | 19 | 141 | 18 |
| Domestic Sales | 53 | 183 | 54 | 108 | 1 | -41 |
| Foreign Trade Deficit | - 45 | -147 | -32 | - 65 | -28 | -56 |
| Imports / Domestic Sales (%) | 92 | 89 | 78 | 78 | | |
| Exports / Imports (%) | 8 | 10 | 23 | 23 | | |

Table 5: Injection Machines Supply & Demand Balance (Million \$)

Source: TurkStat & ITC Trade Statistics

In the first half of 2019, injection machines imports from the first 10 countries avcoounted to 99% of total imports. China received a share of 52, Germany 15% and Austria 12% in total imports.

In the same period, 70% of the exports of plastics injection machines destined to 10 countries. Iraq, Bulgaria, and Turkmenisthan with a total of 44% share, have been the biggest markets to which Turkey has exported plastics injection machines.

5. SUPPLY AND DEMAND AND 2018 EXPECTATIONS

| | Imports | | | Ехр | orts |
|--------------------|------------|-----------|--------------------|------------|-----------|
| Countries | Million \$ | % - Share | Countries | Million \$ | % - Share |
| China | 21,664 | 52 | Iraq | 2,049 | 21 |
| Germany | 6,449 | 15 | Bulgaria | 1,140 | 12 |
| Austria | 4,870 | 12 | Turkmenistghan | 1,023 | 11 |
| Japan | 2,179 | 5 | Algeria | 537 | 6 |
| Sweetzerland | 1,643 | 4 | Russian Fed. | 507 | 5 |
| Taiwan | 1,615 | 4 | Uzbekhistan | 383 | 4 |
| Slovakia | 1,423 | 3 | Kosova | 382 | 4 |
| Italy | 1,167 | 3 | Poland | 306 | 3 |
| South Korea | 529 | 1 | Azerbaican | 232 | 2 |
| France | 106 | 0,3 | Georgia | 214 | 2 |
| 10 Countries Total | 41,644 | 99 | 10 Countries Total | 6,774 | 70 |
| Others | 368 | 1 | Others | 2,859 | 30 |
| Total | 42,012 | 100 | Total | 9,633 | 100 |

Table 6: Plastics Injection Machines Imports & Exports by Countries (2019/6) Source: TurkStat & ITC Trade Statistics

5.3. PLASTICS EXTRUSION MACHINES

In the first half of 2019, 35 million dollars of production, 21 million dollars of imports, 16 million dollars of exports and 40 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 5 million dollars.

It can be observed that the 52% of the domestic sales as met by imports and export covarage ratio of imports has been realized as 74% in the same period.

The expectations for 2019 are; 70 million dollars of production, 42 million dollars of imports, 31 million dollars of exports, 81 million dollars of domestic sales and 11 million dollars of foreign trade deficit.

| | 2018/6 | 2018 | 2019/6 | 2019/E | % Increase 2019 / 2018 (6 M) | % Increase 2019 / 2018 (E) |
|------------------------------|--------|-------------|------------|--------|------------------------------------|----------------------------------|
| Production | 19 | 111 | 35 | 70 | 84 | -37 |
| Imports | 34 | 127 | 21 | 42 | -38 | -67 |
| Exports | 10 | 50 | 16 | 31 | 57 | - 37 |
| Domestic Sales | 43 | 188 | 40 | 81 | -6 | - 57 |
| Foreign Trade Deficit | -24 | - 77 | - 5 | -11 | -77 | - 86 |
| Imports / Domestic Sales (%) | 79 | 68 | 52 | 52 | | |
| Exports/Imports (%) | 29 | 39 | 74 | 74 | | |

Table 7: Supply & Demand Balance in Extrusion Machines (Million \$)Source: TurkStat & ITC Trade Statistics

In the first half of 2019, China shared 33%, Austria 21% and Italy 12% of total extrusion machines imports .

In the same period 64% of extrusion machines exports destined to 10 countries. Russian Federation, Uzbekhisthan and Algeria with a share of 37% of total exports are the main export partners for these machines.

| | Imports | | | Ехр | orts |
|--------------------|------------|-----------|--------------------|------------|-----------|
| Countries | Million \$ | % - Share | Countries | Million \$ | % - Share |
| China | 6,995 | 33 | Russian Fed. | 3,323 | 21 |
| Austria | 4,408 | 21 | Uzbekhisthan | 1,308 | 8 |
| Italy | 2,540 | 12 | Algeria | 1,202 | 8 |
| Germany | 2,113 | 10 | Greece | 860 | 5 |
| Taiwan | 2,070 | 10 | Iran | 678 | 4 |
| South Korea | 939 | 4 | France | 589 | 4 |
| India | 855 | 4 | Iraq | 579 | 4 |
| UK | 529 | 2 | S.Arabia | 551 | 4 |
| Japan | 519 | 2 | Poland | 533 | 3 |
| Spain | 105 | 0.5 | Qatar | 425 | 3 |
| 10 Countries Total | 21,073 | 99 | 10 Countries Total | 10,048 | 64 |
| Others | 137 | 1 | Others | 5,674 | 36 |
| Total | 21,210 | 100 | Total | 15,722 | 100 |

Table 8: Plastics Extrusion Machines Imports & Exports by Countries (2019/6) Source: TurkStat & ITC Trade Statistics

5. SUPPLY AND DEMAND AND 2018 EXPECTATIONS

5.4. BLOW MOLDING MACHINES

In the first half of 2019, 3 million dollars of production, 7 million dollars of imports, about 1 million dollars of exports and 9 million dollars of domestic market sales (blow molding machines investment of plastics industry) were realized. The industry gave 6 million dollars of of foreign trade deficit in this period.

The expectations for 2019 are; 6 million dollars of production, 14 million dollars of imports, 3 million dollars of exports, 18 million dollars of domestic sales and 11 million dollars of foreign trade deficit.

| | 2018/6 | 2018 | 2019/6 | 2019/E | % Increase 2019 / 2018 (6 M) | % Increase 2019 / 2018 (E) |
|-----------------------|------------|------|----------------|--------|------------------------------------|----------------------------------|
| Production | 1 | 3 | 3 | 6 | 219 | 116 |
| Imports | 6 | 18 | 7 | 14 | 19 | -20 |
| Exports | 1 | 1 | 1 | 3 | 0 | 116 |
| Domestic Sales | 6 | 19 | 9 | 18 | 55 | - 9 |
| Foreign Trade Deficit | - 5 | -17 | - 6 | -11 | 22 | -31 |

Table 9: Supply& Demand Balance in Blow Molding Machines (Million \$) Source: TurkStat & ITC Trade Statistics

In the first half of 2019, Turkey imported 36% of blow molding machines France, 19% from China, 19% from-Germany and 10% from Italy.

| | Imports | | | Ехр | orts |
|-----------|------------|-----------|--------------------|------------|-----------|
| Countries | Million \$ | % - Share | Countries | Million \$ | % - Share |
| France | 2,594 | 36 | Iraq | 547 | 38.1 |
| China | 1,345 | 19 | Russian Fed. | 428 | 29.8 |
| Germany | 1,325 | 19 | Egypt | 235 | 16.4 |
| Italy | 737 | 10 | S. Arabistan | 71 | 4.9 |
| India | 476 | 7 | Etiyopya | 50 | 3.5 |
| Austria | 353 | 5 | Algeria | 43 | 3.0 |
| Poland | 225 | 3 | Lebanon | 35 | 2.4 |
| Tunusia | 67 | 1 | Romania | 12 | 0.8 |
| | | | Ukraine | 7 | 0.5 |
| | | | Fas | 2 | 0.2 |
| | | | 10 Countries Total | 1,431 | 99.7 |
| | | | Others | 4 | 0.3 |
| Total | 7,120 | 100 | Total | 1,435 | 100.0 |

Table 10: Plastic Blow Molding Machines Exports By Countries (2019/6) Source: Turk Stat & ITC Trade Statistics

In this period, Turkey exported 99% of total blow molding machines to 10 countries and Iraq, Russian Federation and

Egypt as the main export partners shared 83% of total exports.

5.5. THERMOFORM MACHINES

In the first half of 2019, 17 million dollars of production, 2 million dollars of imports, 9 million dollars of exports and 11 million dollars of domestic market sales (thermoform machines investment of plastics industry) realized. On the other hand, foreign trade deficit of thermoform machines realized as 6 million dollars in this period. It can be observed that the 22% of the domestic saleswas provided by imports in the same period.

The expectations for 2019 are; 35 million dollars of production, 5 million dollars of imports, 17 million dollars of exports, 22 million dollars of domestic sales and 12 million dollars of foreign trade deficit.

| | 2018/6 | 2018 | 2019/6 | 2019/E | % Increase 2019 / 2018 (6 M) | % Increase 2019 / 2018 (E) |
|------------------------------|--------|------|--------|--------|------------------------------------|----------------------------------|
| Production | 21 | 54 | 17 | 35 | -18 | -36 |
| Imports | 5 | 14 | 2 | 5 | -51 | - 65 |
| Exports | 8 | 27 | 9 | 17 | 7 | -36 |
| Domestic Sales | 18 | 41 | 11 | 22 | -38 | -46 |
| Foreign Trade Deficit | 3 | 13 | 6 | 12 | 104 | - 5 |
| Imports / Domestic Sales (%) | 28 | 34 | 22 | 22 | | |

Table 11: Supply& Demand Balance in Thermoform Machines (Million \$)

Source: TurkStat & ITC Trade Statistic**S**

In the first half of 2019, 43% of imports were realised from China and 24% from South Korea while Italy and Taiwan shared 11% of total imports.

In the same period, 81% of total exports of thermoform machines destined to 10 countries. Iran and Egypt shared 39% of total exports.

| | Imports | | | | Exports | | |
|-----------|------------|-----------|--------------------|------------|-----------|--|--|
| Countries | Million \$ | % - Share | Countries | Million \$ | % - Share | | |
| China | 1,065 | 43 | İran | 1,874 | 21.9 | | |
| S. Korea | 586 | 24 | Egypt | 1,433 | 16.7 | | |
| Italy | 282 | 11 | Russian Fed. | 613 | 7.2 | | |
| Taiwan | 274 | 11 | Ct-rotia | 576 | 6.7 | | |
| India | 103 | 4 | Germany | 476 | 5.5 | | |
| Germany | 81 | 3 | Avustralya | 442 | 5.2 | | |
| USA | 44 | 2 | Trinidad | 403 | 4.7 | | |
| Malaysia | 15 | 1 | Irealand | 399 | 4.7 | | |
| UK | 7 | 0.3 | Israel | 384 | 4.5 | | |
| Brazil | 2 | 0.1 | Algeria | 372 | 4.3 | | |
| | | | 10 Countries Total | 6,972 | 81.3 | | |
| | | | Others | 1,602 | 18.7 | | |
| Total | 2,459 | 100 | Total | 8,574 | 100.0 | | |

Table 12: Thermoform Machines Imports and Exports By Countries (2019/6) Source: Turk Stat & ITC Trade Statistics

5.6. PRESES AND OTHER MACHINES

In the first half of 2019, 95 million dollars of production, 83 million dollars of imports, 47 million dollars of exports and 130 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 realised as 35 million dollars.

It can be observed that the 64% of the domestic sales was provided by imports and export covarage of imports ratio realized as 57% in this period.

The expectations for 2019 are; 190 million dollars of production, 165 million dollars of imports, 95 million dollars of exports, 260 million dollars of domestic sales and 71 million dollars of foreign trade deficit.

| | 2018/6 | 2018 | 2019/6 | 2019/E | % Increase 2019 / 2018 (6 M) | % Increase 2019 / 2018 (E) |
|------------------------------|--------|------|-------------|-----------------|------------------------------------|----------------------------------|
| Production | 48 | 243 | 95 | 190 | 98 | -22 |
| Imports | 87 | 265 | 83 | 165 | - 5 | -38 |
| Exports | 19 | 122 | 47 | 95 | 150 | - 22 |
| Domestic Sales | 116 | 387 | 130 | 260 | 12 | - 33 |
| Foreign Trade Deficit | -68 | -143 | - 35 | - 71 | -48 | - 51 |
| Imports / Domestic Sales (%) | 75 | 69 | 64 | 64 | | |
| Exports/Imports (%) | 22 | 46 | 57 | 57 | | |

Table 13: Supply& Demand Balance in Presses and Other Machines (Million \$) Source: TurkStat & ITC Trade Statistics



In the first half of 2019, presses and other machines have been imported from 10 countries sharing 95% of total imports. Germany, China and Japan as the main import partners shared 74% of total imports.

In this period, 57% of presses and other machines were exported to 10 countries and India shared 16% of total exports as the main export partner.

| | Imports | | | | Exports | | |
|--------------------|------------|-----------|--------------------|------------|-----------|--|--|
| Countries | Million \$ | % - Share | Countries | Million \$ | % - Share | | |
| Germany | 39,150 | 46 | India | 7,673 | 16.2 | | |
| China | 13,007 | 15 | Russian Fed. | 3,006 | 6.3 | | |
| Japan | 10,767 | 13 | Algeria | 2,935 | 6.2 | | |
| Italy | 6,782 | 8 | Spain | 2,678 | 5.6 | | |
| Taiwan | 2,512 | 3 | Bulgaria | 2,150 | 4.5 | | |
| Tayland | 1,951 | 2 | S. Africa | 2,067 | 4.4 | | |
| Austria | 1,946 | 2 | Romania | 2,057 | 4.3 | | |
| USA | 1,778 | 2 | USA | 1,550 | 3.3 | | |
| France | 1,729 | 2 | Germany | 1,411 | 3.0 | | |
| UAE | 967 | 1.1 | Greece | 1,354 | 2.9 | | |
| 10 Countries Total | 80,589 | 95 | 10 Countries Total | 26,880 | 56.6 | | |
| Others | 4,488 | 5 | Others | 20,607 | 43.4 | | |
| Total | 85,077 | 100 | Total | 47,487 | 100.0 | | |

Table 14: Presses and Other Machines Imports and Export by Countries (2019/6) Source: TurkStat & ITC Trade Statistics

5.7. PARTS & COMPONENTS

In the first half of 2019, 57 million dollars of production, 19 million dollars of imports, 14 million dollars of exports and 61 million dollars of domestic market sales (accessories investment of plastics industry) were realized in the parts and componets industry. On the other hand, foreign trade deficit realized as 4 million dollars in the same period.

It can be observed that the 30% of the domestic sales was provided by imports in the same period and export covarage of imports ratio realized as 77% in the same period.

The expectations for 2019 are; 114 million dollars of production, 37 million dollars of imports, 28 million dollars of exports, 122 million dollars of domestic sales and 9 million dollars of foreign trade deficit.

| | 2018/6 | 2018 | 2019/6 | 2019/E | % Increase 2019 / 2018 (6 M) | % Increase 2019 / 2018 (E) |
|------------------------------|------------|------|--------|------------|------------------------------------|----------------------------------|
| Production | 44 | 105 | 57 | 114 | 29 | 8 |
| Imports | 9 | 43 | 19 | 37 | 106 | - 13 |
| Exports | 6 | 26 | 14 | 28 | 137 | 8 |
| Domestic Sales | 47 | 121 | 61 | 122 | 30 | 1 |
| Foreign Trade Deficit | - 3 | -16 | -4 | - 9 | 44 | -47 |
| Imports / Domestic Sales (%) | 19 | 35 | 30 | 30 | | |
| Exports/Imports (%) | 67 | 62 | 77 | 77 | | |

Table 15: Supply & Demand Balance in Parts and Components (Million \$) Source: TurkStat & ITC Trade Statistics

In the first half of 2019, 90% of parts and components have been imported from 10 countries and Germany, China and Italy, as the main import partners shared 63% of total imports.

In the same period, 61% parts and components were exported to 10 countries and Germany as the main export partners shared 14% of total exports.

| | Imports | | | | Exports | | |
|--------------------|------------|-----------|--------------------|------------|-----------|--|--|
| Countries | Million \$ | % - Share | Countries | Million \$ | % - Share | | |
| Germany | 5,614 | 27 | Germany | 2,006 | 14.1 | | |
| China | 4,737 | 23 | Çorlu Free Trade | 1,000 | 7.0 | | |
| Italy | 2,569 | 13 | Romania | 866 | 6.1 | | |
| USA | 1,550 | 8 | S.Arabia | 842 | 5.9 | | |
| France | 1,211 | 6 | Russian Fed. | 776 | 5.5 | | |
| Taiwan | 771 | 4 | Bulgaria | 727 | 5.1 | | |
| Japan | 557 | 3 | Italy | 698 | 4.9 | | |
| Austria | 547 | 3 | Iraq | 694 | 4.9 | | |
| UK | 476 | 2 | India | 592 | 4.2 | | |
| Swiszerland | 399 | 2 | Greece | 442 | 3.1 | | |
| 10 Countries Total | 18,432 | 90 | 10 Countries Total | 8,643 | 60.9 | | |
| Others | 2,083 | 10 | Others | 5,550 | 39.1 | | |
| Total | 20,515 | 100 | Total | 14,193 | 100.0 | | |

Table 16: Parts and Components Imports and Exports by Countries (2019/6) Source: Turk Stat & ITC Trade Statistics

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 summarised 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 very 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 have to bury already limited working capital in high rent. The need for organized and rent-free industrial land is at an advanced stage in the

- 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.



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Halkalı Caddesi No: 132/1 Tez-İş İş Merkezi Kat: 4 Sefaköy- İstanbul Tel. +90 (212) 425 13 13 Fax. +90 (212) 624 49 26 E-Mail. pagev@pagev.org.tr