



TURKISH FOUNDRY INDUSTRY REPORT 2018

May 2019

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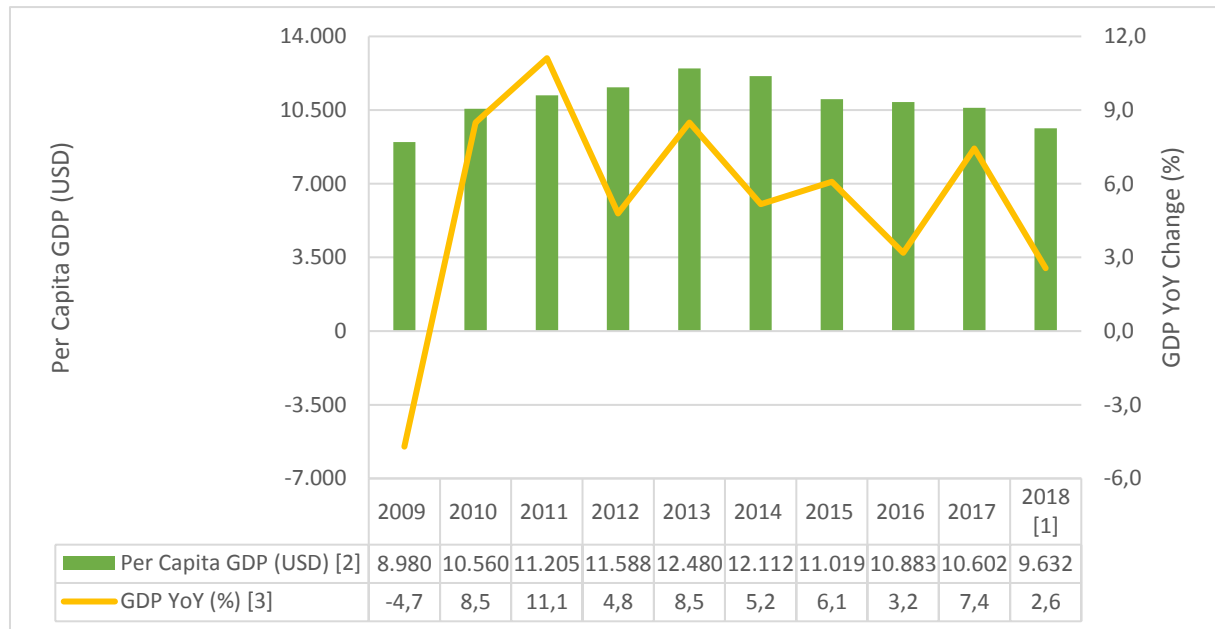
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A. Macroeconomic Developments

Following several years of strong growth, the Turkish economy achieved another strong GDP increase by 7,4% in the first quarter and by 5,3% in the second quarter of 2018. While Turkey became the second fastest growing economy among major developing economies in the first quarter, the downward trend in unemployment continued; improvement in inflation remained limited due to the fluctuations in food and energy prices; and steady depreciation of the exchange rate since mid-2017 was intensified during this period. Strong domestic demand, which was one of the major fuels for the previous years' strong growth, this time, became the major reason of the expansion in the current account deficit, together with the commodity prices.

The macroeconomic developments and the political tensions with the US caused intense market volatility in August 2018, which led to a further depreciation of Turkish Lira around 40% in a very short period. Thereafter a recovery process commenced. Expansion in the current account deficit stopped with a strong performance in tourism. Turkey's economy posted a successive current account surplus for the first time after many years. In the last quarter, inflation was slightly improved thanks to the measures taken by the government, the decline in oil prices, relative normalization of the exchange rates and the slowdown in domestic demand; which led to a narrower seasonally and calendar adjusted GDP growth rate of 2,6% in 2018 (Figure 1).

Figure 1: GROSS DOMESTIC PRODUCT GROWTH AND PER CAPITA GROSS DOMESTIC PRODUCT



Source: TurkStat (Turkish Statistical Institute)

[1] The figures for 2018 are the sum of four quarters which are subject to be revised when the annual figures published.

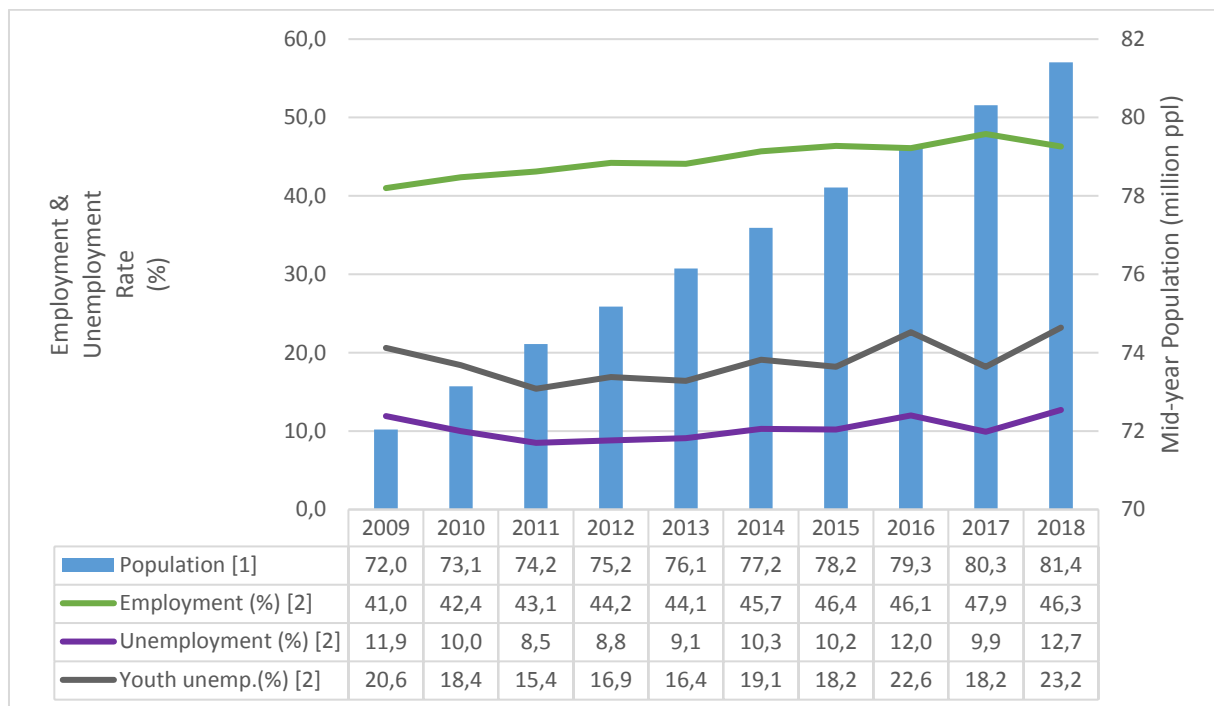
[2] Based on the mid-year populations obtained from the annual results of Address Based Population Registration System.

[3] Calculated by production approach in chain-linked volume percentage change [2009=100].

GDP has increased by 19% in 2018 at current prices but due to the increasing value of the dollar against lira by 38%, Per Capita GDP in USD contracted by 9% and fell below ten thousand level.

As the economic growth slowed down sharply in Q4, the employment growth stopped and unemployment started to increase. This limited the improvement of the annual labour market figures obtained in 2017 which was below 10% level for the first time since 2013. In 2018, seasonally adjusted data shows that the employment rate dropped 1,6 points to 46,3%; unemployment and youth unemployment rates sharply rose to 12,7% and 23,2% respectively (Figure 2). The presence of around 4 million refugees also adds to social inclusion challenges.

Figure 2: LABOUR FORCE & POPULATION STATISTICS



Source: TurkStat (Turkish Statistical Institute)

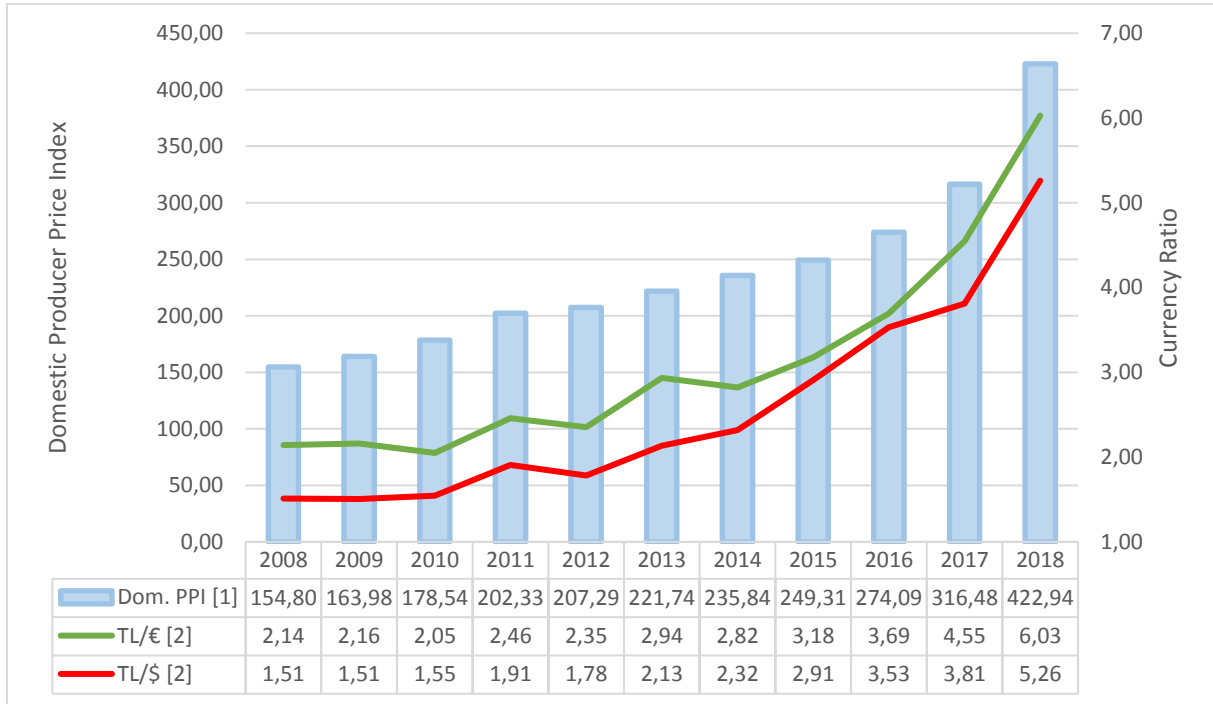
[1] Mid-year populations obtained from the annual results of Address Based Population Registration System.

[2] Indicators are seasonally adjusted data.

The excessive market volatility in August resulted in significant real sector impacts, including a sharp acceleration in inflation which was already elevated. Year-over-year consumer prices increased by 6 points and reached 25% in September, which has not been seen since 2001 in Turkey. Another financial effect of the volatility in Q3 was widening of the gap between consumer and producer price inflation, caused by the inability of suppliers' to pass on price increases to consumers due to declining demand and more direct exposure of producer prices to exchange rate shocks (Figure 3).

In Q4, declining demand and oil prices, relative normalization of the exchange rates and positive effects of the other measures taken by the government contributed to the first monthly deflation since June 2017. As a result, the deterioration in the annual inflation rates has been limited (Figure 4).

Figure 3: DOMESTIC PRODUCER PRICE INDEX VS. CURRENCY EXCHANGE RATES

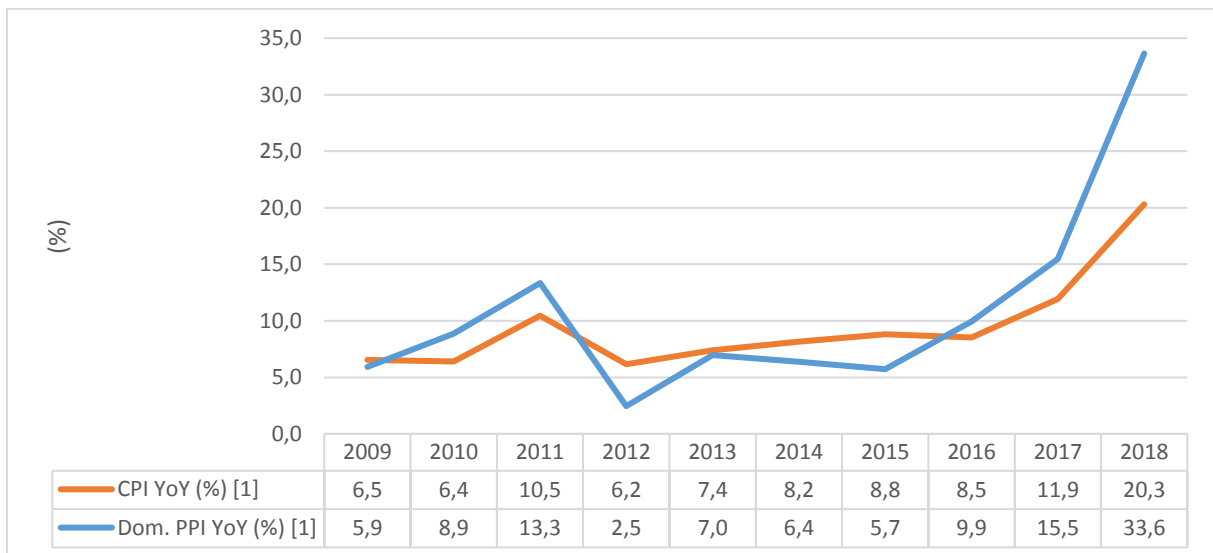


Source: TurkStat (Turkish Statistical Institute), CBRT (Central Bank of the Republic of Turkey)

[1] End of year indices

[2] End of year foreign exchange rates

Figure 4: CONSUMER PRICE AND DOMESTIC PRODUCER PRICE INDICES YEAR-ON-YEAR CHANGES

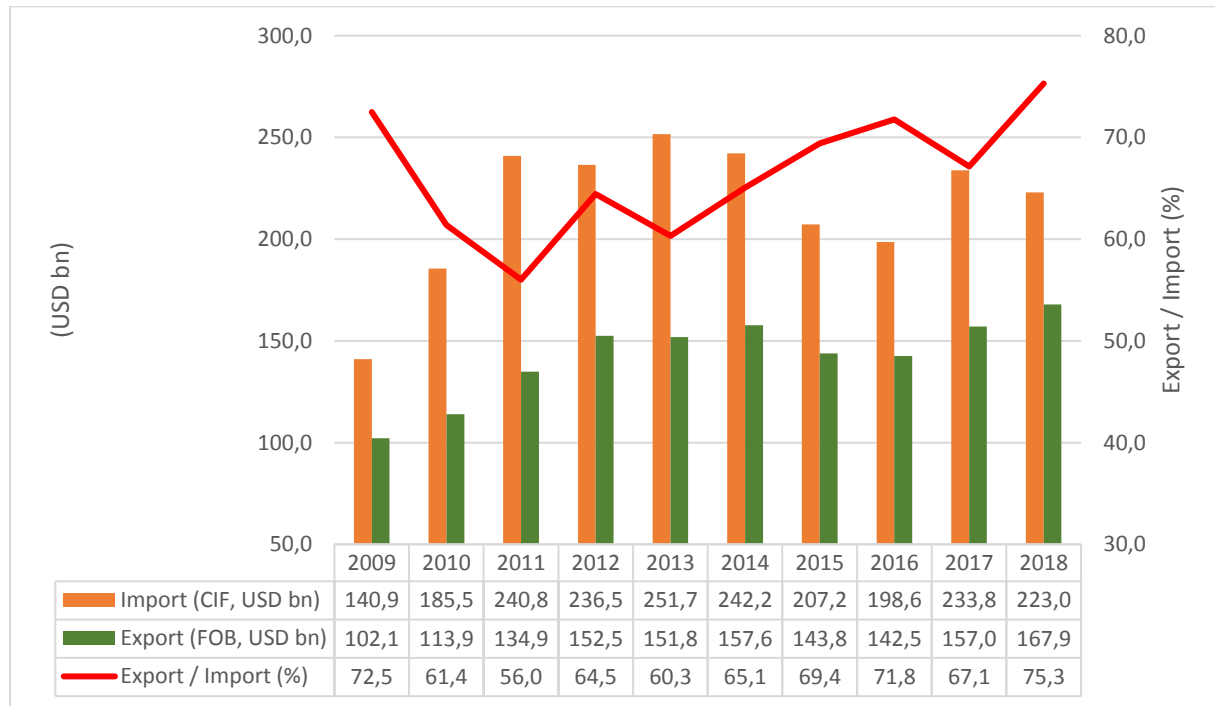


Source: TurkStat - Turkish Statistical Institute

[1] 2003=100, End of Period, Annual Percentage Change

Suppressed domestic demand, declined investment and weakened Turkish Lira has contributed to a sharp deceleration in import demand, whilst exports have accelerated. As a result of export growth outpacing that of imports, the annual export to import ratio increased from 67,1% to 75,3% in 2018, which was the highest ratio in a decade (Figure 5).

Figure 5: FOREIGN TRADE STATISTICS



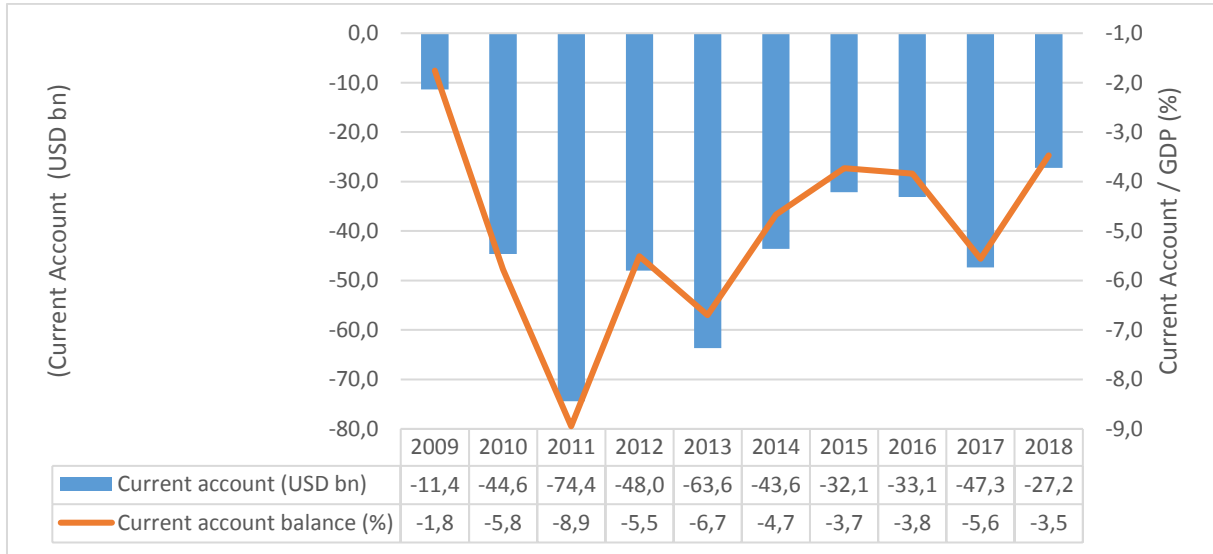
Source: TurkStat (Turkish Statistical Institute)

These developments, together with the good tourism revenues during the high-tourist season (summer months) helped shift the current account deficit to surplus in the third and fourth quarters of 2018, for the first time after many years. As a result, the current account deficit has narrowed from 5,6% of GDP in 2017 to 3,5% in 2018 (Figure 6).

Non-tradable sectors have significantly contracted in 2018 Q4 due to higher costs and credit rationing, which had already started in August with sharply rising commercial lending rates. The sharp drop in credit growth also had an effect on containing current account imbalances going forward (Figure 6). Because credit to the private sector has been one of the main drivers of Turkey's current account deficit in recent years.

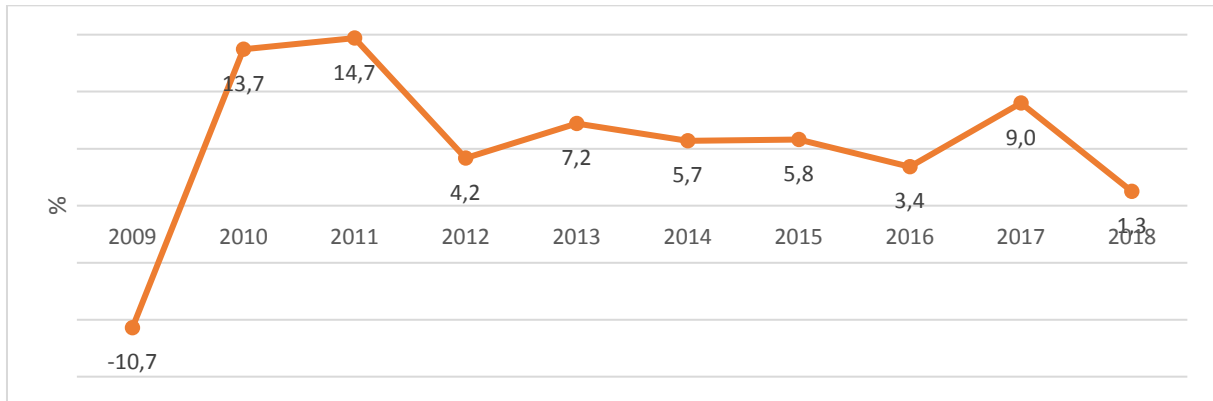
Tradable sectors, on the other hand, grew significantly as exchange rate depreciation has boosted external competitiveness together with the sustained external demand. Therefore, this compensating effect aided the calendar adjusted industrial production index to remain positive for 2018 (Figure 7).

Figure 6: CURRENT ACCOUNT BALANCE



Source: CBRT (Central Bank of the Republic of Turkey)

Figure 7: CALENDAR ADJUSTED INDUSTRIAL PRODUCTION INDEX



Source: TurkStat (Turkish Statistical Institute)

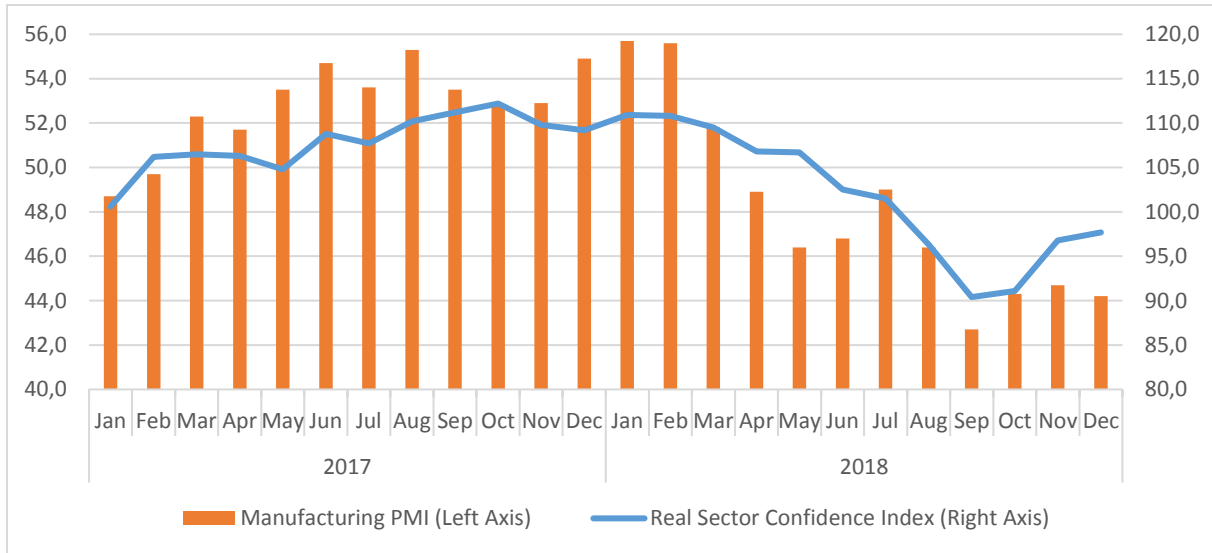
Contraction of the industrial production index in the second half of the year was also consistent with the easing in the manufacturing purchasing managers' index (PMI). However, it bottomed out in September and sustained its level just below 45% (Figure 8). In manufacturing, the PMI shows a much stronger outlook for new export orders compared to domestic orders.

Furthermore, the increase in the real sector confidence index continued since September and reached 97,7% in December (Figure 8).

The weakening of economic activity in Turkey became more pronounced in the fourth quarter along with global trends. It is considered that domestic demand may remain under pressure for a while due to the delayed effects of the increases in interest rates and exchange rates in 2018.

Together with the volatility in the world economy and capital flows, the growth rate of Turkey is anticipated to be around 2% in 2019.

Figure 8: TURKEY MANUFACTURING PURCHASING MANAGERS' INDEX



Source: TurkStat (Turkish Statistical Institute); CBRT (Central Bank of the Republic of Turkey); ICI (Istanbul Chamber of Industry) and IHS Markit

B. The Situation in the Major Casting Customer Industries

In 2018 total motor vehicle production decreased by 9% and domestic sales by 35%. The decrease in passenger car production and market (10% and 33% respectively) were the main reasons for the decline in the vehicle industry. Commercial vehicle production fell by 5%, whilst tractor production by 30%.

The domestic machinery market is presumed to be declined by 20%. But a 15% increase in export volume is expected to compensate, to some extent for the loss in domestic demand. The export volume grew by nearly %30 in earth-moving machinery production where a 60% contraction was observed in the domestic market. The agricultural machines industry is also estimated to shrink by 35%.

Falling demand for housing deeply impacted the construction sector. The annual drop in building permit floor area reached 49%, and the total house sales fell by 2,4%. The annual production, domestic sales and export volume of the cement industry all declined, by 10, 11 and 6%, respectively.

Steel production was stable as compared to the previous year.

The installed capacity in electricity production increased by 4% in 2018, where the driving force was the investments in renewable energy resources.

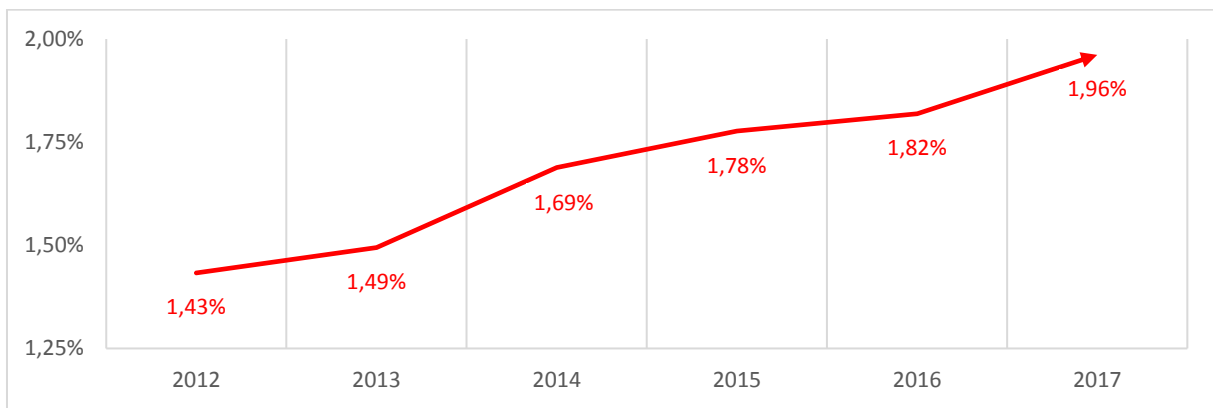
Production in the white goods sector was stable in 2018; the growth was only by %0,4.

C. Developments in the Foundry Industry

1. Industry Overview

According to the most recent statistics (i.e. AFS's 52nd Census of World Casting Production, which was published in December 2018), in terms of total casting production volume Turkey secured its position as being Europe's 3rd biggest producer; and in terms of ferrous casting production volume as being 2nd. Turkish foundry industry sustained its positive growth and increased its share in global casting production to nearly 2% level (Figure 9).

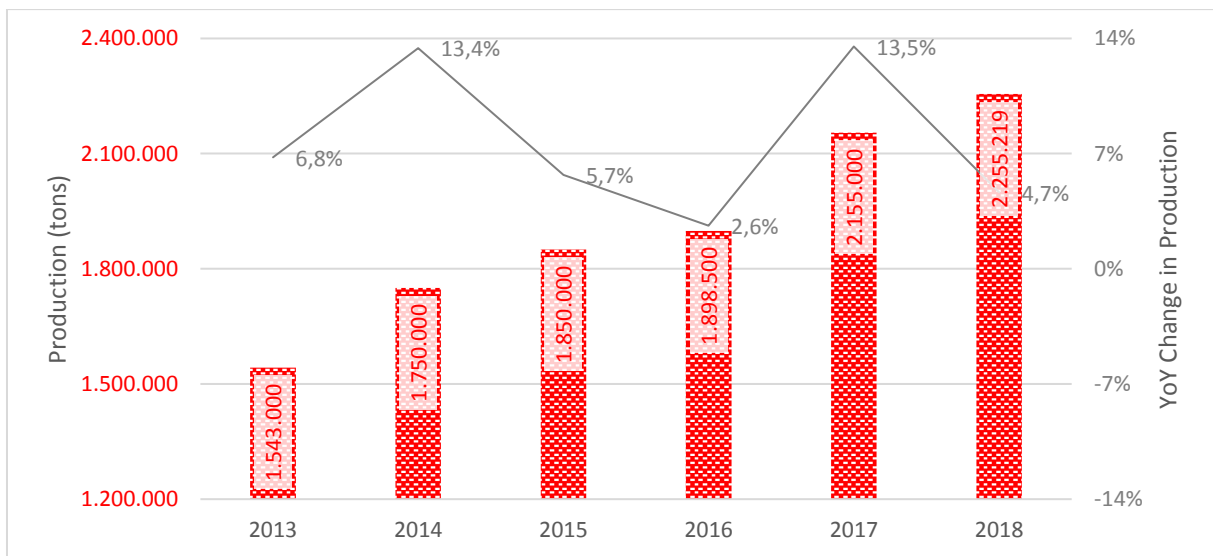
Figure 9: SHARE OF TURKEY IN GLOBAL CASTING PRODUCTION



Source: AFS 52nd Census

In 2018 the total production of the Turkish foundry industry reached 2,3 million tons, 4,7% above 2017 level (Figure 10), with an export volume of around 1,4 million tons.

Figure 10: METAL CASTING PRODUCTION

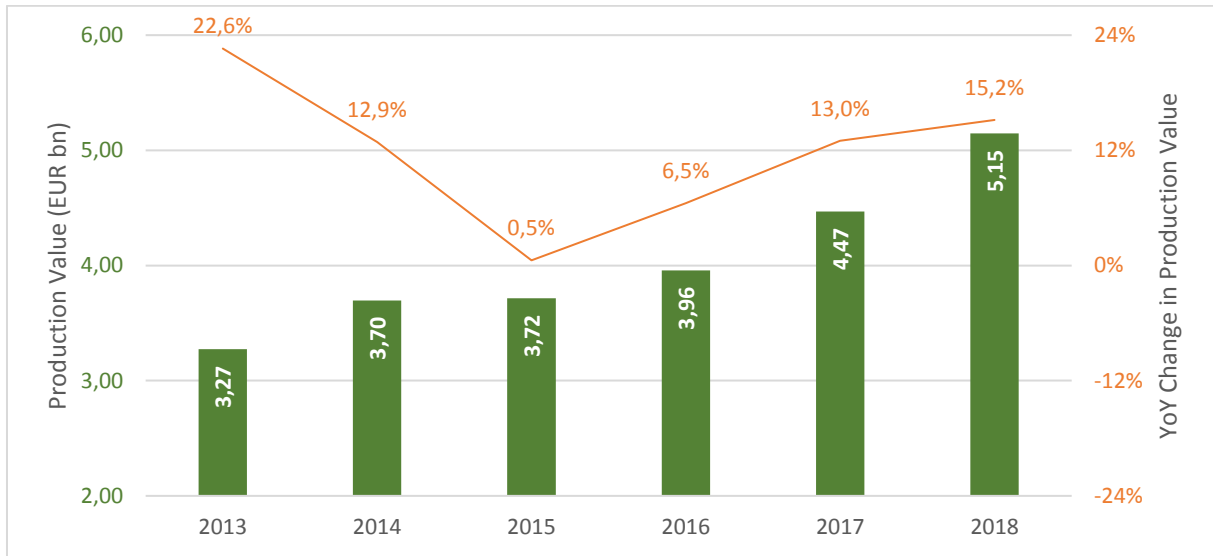


Source: TÜDÖKSAD - Turkish Foundry Association

The deceleration is mainly due to the decrease in the production of grey iron castings.

However, the increase in the production value of castings against last year continued with a slight loss of acceleration in growth and reached 5,2 billion Euros (Figure 11).

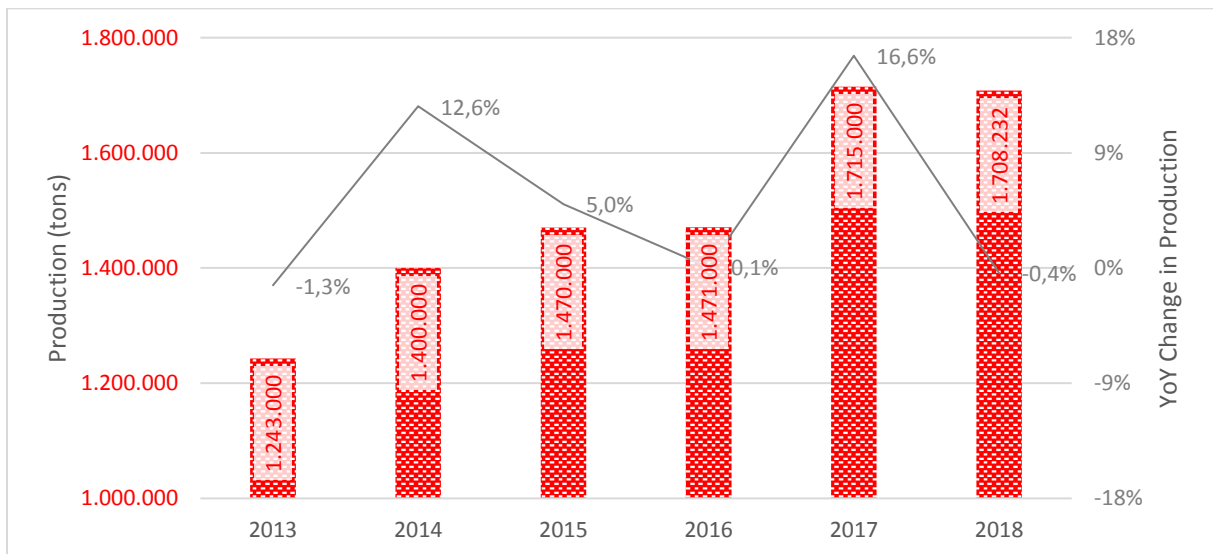
Figure 11: PRODUCTION VALUE OF METAL CASTINGS



Source: TÜDÖKSAD - Turkish Foundry Association

In 2018, the total production of iron and steel foundries remained constant as it was in 2016 (Figure 12). The weight of castings amounted to 1,7 million tons.

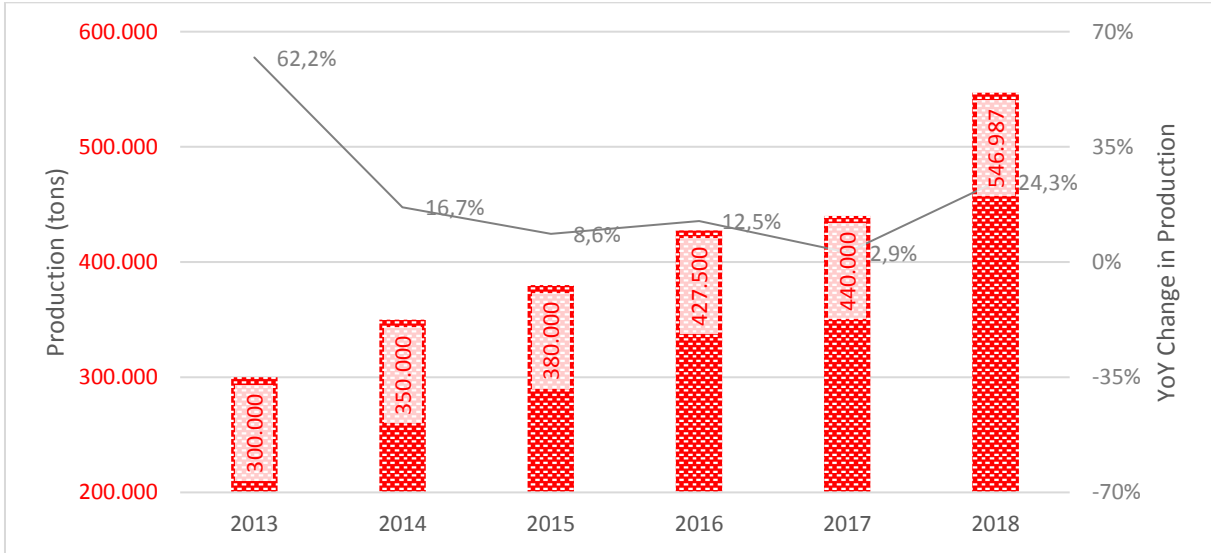
Figure 12: IRON AND STEEL CASTINGS PRODUCTION



Source: TÜDÖKSAD - Turkish Foundry Industry

On the other hand, the production of non-ferrous foundries was up by 24,3%, which makes more than 100 thousand tons of additional production volume as compared to the previous year in 2018 (Figure 13). Nearly 90% of it was enrolled by aluminium foundries and the remaining 10% was by the foundries producing other non-ferrous castings.

Figure 13:NON-FERROUS CASTINGS PRODUCTION



Source: TÜDÖKSAD - Turkish Foundry Association

Capacity utilization in ferrous foundries declined by around 10 points as compared to 2017 and was recorded as 65,1%. Whereas non-ferrous foundries reported a sustained capacity utilisation of 91,3% in 2018.

2. Investments

Despite the volatile macro-economic conditions in 2018, the investment amount of Turkish foundry industry reached 173 million Euro with a significant, 44% increase as compared to 2017. Investments were mainly on moulding lines, sand reclamation, simulation software and energy efficiency projects.

Compared to 2018, it is not presumed to have an expansion in investments in 2019.

D. The Situation in the Material Sectors

1. Iron Castings

The sharp drop of 16% in grey iron castings production has been compensated by 11% increase in nodular castings; thus the iron castings production declined by 1,9% in total with a production volume of 1,52 million tons in 2018. The contraction in the domestic demand was the primary reason for this decline. Share of iron castings in total production dropped from 72% to 67% in Turkey.

Over the past years, iron foundries have been allocating their capacities on nodular castings. Consequently, for the grey iron castings, capacity utilization was stable at 74% although the production volume has declined sharply. Iron foundries in total reported a capacity utilization of 64% in total.

2. Steel Castings

Except for 2017, steel castings production has been increasing with accelerating growth since 2013. In comparison with 2017, production volume reached 192.372 tons, registering an increase of 13,2%. Capacity utilization has also reached 70%.

3. Non-Ferrous Castings

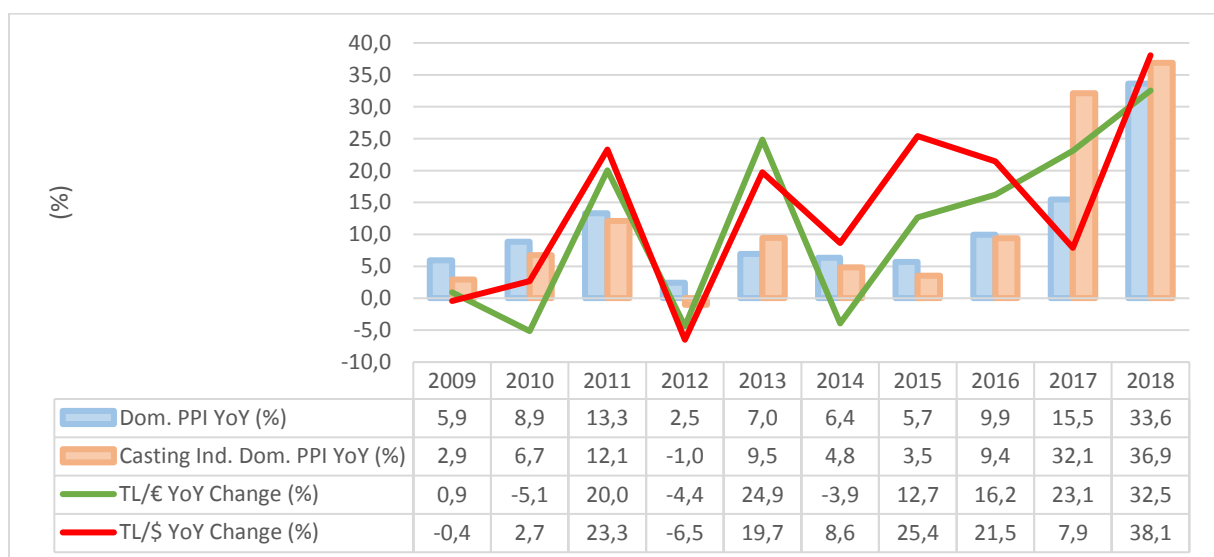
The investments in capacity increase, especially in HPDC foundries in 2017 yielded a strong growth in aluminium castings in 2018. Production volume increased by 25,3% as compared to the previous year and peaked at 476.253 tons.

Other non-ferrous foundries produced 70.734 tons, up by 17,9% in comparison with 2017.

E. Cost Development

Manufacturing costs of foundries are mostly based on foreign exchange rates due to the import of raw materials. 38% YoY increase in TL/USD and a 33% increase in the TL/EUR exchange rates yielded a profound effect on cost development. On the other hand, the increase in domestic PPI in the casting industry again surpassed the overall domestic PPI year-over-year change in 2018 (Figure 14).

Figure 14: COST DEVELOPMENT INDICES



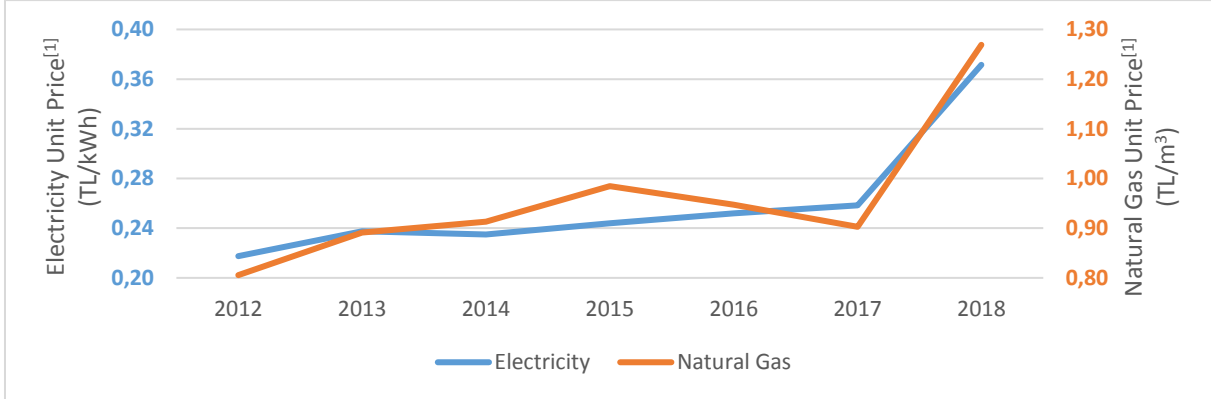
Source: TurkStat (Turkish Statistical Institute; CBRT (Central Bank of the Republic of Turkey)

Calculations are based on the year-end indices and Exchange rates

1. Energy

Both energy and gas prices in industrial consumption rose sharply in 2018. In comparison with the previous year, the electricity market price was up on both TL and Euro basis, by 43,7% and 8,4% respectively. The unit price of natural gas has increased by 40,5% in Turkish Liras and 6,0% in Euros (Figure 15).

Figure 15: ELECTRICITY AND NATURAL GAS PRICE DEVELOPMENT



Source: Turkish Statistical Institute

[1] Average prices paid by industrial consumers for 1 kWh electricity / 1 m³ natural gas including all taxes.

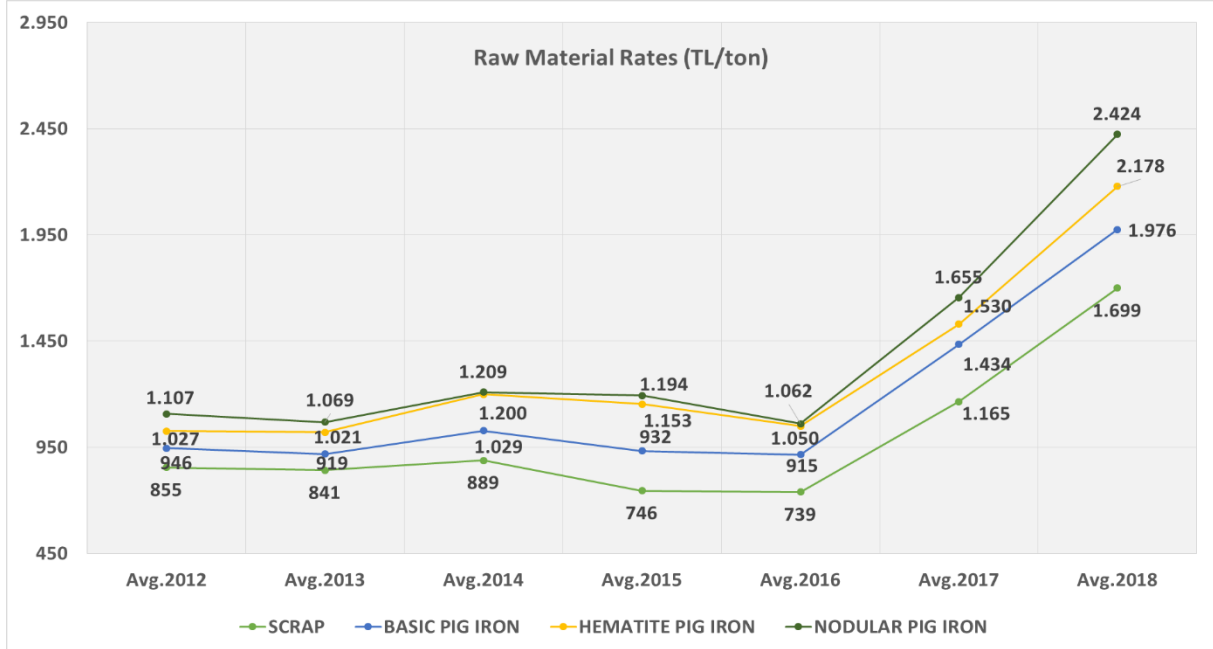
The energy cost of foundries was reported to increase by 53% in TLs and by 9% in Euros.

2. Raw Materials

The acceleration in the prices of the raw materials maintained in 2018. The average increase in prices reached around %130 in two years (Figure 16).

Foundries reported a 44% increase in TLs and a 3% increase in Euros in total raw materials costs.

Figure 16: RAW MATERIALS PRICE DEVELOPMENT



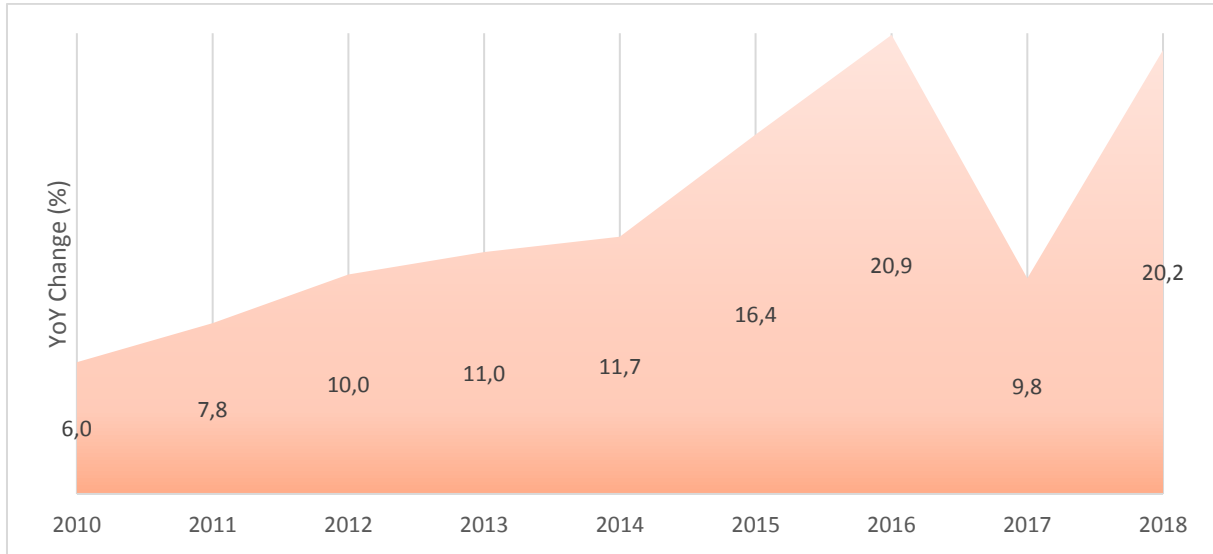
Source: TÜDÖKSAD - Turkish Foundry Association

3. Wages

The year-over-year change rate of the industrial production hourly labour cost index had dropped below the 10% level in 2017. But it accelerated again and increased by 20,2% in 2018 (Figure 17).

The 2-year collective agreement concluded between the employer and employee unions in the metal industry, effective as of Q3 2017 resulted in about a 30% increase in wages in 2018, including the inflation bonuses.

Figure 17: HOURLY LABOUR COST INDEX YEAR OVER YEAR CHANGE IN INDUSTRY



Source: Turkish Statistical Institute

Labour cost is the cost incurred by the employer in relation to employment as earnings and labour cost excluding earnings. Hourly labour cost is calculated by dividing the labour cost by the number of hours worked. The annual average of seasonally and calendar adjusted indices are used for calculation (2015=100).