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Corporate &  
Investment Banking

# Turkey: Credit Allocation, Productivity Gains and NPL Evolution

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# The need for the analysis and its coverage

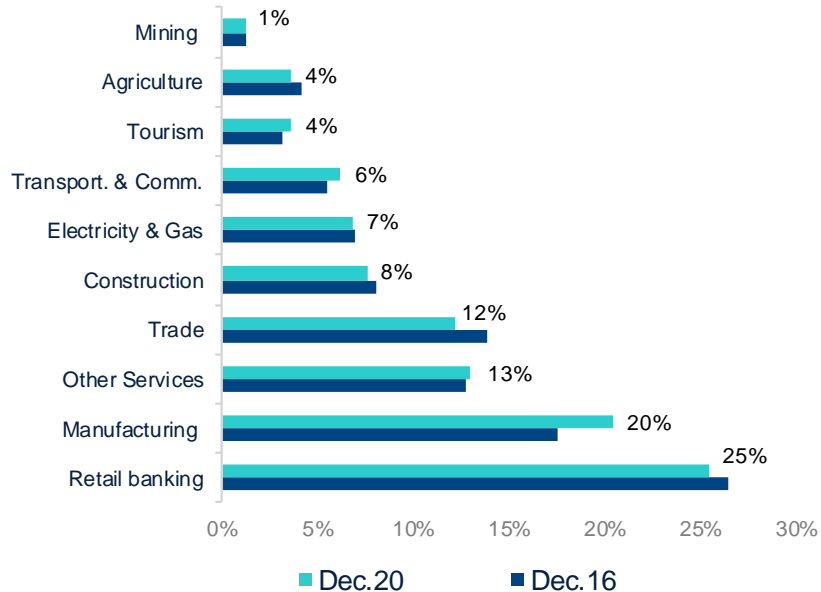
- The allocation of resources to productive sectors is a factor that creates more value added and support sustainable growth. Therefore, it is important to understand how the credit boost in recent years (particularly historically high 2Q20 inflow as an initial reaction against the pandemic) has been distributed among the sectors and whether those sectors also perform well in terms of productivity.
- First, we analyze the recent credit allocation by means of both credit stock and credit impulse terms. Second, we check the productivity gains in the corresponding sectors, and finally try to distinguish the preferences of public and private banks to figure out a sectorial concentration if any.
- In our analysis, productivity is measured as production per hour except for the agriculture and services sectors where we use production per person as an indicator due to the lack of data on hours worked in these sectors. On the other hand, we define net credit growth as the change in credit stock as a share of GDP.
- We cover mostly the period after 2017 when the Credit Guarantee Fund (CGF) loans started to be introduced sizably but our main focus basically stands at the last year's historically high credit growth and its allocation.

# Key messages

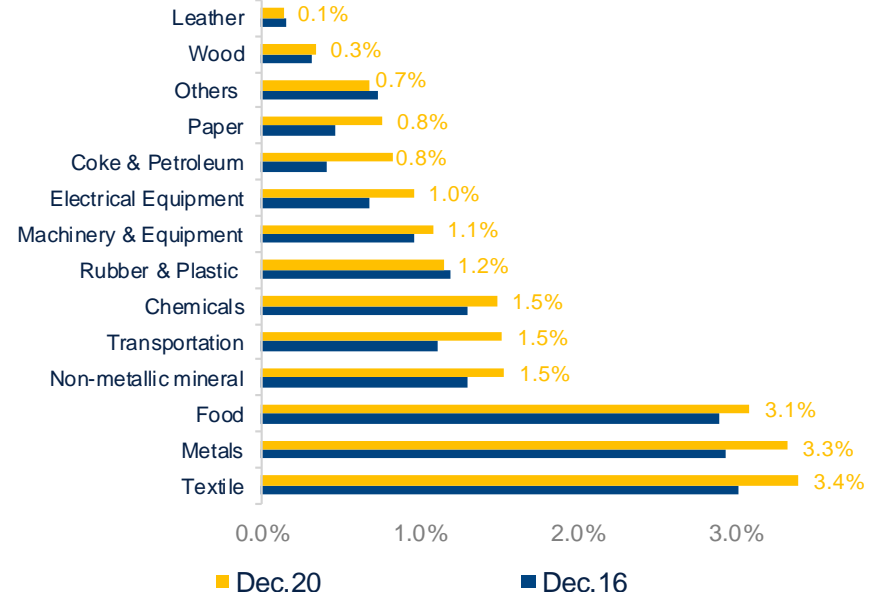
- Among main sectors, recent credit allocation shows a substantial increase in the **industry**, mainly led by the manufacturing sector in broad-based terms and backed by both banking groups.
- In **manufacturing sector**, petroleum & coke and non-metallic mineral products showed the highest increase in productivity between 2017-2020. Private banks' share in credits to petroleum & coke rose remarkably, which was followed by transportation and metal sectors in which productivity gains were much lower.
- The share of textile and paper products in **public banks credits rose sizably** in recent years, in which productivity remained relatively subdued in these sectors compared to the overall manufacturing sector.
- **Credits to agriculture** have been mostly given by public banks whereas their share in total credit stock has always been low in private banks. Although there has been a clear productivity gain in the sector between 2017-2020, public banks also reduced their exposure in this segment.
- Construction sector took the lead if average productivity levels between 2017-2020 are compared. Private banks have decreased their share in construction credits since 2017, whereas public banks have increased their share.
- **Services sector (trade, transportation, tourism)** credits share is increasing in both banking groups with somewhat increasing productivity levels.
- Finally, **NPL volumes** mostly increased in industry and services after 2017. Though, in terms of **NPL ratios, construction and services sector (trade, transportation, tourism)** took the lead.

# Recent credit allocation shows an increase in the Manufacturing sector, which implies a broad-based rise in its sub-sectors

**TURKEY: SHARES IN CREDIT STOCK IN TOTAL (%)**

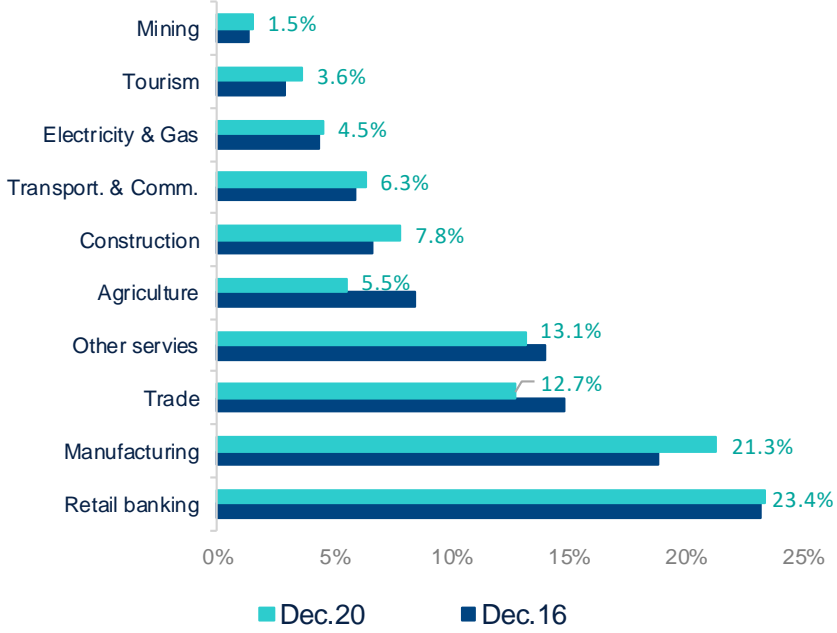


**TURKEY: SHARES IN CREDIT STOCK IN MANUFACTURING (%)**

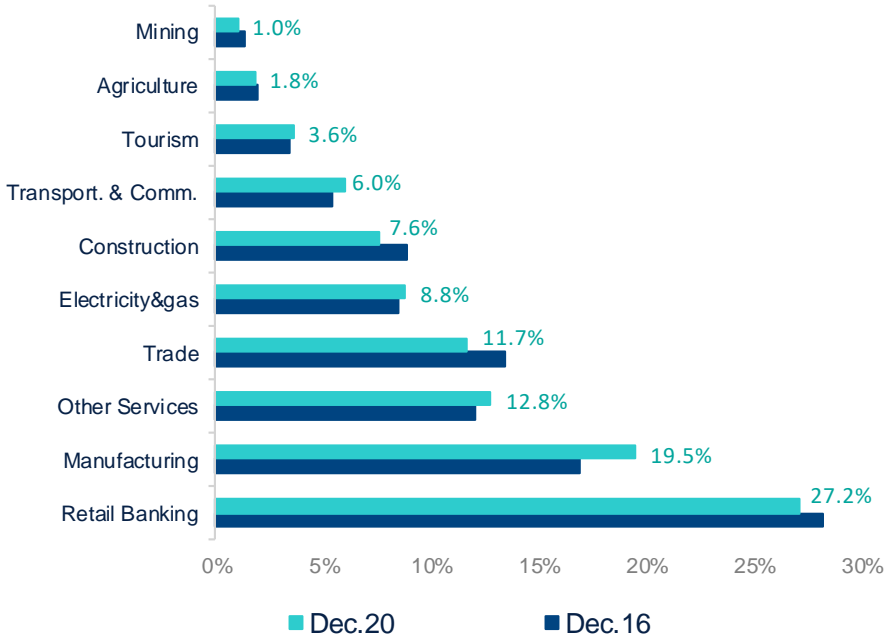


# The improving share of manufacturing credits came from both public and private banks.

**TURKEY: SHARES IN CREDIT STOCK IN PUBLIC BANKS (%)**



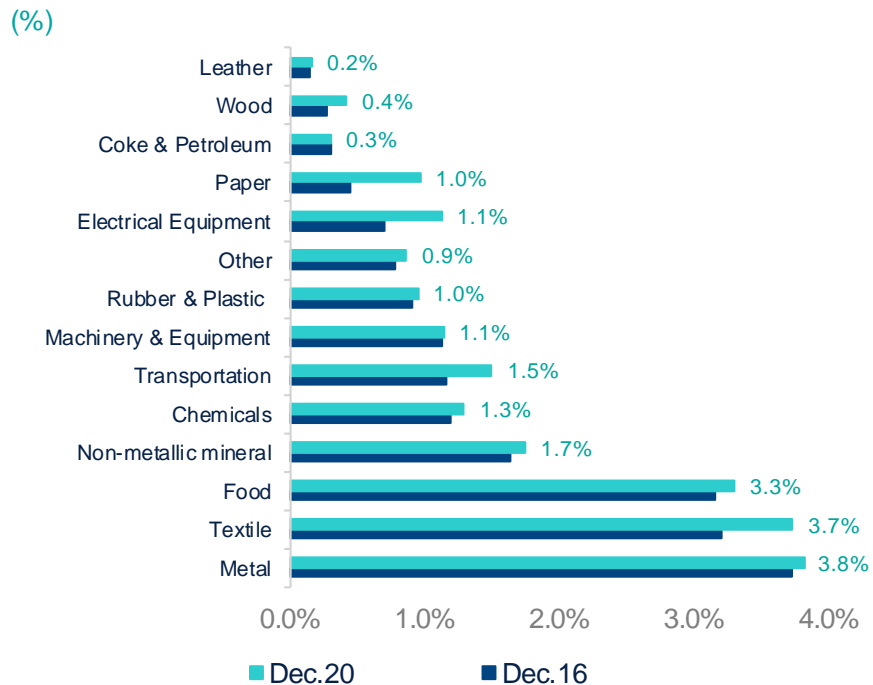
**TURKEY: SHARES IN CREDIT STOCK IN PRIVATE BANKS (%)**



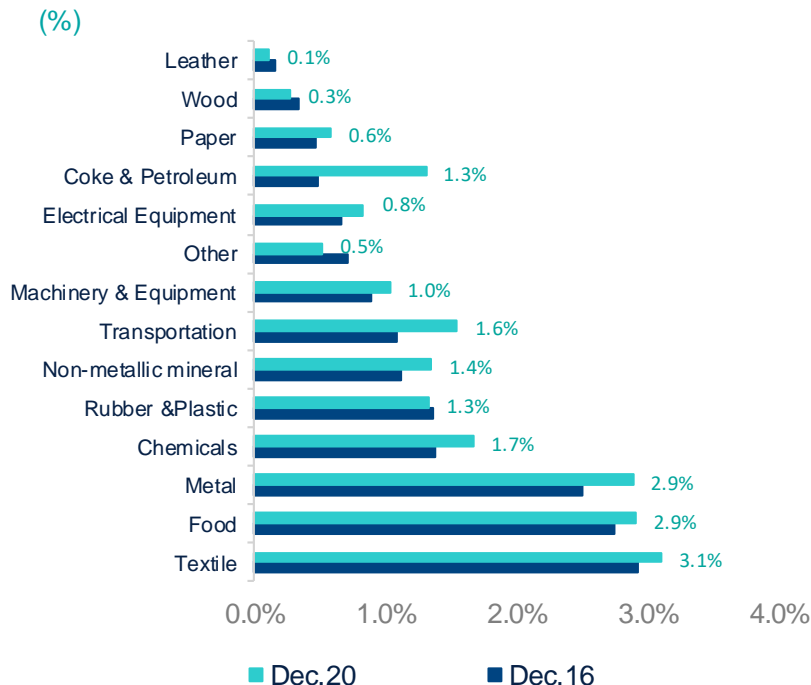
Source: Garanti BBVA Research, BRSA

# In manufacturing, private banks increased their share mostly in coke & petroleum whereas public banks accelerated their credits mostly in paper products and textile.

## TURKEY: SHARES IN MANUFACTURING CREDIT STOCK IN PUBLIC BANKS (%)



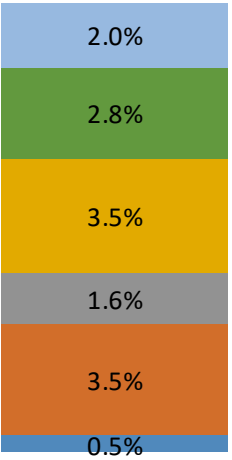
## TURKEY: SHARES IN MANUFACTURING CREDIT STOCK IN PRIVATE BANKS (%)



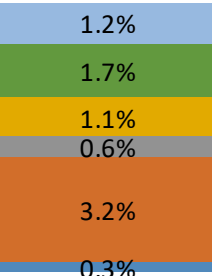
# If we focus on the net credit gains of last year, the picture slightly changes in favor of retail, covid sensitive sectors and industry

**TURKEY: DECOMPOSITION OF NET CREDIT GROWTH / GDP (%)**

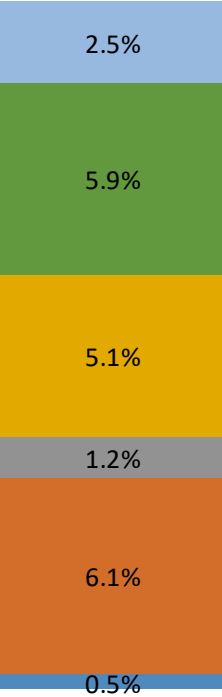
**2017, 13.9%**



**2018-19, 8.2%**



**2020, 21.3%**

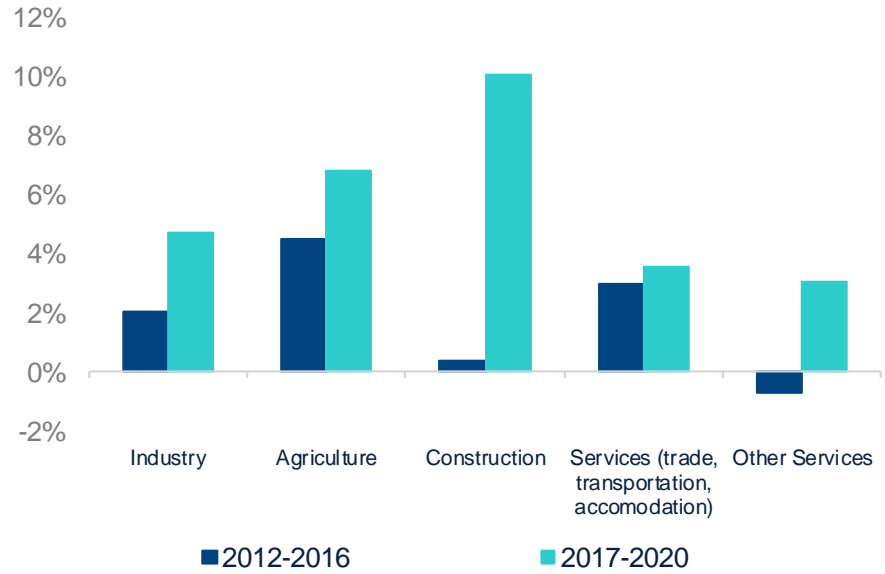


- Retail
- Other Services
- Trade & transportation & accommodation
- Construction
- Industry
- Agriculture

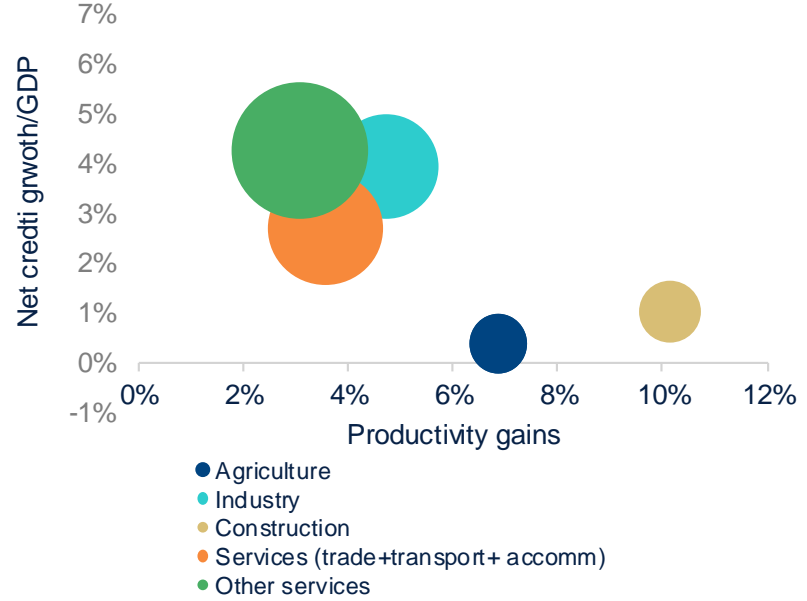
Source: Garanti BBVA Research, BRSA

# All main subsectors improve in productivity in recent years, where the construction sector took the lead (vs. its relatively low share in credit gains)

**TURKEY: PRODUCTIVITY GAINS\***  
(% YOY avg.)



**TURKEY: NET CREDIT VS PRODUCTIVITY GAINS\***  
(2017-2020 avg.)



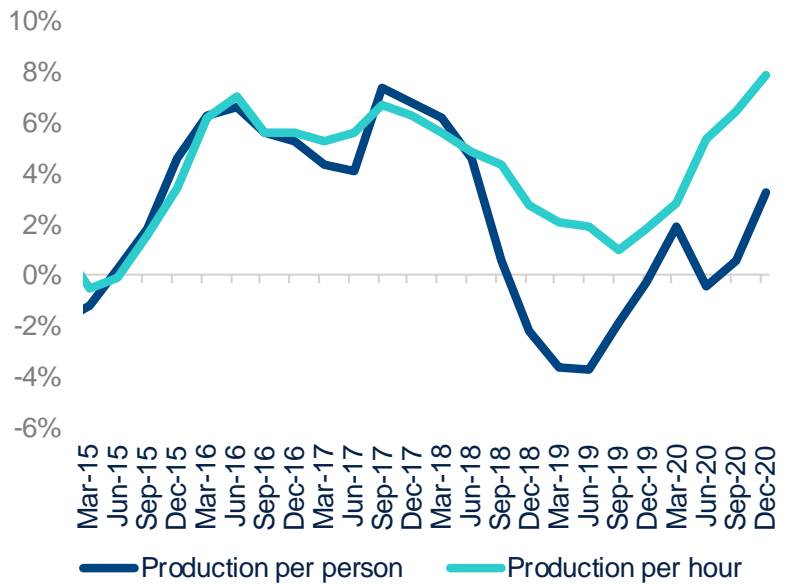
\* Production per hour except for the services and agriculture where we replace it with production per person

\*size of the bubble shows the share of each sector in total GDP production

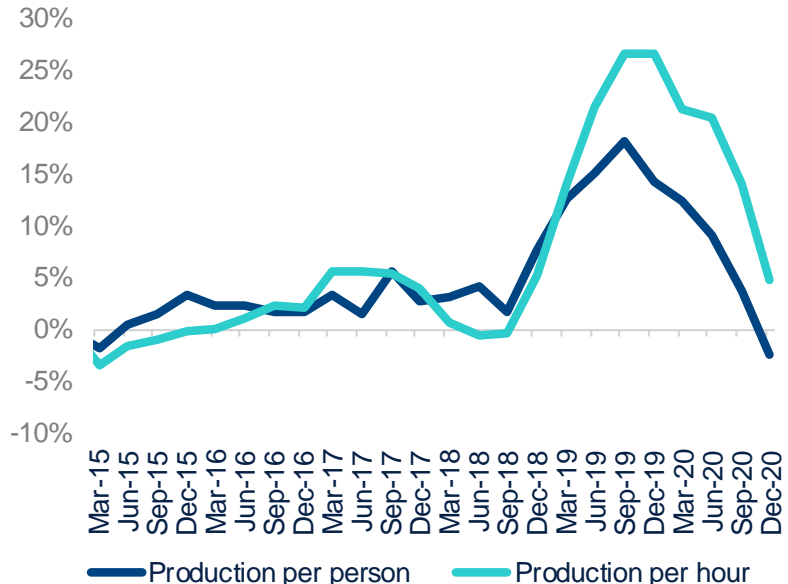


# Lack of data in services and agriculture in terms of hours worked might result in a downward bias in these sectors' productivity as seen in the comparisons for Industry and Construction below

**TURKEY: PRODUCTIVITY PROXIES IN INDUSTRY**  
(% YOY, 4Q avg.)

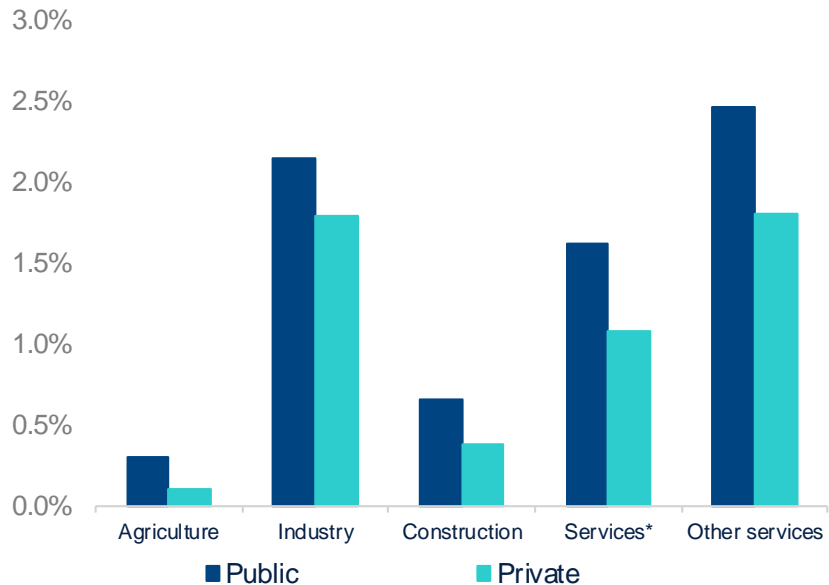


**TURKEY: PRODUCTIVITY PROXIES IN CONSTRUCTION**  
(% YOY, 4Q avg.)



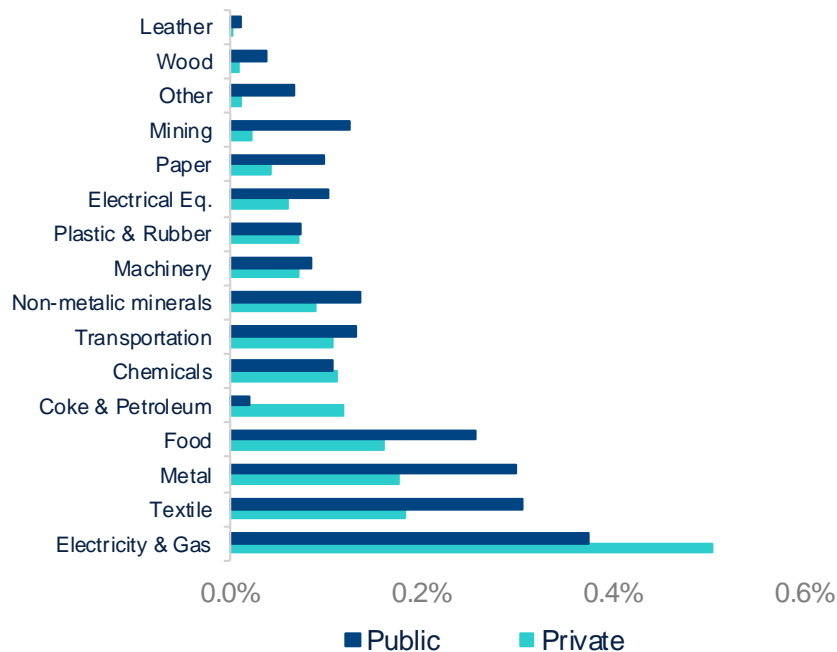
# Public banks differentiate especially in services sectors in terms of net credit growth of recent years.

**TURKEY: NET CREDIT GAINS PUBLIC & PRIVATE BANKS**  
(2017-2020 avg.)



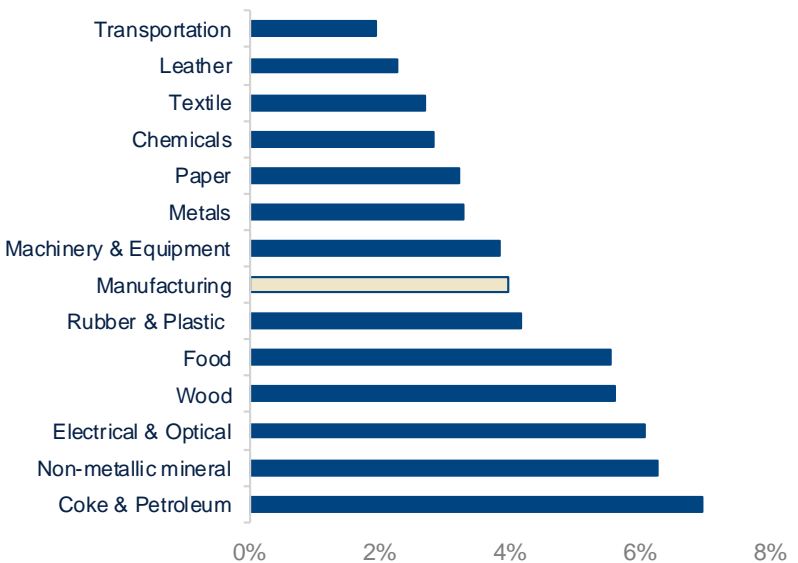
\* Services refer to trade, transportation, accomodation

**TURKEY: INDUSTRY NET CREDIT GAINS IN PUBLIC & PRIVATE BANKS**  
(2017-2020 avg.)

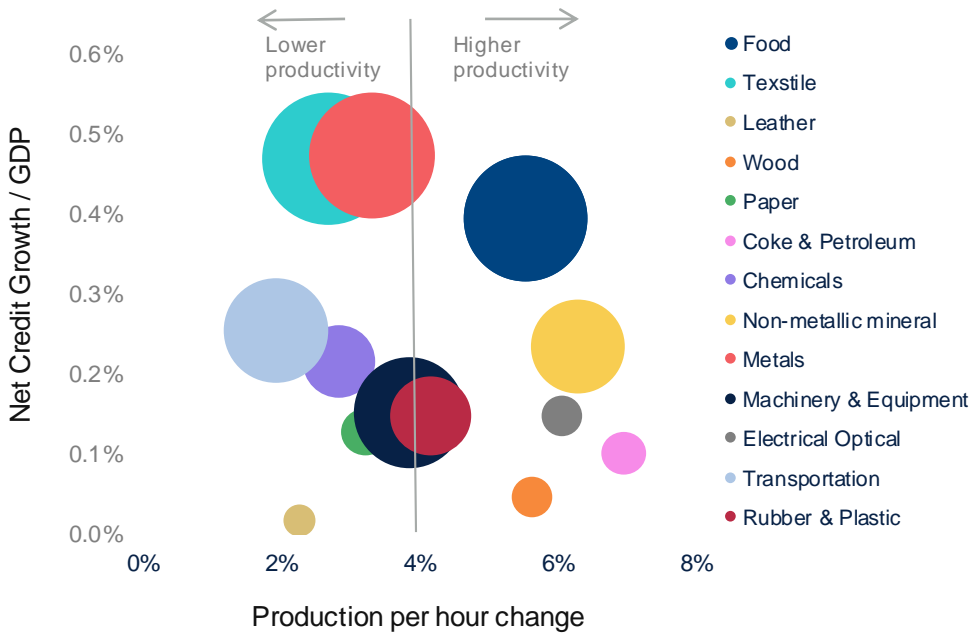


# If subsectors in manufacturing industry considered, a high level of productivity in coke & petroleum and non-metallic minerals is observed with their relatively low net credit gains in recent years

**TURKEY: PRODUCTION PER HOUR CHANGE**  
(% YOY avg 2017-2020)



**TURKEY: NET CREDIT GAINS VS PRODUCTIVITY IN MANUFACTURING SECTOR\***  
(2017-2020 avg.)

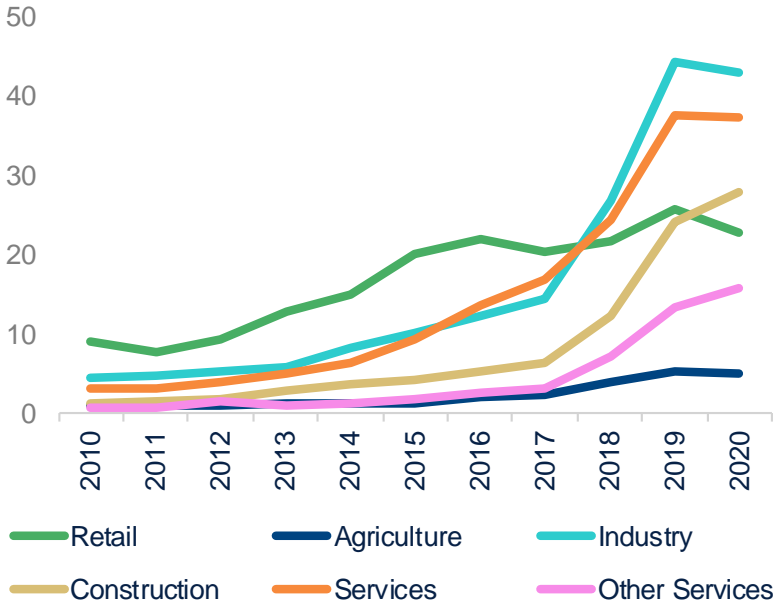


Source: Garanti BBVA Research, BRSA, TURKSTAT

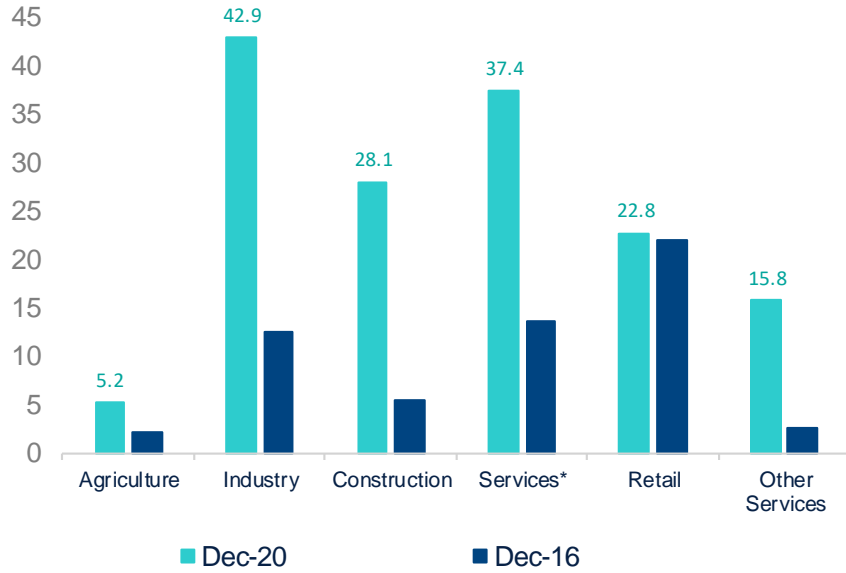
\*size of the bubble shows the share of the sector in Manufacturing sector production

# NPL volume of the sector almost tripled in the last 5 years, where industry and services weighed more

**TURKEY: NPL VOLUMES IN BANKING SECTOR**  
(bn TL)



**TURKEY: NPL VOLUMES IN BANKING SECTOR**  
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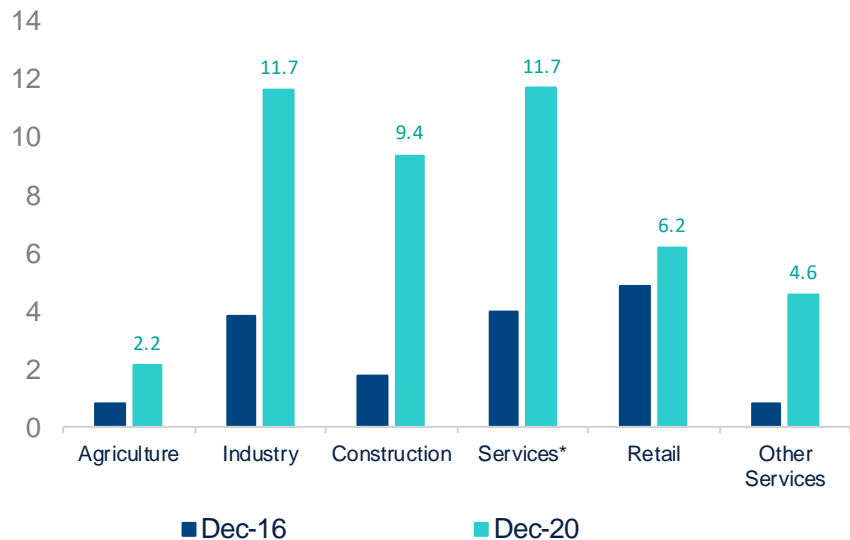


\* Services refer to trade, transportation, accomodation

# Industry and retail sector has a higher share in NPL volumes of the private banks than of the public banks

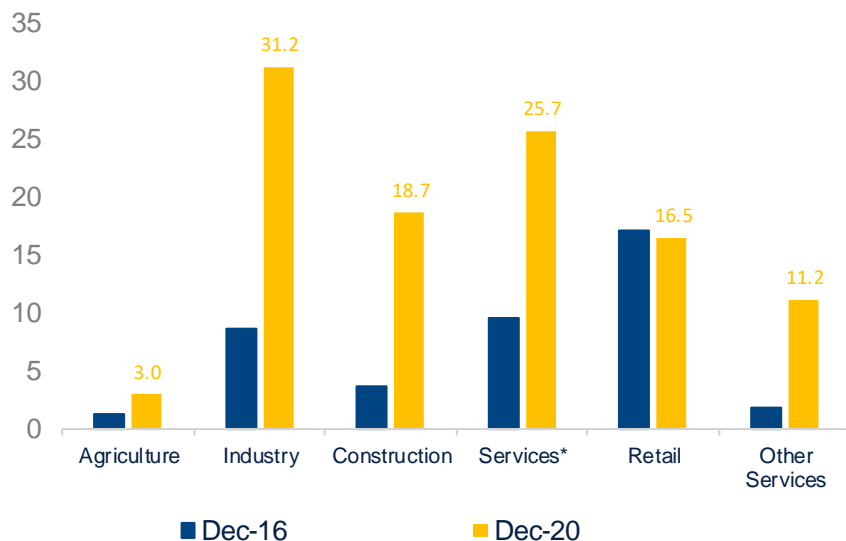
## TURKEY: NPL VOLUMES IN PUBLIC BANKS

(bn TL)



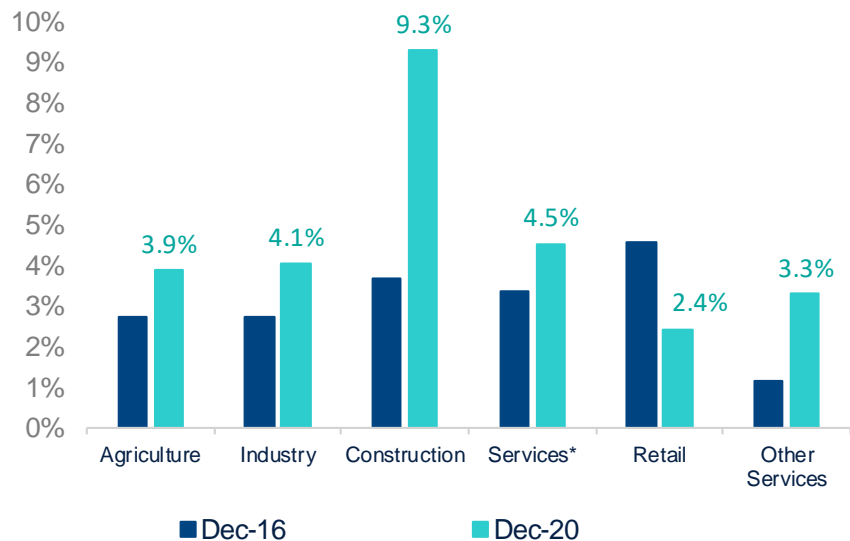
## TURKEY: NPL VOLUMES IN PRIVATE BANKS

(bn TL)

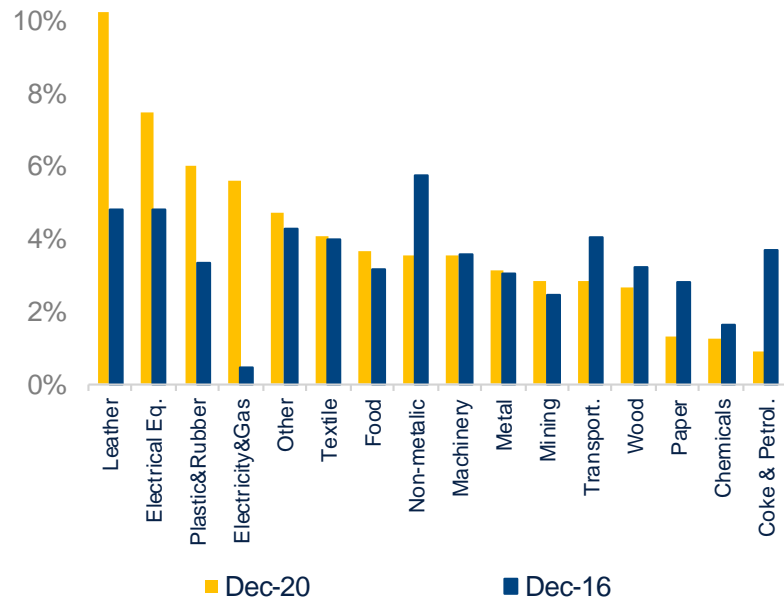


# If NPL ratios are considered, construction sector takes the lead in main subsectors, while leather is at the top under industry

**TURKEY: NPL RATIOS IN MAIN SECTORS (%)**

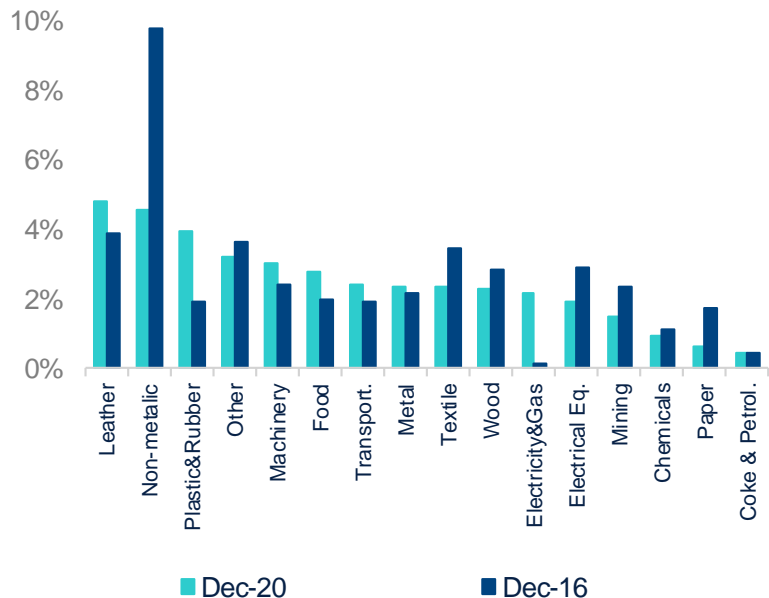


**TURKEY: NPL RATIOS IN THE INDUSTRY (%)**

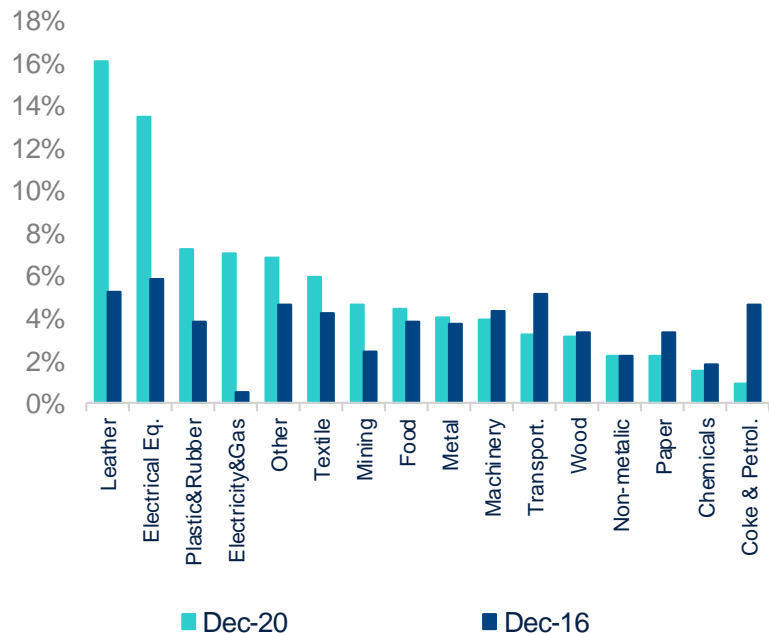


# Sizable decline in non-metallic mineral sector NPL ratio of public banks and clear jumps in private banks ratios in several sectors are noteworthy

**TURKEY: PUBLIC BANKS NPL RATIOS IN THE INDUSTRY (%)**



**TURKEY: PRIVATE BANKS NPL RATIOS IN THE INDUSTRY (%)**



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